

APPENDIX A-2

Draft General Permit Part I

DRAFT GENERAL PERMIT FOR DISCHARGES FROM THE OFFSHORE
SUBCATEGORY OF THE OIL AND GAS EXTRACTION POINT SOURCE
CATEGORY TO THE TERRITORIAL SEAS OFF TEXAS

(Permit No. TXG260000)

U.S. Environmental Protection Agency
Region 6
1445 Ross Ave.
Dallas, TX 75202

**Authorization to Discharge Under
The National Pollutant Discharge Elimination System**

In compliance with the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq. the "Act" or "Clean Water Act" or "CWA"), operators of lease blocks in the Offshore Subcategory of the Oil and Gas Extraction Point Source Category which are located in the territorial seas off Texas are authorized to discharge to the territorial seas off Texas in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, and Appendix A hereof.

Owners or operators (including those who have been covered by the expired general permit) of lease blocks discharging within the area covered by this general permit must submit notification to EPA Region 6 that they intend to be covered (See Part I.A.2). Unless otherwise notified in writing by EPA Region 6, thirty (30) days after submission of the notification, owners or operators requesting coverage are authorized to discharge under this general permit. Operators of lease blocks discharging within the general permit area who fail to notify EPA Region 6 of intent to be covered by this general permit are not authorized under this general permit to discharge pollutants from those facilities.

Facilities which adversely affect properties that are listed or are eligible for listing in the National Register of Historical Places are not authorized to discharge under this permit.

This permit shall become effective at Midnight Central Time, Date:

This permit and the authorization to discharge shall expire at midnight, Central Time,
Date:

Signed this Date:

Miguel I. Flores
Director, Water Quality Protection Division
EPA Region 6

PART I. REQUIREMENTS FOR NPDES PERMITS

Section A. Permit Applicability and Coverage Conditions

1. Operations Covered

This permit establishes effluent limitations, prohibitions, reporting requirements, and other conditions on discharges from oil and gas facilities engaged in field exploration, developmental drilling, production, well completion, and well treatment operations.

The permit coverage area consists of lease blocks located in and discharging to the territorial seas off Texas, which as defined in CWA section 502 (8) to consist of "the belt of seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles." This permit does not authorize discharges from facilities located in the Outer Continental Shelf waters beyond the three-mile territorial sea boundary. This permit also does not authorize discharges from facilities defined as "coastal", "onshore", or "stripper" (see 40 CFR Part 435, Subparts C, D, and E). Facilities include development facility, exploratory facility, and production facility as defined in 40 CFR Part 435, Subpart A or D).

2. Notification Requirements

Notification of intent (NOI) shall be submitted for each facility (i.e., platform, rig, ship, or any structure from where exploration, development, or production operations are performed.) at least 30 days (30-day waiting period) prior to the commencement of discharge and shall include the following information:

- a) the legal names and addresses of the permittee or joint-permittees if the operator is not the owner;
- b) the permit number previously assigned to the existing permittee;
- c) the lease area, the lease number and well number assigned by the Railroad Commission of Texas or federal authority;
- d) the name and/or identification and location including geographic coordinates of the facility;
- e) the range of depth of water within the operation area;
- f) the types of discharges and estimated volumes; and
- g) facilities for which construction was commenced after July 17, 2006: design intake capacity (million gallons per day) of the cooling water intake structure and percentage (%) of total intake water used for cooling purposes.

Owners or operators of facilities under the coverage of the expired permit (TXG260000) issued in 2005 need to submit a new notification of intent (NOI) within 60 days from the effective date of the permit to be covered by this general permit for an immediate coverage. If an application for an individual NPDES permit has been previously submitted for the lease, the notification shall include the application/permit number assigned by EPA. If an existing facility fails to

submit a new NOI within the 60-day period, the facility is not authorized to discharge until it submits the new NOI and submits to a 30-day waiting period.

Permittees may contact EPA Region 6 at (214) 665-6472 for questions regarding the NOI and any subsequent reports under this permit or send a written request to the following address:

U.S. Environmental Protection Agency
NPDES Compliance Section (6EN-WC)
1445 Ross Ave., Suite 1200
Dallas, TX 75202-2733

3. Termination of Operations

Permittees shall submit a notice of termination (NOT) to EPA Region 6 (via the address noted under Part I.A.2.) within 60 days of termination of the lease area/block and well number assigned by the Railroad Commission of Texas. The last monthly Discharge Monitoring Report (DMR) for the terminated lease block shall be submitted no later than 45 days upon the submittal of the NOT. The NOT shall be effective upon the date it is received by EPA.

4. Changes in Facility/Lease Information

Permittees shall submit a written notification to EPA Region 6 of any changes (including addition or deletion of wells) to the information previously submitted in their NOI, within thirty (30) days of such a change.

5. Unauthorized Discharges

This general permit does not authorize uncontrollable discharges caused by failures of equipment, blowout, damage of facility, or any form of unexpected discharge. The general permit does not shield any person or entity from either enforcement action or legal action for any unauthorized discharges.

Section B. Effluent Limitations and Monitoring Requirements

(See also the limitations summary in Appendix A, Table 4)

1. Drilling Fluids and Drill Cuttings

There shall be no discharge of drilling fluids or drill cuttings.

De minimis discharges of drilling fluids shall be contained to the extent practicable to prevent discharge. Allowable de minimis discharges may include wind blown drilling fluids from the pipe rack and minor drips and splatters around mud handling and solids control equipment. Such de minimis discharges are not likely to be measurable.

2. Deck Drainage Limitations

Free Oil. No free oil shall be discharged, as determined by the visual sheen test method on the surface of the receiving water. Monitoring shall be performed once per day when discharging, during conditions when an observation of a visual sheen on the surface of the receiving water is possible in the vicinity of the discharge, and the facility is manned. The number of days sheen is observed must be recorded.

3. Produced Water

For Produced Water From Existing Production Wells

a) Limitations

Flow Rate. The total flow rate used to determine the critical dilution specified in Appendix A, Table 1 of this permit for a 7-day toxicity test will be the highest monthly average flow measured during the previous three months.

Oil and Grease. Produced water discharges must not exceed both a daily maximum of 42 mg/l and a monthly average of 29 mg/l for oil and grease. The sample type shall be either grab, or 24-hour composite which consists of the arithmetic average of the results of 4 grab samples taken over a 24-hour period. If only one sample is taken for any one month, it must meet both the daily maximum and monthly average limits. Samples shall be collected prior to the addition of any seawater to the produced water waste stream. The appropriate analytical method is specified in 40 CFR Part 136.

