AUTHORIZATION TO DISCHARGE UNDER
THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, 33 U.S.C. §§ 1251 et seq. (the "CWA"),

Citgo Petroleum Corporation

is authorized to discharge from a facility located at

Citgo Petroleum Corp.
385 Quincy Avenue
East Braintree, MA 02184

to receiving water named

Weymouth Fore River (MA74-14)
Weymouth & Weir Watershed

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on [*the first day of the calendar month immediately following 60 days after signature*].[1]

This permit expires at midnight on [*five years from the last day of the month preceding the effective date*].

This permit supersedes the permit issued on June 12, 2008.

This permit consists of this **cover page**, **Part I**, **Attachment A** (Marine Acute Toxicity Test Procedure and Protocol, July 2012), and **Part II** (NPDES Part II Standard Conditions, April 2018).

Signed this day of

_____
Ken Moraff, Director
Water Division
Environmental Protection Agency
Region 1
Boston, MA

[1] Pursuant to 40 Code of Federal Regulations (CFR) § 124.15(b)(3), if no comments requesting a change to the Draft Permit are received, the permit will become effective upon the date of signature. Procedures for appealing EPA's Final Permit decision may be found at 40 CFR § 124.19.

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge treated stormwater, treated hydrostatic test water, and treated groundwater through **Outfall Serial Number 001** to the Weymouth Fore River. The discharge shall be limited and monitored as specified below; the receiving water shall be monitored as specified below.

Effluent Characteristic	**Effluent Limitation**		**Monitoring Requirements[1,2,3]**	
	Average Monthly	**Maximum Daily**	**Measurement Frequency[4]**	**Sample Type**
Flow Rate[5]	---	6,000 GPM	When Discharging	Estimate
Total Effluent Flow[6]	---	Report MGal/Mo	When Discharging	Meter
Number of Discharge Events[6]	---	Report occur/Mo	When Discharging	Count
Total Suspended Solids (TSS)	30 mg/L	100 mg/L	2/Month	Grab
pH[7]	6.5 - 8.5 S.U.		1/Week	Grab
Oil and Grease	---	15 mg/L	1/Month	Grab
Fecal Coliform	---	Report	1/Month	Grab
Enterococcus	35 colonies / 100 mL	104 colonies / 100 mL	1/Month	Grab
Benzene[8]	---	5 µg/L	1/Month	Grab
Ethylbenzene[8]	---	Report µg/L	1/Year[9]	Grab

Effluent Characteristic	Effluent Limitation		Monitoring Requirements[1,2,3]	
	Average Monthly	Maximum Daily	Measurement Frequency[4]	Sample Type
Toluene[8]	---	Report µg/L	1/Year[9]	Grab
Total Xylenes[8]	---	Report µg/L	1/Year[9]	Grab
Benzo(a)pyrene[10]	0.018 µg/L	---	1/Month	Grab
Benzo(a)anthracene[10]	---	Report µg/L	1/Year[9]	Grab
Benzo(b)fluoranthene[10]	---	Report µg/L	1/Year[9]	Grab
Benzo(k)fluoranthene[10]	---	Report µg/L	1/Year[9]	Grab
Chrysene[10]	---	Report µg/L	1/Year[9]	Grab
Dibenzo(a,h)anthracene[10]	---	Report µg/L	1/Year[9]	Grab
Indeno(1,2,3-cd)pyrene[10]	---	Report µg/L	1/Year[9]	Grab
Naphthalene[10]	---	Report µg/L	1/Year[9]	Grab
Acenaphthene[10]	---	Report µg/L	1/Year[9]	Grab
Acenaphthylene[10]	---	Report µg/L	1/Year[9]	Grab
Anthracene[10]	---	Report µg/L	1/Year[9]	Grab
Benzo(g,h,i)perylene[10]	---	Report µg/L	1/Year[9]	Grab
Fluoranthene[10]	---	Report µg/L	1/Year[9]	Grab
Fluorene[10]	---	Report µg/L	1/Year[9]	Grab

Effluent Characteristic	Effluent Limitation		Monitoring Requirements[1,2,3]	
	Average Monthly	Maximum Daily	Measurement Frequency[4]	Sample Type
Phenanthrene[10]	---	Report µg/L	1/Year[9]	Grab
Pyrene[10]	---	Report µg/L	1/Year[9]	Grab
Methyl tert-butyl ether	---	Report µg/L	1/Quarter	Grab
Phenol[11]	---	Report µg/L	2/Year[12]	Grab
Total Cyanide[13]	---	Report µg/L	2/Year[12]	Grab
Total Iron	---	Report µg/L	2/Year[12]	Grab
Whole Effluent Toxicity (WET) Testing[14,15]				
LC_{50}	---	Report %	2/Year[12]	Grab
Total Residual Chlorine	---	Report mg/L	2/Year[12]	Grab
Salinity	---	Report ppt	2/Year[12]	Grab
pH	---	Report SU	2/Year[12]	Grab
Total Solids	---	Report mg/L	2/Year[12]	Grab
Total Suspended Solids	---	Report mg/L	2/Year[12]	Grab
Ammonia Nitrogen	---	Report mg/L	2/Year[12]	Grab
Total Organic Carbon	---	Report mg/L	2/Year[12]	Grab
Total Cadmium	---	Report µg/L	2/Year[12]	Grab

Effluent Characteristic	Effluent Limitation		Monitoring Requirements[1,2,3]	
	Average Monthly	Maximum Daily	Measurement Frequency[4]	Sample Type
Total Copper	---	Report µg/L	2/Year[12]	Grab
Total Lead	---	Report µg/L	2/Year[12]	Grab
Total Nickel	---	Report µg/L	2/Year[12]	Grab
Total Zinc	---	Report µg/L	2/Year[12]	Grab
Perfluorohexanesulfonic acid (PFHxS)[16,17]	---	Report ng/L	1/Quarter	Composite
Perfluoroheptanoic acid (PFHpA)[16,17]	---	Report ng/L	1/Quarter	Composite
Perfluorononanoic acid (PFNA)[16,17]	---	Report ng/L	1/Quarter	Composite
Perfluorooctanesulfonic acid (PFOS)[16,17]	---	Report ng/L	1/Quarter	Composite
Perfluorooctanoic acid (PFOA)[16,17]	---	Report ng/L	1/Quarter	Composite
Perfluorodecanoic acid (PFDA)[16,17]	---	Report ng/L	1/Quarter	Composite

Ambient Characteristic	Reporting Requirements		Monitoring Requirements[1,2,3]	
	Average Monthly	Maximum Daily	Measurement Frequency[4]	Sample Type[5]
Salinity[18]	