Toxicity. The 7-day average minimum and monthly average minimum No Observable Effect Concentration (NOEC) must be equal to or greater than the critical dilution concentration specified in Appendix A, Table 1 of this permit. Critical dilution shall be determined using Table 1 in Appendix A of this permit and is based on the discharge rate most recently reported on the discharge monitoring report and water depth between the discharge pipe and the sea floor. The monthly average minimum NOEC value for a species is defined as the arithmetic average of all 7-day average NOEC values determined during the month. See Part I.D.2 of this permit.

[Exception] Permittees wishing to increase mixing may use a horizontal diffuser, add seawater, or install multiple discharge ports. If the permittee chooses to increase mixing by adding seawater, the ratio of produced water to seawater must remain constant at all times and remain the total discharge rate not to exceed the rate used for the test until the next test. Adding seawater only for obtaining samples for whole effluent toxicity testing or other purposes is not permitted.

Permittees who add seawater for dilution purpose must cease such practices by one day before the expiration date of this permit.

Permittees using a horizontal diffuser shall install the diffuser so that the 7-day average minimum and monthly average minimum No Observable Effect Concentration (NOEC) is equal to or greater than the critical dilution concentration as calculated using CORMIX2 version 4.2 GT, or newer, with the following input conditions:

Density Gradient = $0.2291 \sigma_t/m$
Ambient seawater density at diffuser depth = 1017 kg/m^3
Produced water density = 1070 kg/m^3
Current speed = 4 cm/sec .

Permittees shall submit a certification that the diffuser has been installed and state the critical dilution corresponding to the diffuser in the certification. The CORMIX2 model runs shall be retained by the permittee as part of its NPDES records.

Permittees discharging produced water at a rate greater than 25,000 bbl/day shall determine the critical dilution using CORMIX version 4.2 GT (or the most current version of CORMIX) with the input parameters shown above. Permittees shall retain the model output files as a part of their NPDES records.

Permittees using vertically aligned multiple discharge ports shall provide vertical separation between ports that is consistent with Appendix A, Table 2 of this permit. When multiple discharge ports are installed, the depth difference between the discharge port closest to the sea floor shall be the depth difference used to determine the critical dilution from Appendix A, Table 1 of this permit. The critical dilution value shall be based on the port flow rate (total flow rate divided by the number of discharge ports). If the actual port distance is shorter than the minimum vertical port separation distance established in the permit, the total discharge volume shall be used for calculation of the critical dilution.

When seawater is added to produced water prior to discharge, the total produced water discharge flow, including the added seawater, shall be used in determining the critical dilution from Appendix A, Table 1.

24-Hour Acute Toxicity. Produced water discharges must pass a 24-hour LC50 test using 100% effluent. Operators may add seawater to the produced water stream prior to discharging to meet this toxicity limit. See Part I.D.4. of this permit.

Toxicity testing results must pass both acute and chronic limits prior to any discharge and the

results would be good for six months.

b) Monitoring Requirements

Flow. Engineering estimate once per day. Flow rates for produced water, seawater addition, and total discharge flow must be recorded in million gallons per day (MGD). The permittee shall report the monthly average rates to the NetDMR quarterly.

7-Day Chronic and 24-Hour Acute Toxicity. Toxicity testing shall be conducted on representative produced water samples collected once per six months. The first new toxicity testing samples after the effective date of this permit must be taken and analyzed within 30 days from the effective date of the permit. If testing results fail either acute or chronic limit or both, the facility must cease the discharge immediately until the results of retest pass both limits. For intermittent discharges, samples shall be taken and analyzed prior to the discharge.

Samples for monitoring produced water toxicity shall be collected after the addition of any added substances, including seawater that is added prior to discharge, and before the flow is split for multiple discharge ports. Samples also shall be representative of produced water discharges when scale inhibitors, corrosion inhibitors, biocides, paraffin inhibitors, well completion fluids, workover fluids, well treatment fluids, and/or hydrate control fluids are used in operations. If hydrate control fluids are discharged separately from the produced water discharge collected for produced water toxicity testing, additional representative samples shall be collected for hydrate control fluid toxicity tests.

Visible Sheen. For manned facilities, when produced water discharges present the possibility of a visible sheen occurring on the surface of the water, in the vicinity of the discharge, the permittee shall monitor for free oil using the visual sheen test method. Monitoring shall be performed once per day when discharging and the facility is manned.

Oil and Grease. A produced water sample shall be collected and analyzed for oil and grease once per month. Additional sample for oil and grease shall be collected and analyzed whenever sheen is observed in the vicinity of the produced water discharge. All sample analytical results within the reporting month shall be used for reporting purpose.

For Produced Water From New Production Wells

Produced water from new production wells shall not be discharged to the Texas territorial seas or to the Outer Continental Shelf.

4. Produced Sand

There shall be no discharge of produced sand.

5. Well Treatment, Completion, and Workover Fluids

a) Limitations

Free Oil. No free oil shall be discharged. Monitoring shall be performed using the static sheen test method once per day when discharging and the facility is manned. The number of days sheen is observed must be recorded.

Oil and Grease. Well treatment, completion, and workover fluids must meet both a daily maximum of 42 mg/l and a monthly average of 29 mg/l limitation for oil and grease.

Priority Pollutants. For well treatment fluids, completion fluids, and workover fluids, the discharge of priority pollutants is prohibited except in trace amounts. Information on the specific chemical composition of any additives containing priority pollutants shall be recorded and reported as a violation.

[Note] If materials added downhole as well treatment, completion, or workover fluids contain no priority pollutants, the discharge is assumed not to contain priority pollutants except possibly in trace amounts.

b) Monitoring Requirements

This discharge shall be considered produced water, for monitoring purposes, when commingled with produced water.

Free Oil. Monitoring shall be performed using the static sheen test method once per day when discharging and the facility is manned. The number of days sheen is observed must be recorded.

Oil and Grease. Monitoring shall be performed once per month. The sample type may be either grab or a 24-hour composite consisting of the arithmetic average of the results of 4 grab samples taken within the 24-hour period. If only one sample is taken for any one month, it must meet both the daily and monthly limits.

6. Sanitary Waste (Facilities Continuously Manned by 10 or more Persons)

a) Prohibitions

Solids. No floating solids may be discharged to the receiving waters. An observation must be made once per day for floating solids. Observation must be made during daylight in the vicinity of sanitary waste outfalls following either the morning or midday meal and at a time during maximum estimated discharge. The number of days solids are observed must be recorded.

b) Limitations

Residual Chlorine. Total residual chlorine is a surrogate parameter for bacterial indicator. Discharge of residual chlorine must meet a minimum of 1 mg/l and shall be maintained as close to this concentration as possible. A grab sample must be taken once per month and the concentration recorded (approved method, Hach CN-66-DPD).

Exception: Any facility which properly operates and maintains a United States Coast Guard type approved marine sanitation device (MSD) that complies with pollution control standards and regulations under section 312 of the Act shall be deemed in compliance with permit limitations for sanitary waste. The MSD shall be tested yearly for proper operation and the test results maintained at the facility. If floating solids are observed, the facility shall test the MSD immediately and take appropriate corrective actions.

Testing methods for proper operation include a minimum of one representative sample taken once per year and analyzed for total residual chlorine (TRC) using the approved method, Hach-66-DPD. The discharge of TRC must meet a minimum of 1 mg/l and shall be maintained as close to this concentration as possible. All samples taken should be representative of actual operations (i.e. collected at a time during maximum estimated discharge). Sample results are to be recorded and maintained for three years on board the vessel or at an alternate site if not practicable.

If the MSD does not demonstrate compliance with the limits referenced in this letter, the vessel must conduct monitoring per the requirements found in the permit until the vessel can demonstrate compliance the limitations set forth in this letter.

7. Sanitary Waste (Facilities Continuously Manned by 9 or Fewer Persons or Intermittently by Any Number)

a) Prohibitions

Solids. No floating solids may be discharged to the receiving waters. An observation must be made once per day for floating solids. Observation must be made during daylight in the vicinity of sanitary waste outfalls following either the morning or midday meal and at a time during maximum estimated discharge. The number of days solids are observed must be recorded.

Exception: Any facility which properly operates and maintains a United States Coast Guard approved type marine sanitation device (MSD) that complies with pollution control standards and regulations under section 312 of the Act shall be deemed to be in compliance with permit limitations for sanitary waste. The MSD shall be tested yearly for proper operation and the test results maintained at the facility. If floating solids are observed, the facility shall test the MSD immediately and take appropriate corrective actions.

Testing methods for proper operation include a minimum of one representative sample taken once per year and analyzed for total residual chlorine (TRC) using the approved method, Hach-66-DPD. The discharge of TRC must meet a minimum of 1 mg/l and shall be maintained as close to this concentration as possible. All samples taken should be representative of actual operations (i.e. collected at a time during maximum estimated discharge). Sample results are to be recorded and maintained for three years on board the vessel or at an alternate site if not practicable.

If the MSD does not demonstrate compliance with the limits referenced in this letter, the vessel must conduct monitoring per the requirements found in the permit until the vessel can demonstrate compliance the limitations set forth in this letter.

8. Domestic Waste

If domestic waste (defined in Section G. of this permit) is discharged, kitchen oils must be minimized to the treatment system. When cleaning dishes, you must remove as much food and oil residue as practicable before rinsing dishes. Oils used in cooking shall not be added to the treatment system. Oil from the galley and scullery shall not be discharged in quantities that may cause a visible sheen.

Any soaps and detergents used must be phosphate free (defined as containing less than 0.5% phosphate or derivatives of phosphate).

a) Prohibitions

Solids. No floating solids or foam shall be discharged.

b) Monitoring Requirements

An observation shall be made once per day during daylight in the vicinity of domestic waste outfalls following the morning or midday meal and at a time during maximum estimated discharge. The number of days solids are observed must be recorded.

9. Miscellaneous Discharges

The following miscellaneous discharges are authorized if no chemical is added:

- Diatomaceous Earth Filter Media
- Blowout Preventer Fluid
- Uncontaminated Ballast Water
- Uncontaminated Bilge Water
- Mud, Cuttings, and Cement at the Seafloor
- Uncontaminated Freshwater/Seawater
- Desalination Unit Discharge
- Boiler Blowdown
- Source Water and Sand
- Excess Cement Slurry

a) Limitations

Free Oil. No free oil shall be discharged. Discharge is limited to those times that a visual sheen observation is possible unless the operator uses the static sheen method. Monitoring shall be performed using the visual sheen method on the surface of the receiving water once per week when discharging, or by use of the static sheen method at the operator's option. The number of days sheen is observed must be recorded.

[Exceptions] Uncontaminated seawater, uncontaminated freshwater, source water and source sand, uncontaminated bilge water, and uncontaminated ballast water may be discharged from

platforms that are on automatic purge systems without monitoring for free oil, when the facilities are not manned. Additionally, discharges at the seafloor of muds and cuttings prior to installation of the marine riser, cement, and blowout preventer fluid may be discharged without monitoring with the static sheen test when conditions make observation of a visual sheen on the surface of the receiving water impossible.

10. Miscellaneous Discharges of Seawater and Freshwater which have been chemically treated.

The following miscellaneous discharges of seawater and freshwater which have been chemically treated are authorized:

- Excess seawater which permits the continuous operation of fire control and utility lift pumps
- Excess seawater from pressure maintenance and secondary recovery projects
- Water released during training or testing of personnel in fire protection
- Seawater used to pressure test new or existing piping and pipelines
- Desalination Unit Discharge
- Ballast/Bilge water
- Once Through Non-contact cooling water

a) Limitations

Treatment Chemicals. The concentration of treatment chemicals in discharged seawater or freshwater shall not exceed the most stringent of the following three constraints:

- 1) the maximum concentrations and any other conditions specified in the EPA product registration labeling if the chemical is an EPA registered product
- 2) the maximum manufacturer's recommended concentration
- 3) 500 mg/l

Free Oil. No free oil shall be discharged. Discharge is limited to those times that a visible sheen observation is possible unless the operator uses the static sheen method. Monitoring shall be performed using the visual sheen method on the surface of the receiving water once per week when discharging, or by use of the static sheen method at the operator's option. The number of days sheen is observed must be recorded.

Exception: Monitoring for free oil on discharges from existing piping and existing pipelines shall be performed at least three times per discharge as follows: 1) within thirty minutes after commencement of discharge; 2) at the estimated middle of the discharge; and 3) within fifteen minutes before or after the discharge has ceased.

Toxicity. The 48-hour minimum and monthly average minimum No Observable Effect Concentration (NOEC) must be equal to or greater than the critical dilution concentration

specified in this permit in Appendix A, Table 3-A for seawater discharges and 3-B for freshwater discharges. Critical dilution shall be determined using Table 3 in Appendix A of this permit and is based on the discharge rate and discharge pipe diameter. The monthly average minimum NOEC value for a species is defined as the arithmetic average of all 48-hour average NOEC values determined during the month. See Part I.D.3 of this permit.

b) Monitoring Requirements

Flow. Once per month, an estimate of the flow (MGD) must be recorded.

Toxicity. The required frequency of testing for continuous discharges shall be once per six months. The first testing shall be taken within 30 days from the effective date of the permit.

Intermittent or batch discharges shall be monitored once per discharge prior to discharging but are required to be monitored no more frequently than once per six months if same or fewer chemicals are used for later discharges.

Samples shall be collected after addition of any added substances, including seawater that is added prior to discharge, and before the flow is split for multiple discharge ports. Samples shall be representative of the discharge. Methods to increase dilution previously described for produced water in Part I.B.2.a also apply to seawater and freshwater discharges which have been chemically treated. The permittee shall cease adding seawater for dilution purpose no later than one day before the expiration day of the permit.

The chemically treated miscellaneous discharges are not authorized if the facility fails the toxicity test or fails to perform the test in a timely manner. The facility must pass the test before it can resume discharging.

11. Produced Water and Ambient Water Characterization Study

Permittee shall collect a set of representative samples as below:

- one produced water sample,
- one upstream ambient water sample, and
- one ambient water sample at approximately 50 feet and another at approximately 200 feet downstream from the point of discharge at the depth of the point of the discharge.

Pollutants to be analyzed include, but not limited to pH, total dissolved solids, aluminum, arsenic, barium, benzene, cadmium, chromium, copper, cyanide, lead, mercury, nickel, selenium, silver, and zinc. The ambient water sample collected at 200 feet downstream shall also be tested for a 7-day chronic toxicity test.

Monitoring shall be performed once per calendar year (starting 2012) for three (3) calendar years within the life of this permit during normal discharge period of produced water.

In addition, the permittee shall collect a set of representative samples as described below:

- One sediment sample taken directly from the sediment beneath the discharge point,

- Three sediment samples taken down current from the discharge point at distances of 50', 100' and 200'.

Sediment samples shall be analyzed for radium-226 and radium-228.

Monitoring shall be performed once per calendar year (starting 2012) for five (5) calendar years within the life of this permit during normal discharge period of produced water. The facility shall use the appropriate method(s) found in *Radiochemical Analytical Procedures for Analysis of Environmental Samples*, EMSLLV-0539-17 or another approved EPA analytical method(s). However, the permittee may submit a facility specific monitoring plan/analytical method for radium-226 and radium-228 which may be approved by the region on a case by case basis.

Characterization study sampling is not required for the calendar year when no produced water is discharged during the whole calendar year. However, the make-up sampling shall be resumed if fewer than 3 study sampling events have been completed when discharges occur in the later years.

12. Hydrate Control Fluids

Hydrate control fluids shall be discharged with produced water if such a discharge occurs. If hydrate control fluids are used and must be discharged separately from produced water, the discharge must comply with effluent limitations and monitoring requirements established for produced water discharges in subsections 3(a) and 3(b) above.

Section C. Other Discharge Limitations

1. Halogenated Phenolic Compounds

There shall be no discharge of halogenated phenolic compounds as a part of any waste stream authorized in this permit.

2. Dispersants, Surfactants, and Detergents

The facility operator shall minimize the discharge of dispersants, surfactants, and detergents except as necessary to comply with the safety requirements of the Occupational Safety and Health Administration. This restriction applies to tank cleaning and other operations which do not directly involve the safety of workers.

Discharges of dispersants, surfactants, and detergents for the purpose of response to an oil spill shall be authorized by the On Scene Coordinator.

3. Garbage

The discharge of garbage is prohibited (See Part II.G.30).

4. Areas of Biological Concern

There shall be no discharge in Areas of Biological Concern, including marine sanctuaries.

5. Wastes Associated with Maintenance Activities such as Surface Preparation and Coating

Maintenance waste, such as removed paint and materials associated with surface preparation and coating applications, must be contained to the maximum extent practicable to prevent discharge. This includes airborne material such as spent or oversprayed abrasives, paint chips, and paint overspray. Measures such as vacuum abrasive blasting, covering grated areas with plywood, surrounding the area with canvas tarps and similar measures must be employed to capture as much material as practicable. All collected material shall be disposed of at an appropriate shore based facility. With respect to sandblasting or similar maintenance activities, operators shall operate in accordance with the API Recommended Practice (RP91) for Containment of Spent Blast Abrasive and Associated Materials from Surface Preparation and Coating Operations, if the aforementioned document has been approved by EPA and published, or develop and implement a Best Management Practices (BMP) plan for the containment of waste materials. Operators shall supplement RP91 with company or site specific BMPs as needed. Any BMP utilized must include specific containment measures.

Section D. Toxicity Testing Conditions

1. SAMPLES OF WASTES

If requested, the permittee shall provide EPA with a sample of any waste in a manner specified by the Agency.

2. 7-DAY CHRONIC TOXICITY TESTING REQUIREMENTS (7-DAY CHRONIC NOEC MARINE LIMITS)

The approved test methods for permit compliance are identified in 40 CFR Part 136.

Scope, Frequency and Methodology

- a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival, reproduction, or growth of the test organisms.
- b. The permittee shall conduct all toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified below and in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition" (EPA-821-R-02-014), or the most recent update thereof:
 - 1) Chronic static renewal 7-day survival and growth test using the mysid shrimp (*Mysidopsis bahia*) (Method 1007.0 or the most recent update thereof). A minimum of eight replicates with five organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per six months at intervals of approximately 180 days.
 - 2) Chronic static renewal 7-day larval survival and growth test using the inland silverside (*Menidia beryllina*) (Method 1006.0 or the most recent update thereof). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per six months at intervals of approximately 180 days.
- c. The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is herein defined as any test failing to satisfy the test acceptability criteria, including Percent Minimum Significant Difference (PMSD) boundary requirements, procedures, and quality assurance requirements specified in the test methods and permit.
- d. The effluent dilution series used for the toxicity test shall be based on the critical dilution, using a dilution factor of 0.5. The effluent dilution series must bracket the critical dilution, with two effluent dilutions lower than the critical dilution and two effluent dilutions greater than the critical dilution.
- e. If the effluent fails either the survival or sub-lethal endpoint at the critical dilution, the permittee shall be considered in violation of this permit limit. Also, when the testing frequency

stated above is less than monthly and the effluent fails either the survival or sub-lethal endpoint at the critical dilution, the monitoring frequency for the affected species will increase to monthly until such time as compliance with the No Observed Effect Concentration (NOEC) effluent limitation is demonstrated for a period of three consecutive months (or three consecutive tests, if the operator is unable to collect a monthly sample due to cessation of discharge). After compliance is demonstrated by passing the three consecutive monthly tests, the permittee may return to the testing frequency stated in Part I.B.3 of this permit. During the period the permittee is out of compliance, test results shall be reported on the DMR for that reporting period.

f. This permit may be reopened to require chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

Required Toxicity Testing Conditions

Test Acceptance - The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fails to meet any of the following criteria:

- 1) a control mean survival of 80% or greater;
- 2) a control mean dry weight of surviving mysid shrimp of 0.20 mg or greater;
- 3) a control mean dry weight for surviving unpreserved inland silverside of 0.50 mg or greater and 0.43 mg or greater for surviving preserved inland silverside.
- 4) a control Coefficient of Variation percent (CV%) between replicates of 40 or less in the in the growth and survival tests.
- 5) a critical dilution CV% of 40 or less in the growth and survival endpoints for either growth and survival test. However, if statistically significant lethal or nonlethal effects are exhibited at the critical dilution, a CV% greater than 40 shall not invalidate the test.
- 6) a PMSD range of 11 - 37 for mysid shrimp growth;
- 7) a PMSD range of 11 - 28 for inland silverside growth.

Statistical Interpretation

- 1) For the mysid shrimp and the inland silverside larval survival and growth tests, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be in accordance with the methods described in the "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition" (EPA-821-R-02-014), or the most recent update thereof.
- 2) The permittee is responsible for reviewing test concentration-response relationships to ensure that calculated test-results are interpreted and reported correctly. The EPA manual, "Method Guidance and Recommendation for Whole Effluent Toxicity (WET) Testing (40 CFR

Part 136)" (EPA 821-B-00-004) provides guidance on determining the validity of test results.

- 3) If significant lethality is demonstrated (that is, there is a statistically significant difference in survival at the critical dilution when compared to the control), the conditions of test acceptability are met, and the survival of the test organisms are equal to or greater than 80% in the critical dilution and all dilutions below that, then the permittee shall report a survival No Observed Effect Concentration (NOEC) of not less than the critical dilution for the reporting requirements.
- 4) The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. The Lowest Observed Effect Concentration (LOEC) is defined as the lowest effluent dilution at which a significant effect is demonstrated. A significant effect is herein defined as a statistically significant difference at the 95% confidence level between the survival, reproduction, or growth of the test organism(s) in a specified effluent dilution compared to the survival, reproduction, or growth of the test organism(s) in the control (0% effluent).
- 5) The use of NOECs and LOECs assumes either a monotonic (continuous) concentration-response relationship or a threshold model of the concentration-response relationship. For any test result that demonstrates a non-monotonic (non-continuous) response, the NOEC should be determined based on the guidance manual referenced in Item 2 above and a full report will be submitted to the Water Quality Standards Team
- 6) Pursuant to the responsibility assigned to the permittee in Part 2.b.2), test results that demonstrate a non-monotonic (non-continuous) concentration-response relationship may be submitted, prior to the due date, for technical review. The above-referenced guidance manual will be used when making a determination of test acceptability.

Dilution Water

Operators may use either ambient seawater or synthetic seawater for dilution water in the toxicity test.

Reporting

- 1) 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 "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms", 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 II.C.3 of this permit. A copy of the full report for any test failure must be submitted to EPA within 30 (thirty) days of receipt from the lab that performed the test. The permittee shall submit other full reports upon the specific request of the Agency.
- 2) In accordance with Part II.D.4 of this permit, the permittee shall report on the DMR for the reporting period the lowest Whole Effluent Toxicity value (for lethal and sub-lethal effects)

determined for either species for the 30-Day Average Minimum and 7-Day Minimum under Parameter No. 22414. Results of valid toxicity tests are reported as follows:

- i. MENIDIA BERYLLINA (INLAND SILVERSIDE MINNOW)
 - A) If the Inland Silverside minnow No Observed Effect Concentration (NOEC) for survival is less than the critical effluent dilution, enter a "1"; otherwise, enter a "0". Parameter No. TLP6B on the Discharge Monitoring Report.
 - B) Report the Inland Silverside minnow NOEC value for survival, Parameter No. TOP6B on the Discharge Monitoring Report.
 - C) Report the Inland Silverside minnow NOEC value for growth, Parameter No. TPP6B on the Discharge Monitoring Report.
- ii. MYSIDOPSIS BAHIA (MYSID SHRIMP)
 - A) If the Mysid shrimp NOEC for survival is less than the critical effluent dilution, enter a "1"; otherwise, enter a "0". Parameter No. TLP3E on the Discharge Monitoring Report.
 - B) Report the Mysid shrimp NOEC value for survival, Parameter No. TOP3E on the Discharge Monitoring Report.
 - C) Report the Mysid shrimp NOEC value for growth, Parameter No. TPP3E on the Discharge Monitoring Report.

3. 48-HOUR ACUTE TOXICITY TESTING REQUIREMENTS (48-HOUR ACUTE NOEC MARINE LIMITS)

The approved test methods for permit compliance are identified in 40 CFR Part 136.

Scope, Frequency and Methodology

- a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival of the test organisms.
- b. The permittee shall conduct all toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified below and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012), or the most recent update thereof:
 - a) The permittee shall utilize the Mysidopsis bahia (Mysid shrimp) acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012. This test shall be conducted once per six months at intervals of approximately 180 days.
 - b) Menidia beryllina (Inland Silverside minnow) acute static renewal 48-hour definitive

toxicity test using EPA-821-R-02-012. This test shall be conducted once per six months at intervals of approximately 180 days.

c) The NOEC (No Observed Effect Concentration) is defined as the greatest effluent dilution which does not result in lethality that is statistically different from the control (0% effluent) at the 95% confidence level.

d) If the effluent fails the survival endpoint at the critical dilution, the permittee shall be considered in violation of this permit limit. Also, when the testing frequency stated above is less than monthly and the effluent fails the survival endpoint at the critical dilution, the monitoring frequency for the affected species will increase to monthly until such time as compliance with the Lethal No Observed Effect Concentration (NOEC) effluent limitation is demonstrated for a period of three consecutive months. After compliance is demonstrated for three consecutive months, the permittee may return to the testing frequency in use at the time of the initial test failure. During the period the permittee is out of compliance, test results shall be reported on the annual DMR that includes this period.

e) This permit may be reopened to require chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

i. Each toxicity test control (0% effluent) must have a survival equal to or greater than 90%.

ii. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for the Mysid shrimp survival test and the Inland Silverside minnow survival test.

iii. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal effects are exhibited for the Mysid shrimp survival test and the Inland Silverside minnow survival test.

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

Statistical Interpretation

For the Mysid shrimp survival test and the Inland Silverside minnow survival test, the statistical analyses used to determine if there is a statistically significant difference between the control and the critical dilution shall be in accordance with the methods for determining the NOEC as

described in EPA-821-R-02-012 or the most recent update thereof.

If the conditions of Test Acceptability are met in Item 4.f above and the percent survival of the test organism is equal to or greater than 90% in the critical dilution concentration and all lower dilution concentrations the test shall be considered to be a passing test, and the permittee shall report an NOEC of not less than the critical dilution for the DMR reporting requirements found in item (i) below.

Reporting

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 "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms", EPA-821-R-02-012, or the latest update thereof, 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 II.C.3 of this permit. A copy of the full report for any test failure must be submitted to EPA within 30 (thirty) days of receipt from the lab that performed the test. The permittee shall submit other full reports upon the specific request of the Agency.

In accordance with Part II.D.4 of this permit, the permittee shall report on the DMR for the reporting period whether the lowest Whole Effluent Lethality values determined for either species as the 30-Day Average Minimum and 48-Hour Minimum NOEC.

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" for Parameter No. TEM6B.

(B) Report the NOEC value for survival, Parameter No. TOM6B.

(C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM6B.

ii. Mysidopsis bahia (Mysid shrimp)

(A) If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3E.

(B) Report the NOEC value for survival, Parameter No. TOM3E.

(C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3E.

iii. Enter the following codes on the DMR for retests only:

(A) For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

(B) For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

4. 24-HOUR ACUTE TOXICITY TESTING REQUIREMENTS (24-HOUR ACUTE LC-50 MARINE LIMITS)

The approved test methods for permit compliance are identified in 40 CFR Part 136.

Scope, Frequency and Methodology

- a) The permittee shall utilize the Mysidopsis bahia (Mysid shrimp) acute static nonrenewal 24-hour toxicity test in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012), 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 permittee shall utilize the Menidia beryllina (Inland Silverside minnow) acute static nonrenewal 24-hour definitive toxicity test in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012), 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.
- c) If any other test conducted under biomonitoring requirements elsewhere in this permit includes the 100% effluent concentration in the dilution series, the mean survival results at 24 hours from that test, for each species, may be submitted to fulfill the requirements of this section. See Reporting of this section for acceptable test substitutions. The >50% survival in 100% effluent for a 24 hour period standard applies to all tests utilizing a 100% effluent dilution, regardless of whether the results are submitted for compliance with the minimum testing frequency.
- d) The permittee shall test the effluent for lethality in accordance with the provisions of this section. Such testing will determine if an effluent sample meets the Texas Surface Water Quality Standard listed at 30 TAC §307.6(e)(2)(B) of greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.
- e) The permittee shall submit the results of these tests on the Discharge Monitoring Report (DMR) due at the end of the reporting period.
- f) In addition to an appropriate control (0% effluent), a 100% effluent concentration shall be used in the toxicity tests.
- g) 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.

Control/Dilution Water

Control and/or dilution water used in the test shall normally consist of a standard, synthetic, reconstituted seawater. If the permittee is utilizing the results of a 48-hour acute test to satisfy these 24-hour acute biomonitoring requirements in accordance with Item c above, the permittee may use receiving water as the control and dilution water if the control meets the requirements of subsection Control Survival below.

Control Survival

If more than 10% of the test organisms in any control die within 24 hours, that test including the control and all effluent dilution(s) shall be repeated with all results from both tests reported as per subsection Reporting below.

Repeat Test

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. A repeat test shall be conducted within the required reporting period of any test determined to be invalid, in accordance with this section.

Samples

The samples shall be collected at a point following the last treatment unit.

A grab sample representative of normal operating flows will be collected from each outfall, and a discrete test will be run on each sample.

Samples shall be chilled to 4 degrees Centigrade during collection, shipping, and/or storage. The toxicity tests must be initiated within 36 hours after collection of the sample. The sample must be collected such that the sample is representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.

REPORTING

1. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation section of EPA-821-R-02-012, or the most recent update thereof: 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 II.D.4 of this permit. A copy of the full report for any test failure must be submitted to EPA within 30 (thirty) days of receipt from the lab that performed the test. The permittee shall submit the information contained in any full report upon the specific request of the Environmental Protection Agency.

2. The permittee shall report the following results of each toxicity test on the subsequent monthly DMR for that reporting period in accordance with PART II.D.4 of this permit.

- i. Menidia beryllina (Inland Silverside minnow)

Enter the following codes on the DMR for Parameter No. TIE6B:

"0" if mean survival at 24 hrs. is greater than 50% in 100% effluent;

"1" if the mean survival at 24 hrs. is less than or equal to 50% in 100% effluent.

In cases of test substitution (See 24 HOUR ACUTE TEST SUBSTITUTIONS, Item 1.c, above), mean survival results in 100% effluent from the 48 hr. acute or 7 day chronic Menidia beryllina or Cyprinodon variegatus tests, determined at 24 hrs., shall be reported on the DMR under Parameter No. TIE6B.

ii. Mysidopsis bahia (Mysid shrimp)

Enter the following codes on the DMR for Parameter No. TIE3E:

"0" if mean survival at 24 hrs. is greater than 50% in 100% effluent;

"1" if the mean survival at 24 hrs. is less than or equal to 50% in 100% effluent.

In cases of test substitution (See 24-HOUR ACUTE TEST SUBSTITUTIONS, Item 1.c, above), mean survival results in 100% effluent from the 7 day chronic Mysidopsis bahia tests, determined at 24 hrs., shall be reported on the DMR under Parameter No. TIE3E.

5. TOTAL DISSOLVED SOLIDS EXEMPTION

The requirement to comply with 30 TAC 307.6.(e)(2)(B) may be exempted upon proof that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g. metals) form a salt compound. Upon approval from EPA, testing may be done using an ion-adjustment protocol, alternate species testing, or single species testing in accordance with the implementation guidance for the Texas Water Quality Standards.

Section E. Cooling Water Intake Structure Requirements

Applicability: These requirements apply to new facilities for which construction was commenced after July 17, 2006, with a cooling water intake structure having a design intake capacity of greater than 2 million gallons of water per day, of which at least 25% is used for cooling purposes.

Fixed facility means a bottom founded offshore oil and gas extraction facility permanently attached to the seabed or subsoil of the outer continental shelf (e.g., platforms, guyed towers, articulated gravity platforms) or a buoyant facility securely and substantially moored so that it cannot be moved without a special effort (e.g., tension leg platforms, permanently moored semi-submersibles) and which is not intended to be moved during the production life of the well. This definition does not include mobile offshore drilling units (MODUs) (e.g., drill ships, temporarily moored semi-submersibles, jack-ups, submersibles, tender-assisted rigs, and drill barges).

Other special definitions apply to this section can be found in 40 CFR 125.83 and 125.133.

1. Application Information

The owner or operator of a new offshore oil and gas extraction facility must provide the following information with the NOI prior to operating.

a. New non-fixed facilities must submit source water physical data, cooling water intake structure data, and velocity information:

i. Source Water Physical Data

A narrative description and/or maps providing sufficient information on predicted locations during the permit term in sufficient detail for the Director to determine the appropriateness of additional impingement requirements. This information is only required to be submitted once for any facility.

ii. Cooling Water Intake Structure Data

(a) Design and construction technology plans and a description of operational measures which will be implemented to minimize impingement, including:

(i) A narrative description of the design, operation of the design, and construction technologies, including fish handling and return systems, that the facility will utilize to maximize the survival of species expected to be most susceptible to impingement. Provide species specific information that demonstrates the efficacy of the technology;

(ii) A narrative description of the design, operation of the design, and construction technologies that the facility will utilize to minimize entrainment of those species expected to be most susceptible to entrainment; and

(iii) Design calculations, drawings, and estimates to support the descriptions above.

(b) A narrative description of the configuration of each of the cooling water intake structures and its location in the water body and in the water column;

(c) A narrative description of the operation of each of the cooling water intake structures, including design intake flows, daily hours of operation, number of days of the year in operation, and seasonal changes, if applicable;

(d) A flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges; and

(e) Engineering drawings of the cooling water intake structure.

iii. Velocity Information

(a) A narrative description of the design, structure, equipment, and operation used to meet the requirements of a maximum through screen intake velocity of 0.5 ft/s at each cooling water intake structure; and

(b) A design calculations showing that the velocity requirement will be met at the minimum ambient source water surface elevation and maximum head loss across the screens or other device.

b. New fixed facilities must submit source water baseline biological characterization data, source water physical data, cooling water intake structure data, and velocity information:

i. Baseline Study requirements for new fixed facilities

These baseline study requirements are effective one year after the effective date of this permit.

As described below, operators of cooling water intake structures subject to Part I.B.11 may either conduct a study at each new fixed facility or they may participate in an industry wide study. Operators may participate after the close of the study.

Operators of new fixed facilities must submit sufficient information to characterize the biological community of commercial, recreational, and forage base fish and shellfish in the vicinity of the intake structure and to characterize the effects of the cooling water intake structure's operation on aquatic life. This biological characterization must include any available existing information along with field studies to obtain localized data. At a minimum, the information must include:

(a) A list of the data required by this section that are not available and efforts made to identify sources of the data;

(b) A list of species (or relevant taxa) for all life stages and their relative abundance in the vicinity of the cooling water intake structure;

(c) Identification of the species and life stages that would be most susceptible to impingement and entrainment. Species evaluated should include the forage base as well as those most important in terms of significance to commercial and recreational fisheries;

(d) Identification and evaluation of the primary period of reproduction, larval recruitment, and period of peak abundance for relevant taxa;

(e) Data representative of the seasonal and daily activities (e.g., feeding and water column migration) of biological organisms in the vicinity of the cooling water intake structure;

(f) Identification of all threatened, endangered, and other protected species that might be susceptible to impingement and entrainment at the cooling water intake structures;

(g) If the information above is supplemented with data from field studies, the supplemental data must include a description of all methods and quality assurance procedures for sampling and data analysis including a description of the study area; taxonomic identification of sampled and evaluated biological assemblages (including all life stages of fish and shellfish); and sampling and data analysis methods. The sampling and/or data analysis methods you use must be appropriate for a quantitative survey and based on consideration of methods used in other biological studies performed within the same source water body. The study area should include, at a minimum, the area of influence of the cooling water intake structure.

ii. Source Water Physical Data

(a) A narrative description and scaled drawings showing the physical configuration of all source water bodies used by your facility, including aerial dimensions, depths, salinity and temperature regimes, and other documentation that supports your determination of the water body type where each cooling water intake structure is located;

(b) Identification and characterization of the source water body's hydrological and geomorphological features, as well as the methods you used to conduct any studies to determine your intake's area of influence within the water body and the results of such studies; and

(c) Locational maps.

iii. Cooling Water Intake Structure Data

(a) Design and construction technology plans and a description of operational measures which will be implemented to minimize impingement, including:

(i) A narrative description of the design, operation of the design, and construction technologies including fish handling and return systems that the facility will utilize to maximize the survival of species expected to be most susceptible to impingement. Provide

species specific information that demonstrates the efficacy of the technology; and

(ii) A narrative description of the design, operation of the design, and construction technologies that the permittee will utilize to minimize entrainment of those species expected to be most susceptible to entrainment; and

(iii) Design calculations, drawings, and estimates to support the descriptions above.

(b) A narrative description of the configuration of each of the cooling water intake structures and the respective location in the water body and in the water column;

(c) A narrative description of the operation of each of the cooling water intake structures, including design intake flows, daily hours of operation, number of days of the year in operation, and seasonal changes, if applicable;

(d) A flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges; and

(e) Engineering drawings of the cooling water intake structure.

iv. Velocity Information

(a) A narrative description of the design, structure, equipment, and operation used to meet the requirements of a maximum through screen intake velocity of 0.5 ft/s at each cooling water intake structure; and

(b) A design calculations showing that the velocity requirement will be met at the minimum ambient source water surface elevation and maximum head loss across the screens or other device.

2. Cooling Water Intake Structure Operation Requirements

a. New non-Fixed Facilities

i. The cooling water intake structure(s) must be designed and constructed so that the maximum through-screen design intake velocity is 0.5 ft/s or less;

ii. The permittee must minimize impingement mortality of fish and shellfish through use of cooling water intake design and construction technologies or operational measures.

b. New Fixed Facilities that do not employ sea chests as intake structures

i. The cooling water intake structure must be designed and constructed so that the maximum through-screen design intake velocity is 0.5 ft/s; and

ii. The operator must minimize impingement mortality of fish and shellfish and minimize entrainment of entrainable life stages of fish and shellfish through the use of cooling water intake design and construction technologies or operational measures.

c. New Fixed Facilities that Employ Sea Chests as Intake Structures

i. The cooling water intake structure(s) must be designed and constructed so that the maximum through-screen design intake velocity is 0.5 ft/s or less; and

ii. The operator must minimize impingement mortality of fish and shellfish through cooling water intake design and construction technologies or operational measures.

3. Monitoring Requirements

a. New non-Fixed Facilities

i. Visual or remote inspections. Beginning the coverage of this permit, the operator must conduct either visual inspections or use remote monitoring devices (e.g., remotely operated vehicles (ROV), subsea cameras, etc.) during the period the cooling water intake structure is in operation. The operator must conduct visual or remote inspections at least monthly to ensure that the required design and construction technologies are maintained and operated so they continue to function as designed. Visual or remote monitoring is not required when conditions such as storms, high seas, evacuation, or other factors make it unduly hazardous to personnel, the facility, or the equipment utilized. The operator must provide an explanation for any such failure to visually or remotely monitor with the subsequent DMR submittal.

i(a). Alternative to visual or remote inspections. Alternatively, the operator may install proper devices (e.g., differential pressure device, etc.) to continuously monitor intake screens while the intake structure is operating, to ensure that the intake screens are functioning as designed. The operator must also maintain every individual screen at 85% or above efficiency (less than 15% screen blockage) all the time to minimize impingement mortality. The operator must also conduct visual or remote inspection semi-annually.

ii. Velocity monitoring. The operator must monitor intake flow velocity across the intake screens to ensure the maximum intake flow velocity does not exceed 0.5 ft/s. The intake flow velocity shall be monitored continuously.

b. New Fixed Facilities that do not employ sea chests as intake structures

i. Visual or remote inspections. Beginning the coverage of this permit, the operator must conduct either visual inspections or use remote monitoring devices (e.g., remotely operated vehicles (ROV), subsea cameras, etc.) during the period the cooling water intake structure is in operation. The operator must conduct visual or remote inspections at least monthly to ensure that the required design and construction technologies are maintained and operated so they continue to function as designed. Visual or remote monitoring is not required when conditions such as storms, high seas, evacuation, or other factors make it unduly hazardous to personnel, the

facility, or the equipment utilized. The operator must provide an explanation for any such failure to visually or remotely monitor with the subsequent DMR submittal.

i(a). Alternative to visual or remote inspections. Alternatively, the operator may install proper devices (e.g., differential pressure device, etc.) to continuously monitor intake screens while the intake structure is operating, to ensure that the intake screens are functioning as designed. The operator must also maintain every individual screen at 85% or above efficiency (less than 15% screen blockage) all the time to minimize impingement mortality. The operator must also conduct visual or remote inspection semi-annually.

ii. Entrainment monitoring/sampling. After commencement of operations, the operator must monitor for entrainment. The operator must collect samples to monitor entrainment rates (simple enumeration) for each species over a 24-hour period and no less than biweekly during the primary period of reproduction, larval recruitment, and peak abundance identified during the Source Water Baseline Biological Characterization Study. Representative species may be utilized for this monitoring consistent with their use in the Source Water Baseline Characterization Study. The operator must collect samples only when the cooling water intake structure is in operation. After 24 months of monitoring, the permittee may reduce the monitoring frequency to once per month for the remainder of the permit.

iii. Velocity monitoring. The operator must monitor intake flow velocity across the intake screens to ensure the maximum intake flow velocity does not exceed 0.5 ft/s. The intake flow velocity shall be monitored continuously.

c. New Fixed Facilities that Employ Sea Chests as Intake Structures

i. Visual or remote inspections. Beginning the coverage of this permit, the operator must conduct either visual inspections or use remote monitoring devices (e.g., remotely operated vehicles (ROV), subsea cameras, etc.) during the period the cooling water intake structure is in operation. The operator must conduct visual or remote inspections at least monthly to ensure that the required design and construction technologies are maintained and operated so they continue to function as designed. Visual or remote monitoring is not required when conditions such as storms, high seas, evacuation, or other factors make it unduly hazardous to personnel, the facility, or the equipment utilized. The operator must provide an explanation for any such failure to visually or remotely monitor with the subsequent DMR submittal.

i(a). Alternative to visual or remote inspections. Alternatively, the operator may install proper devices (e.g., differential pressure device, etc.) to continuously monitor intake screens while the intake structure is operating, to ensure that the intake screens are functioning as designed. The operator must also maintain every individual screen at 85% or above efficiency (less than 15% screen blockage) all the time to minimize impingement mortality. The operator must also conduct visual or remote inspection semi-annually.

ii. Velocity monitoring. The operator must monitor intake flow velocity across the intake screens to ensure the maximum intake flow velocity does not exceed 0.5 ft/s. The intake flow velocity shall be monitored continuously.

iii. No monitoring for entrainment is required.

An annual status report of the required biological (entrainment) monitoring for each cooling water intake structure must be provided to EPA for fixed facilities that do not employ sea chests. For all new facilities required to comply with intake structure monitoring requirements must submit the following information monthly:

1) Visual or remote device inspection: Number of fish/shellfish impinged and screen area blockage for each screen;

2) Intake screen monitoring as alternate inspection: Number of days on which the screen efficiency is below 85%; and

3) Intake velocity monitoring: Number of days on which the maximum intake velocity is greater than 0.5 ft/s.

The permit may be reopened and modified or revoked and reissued to require additional monitoring or to change the cooling water intake structure requirements if found warranted by the director as a result of either baseline study or entrainment monitoring.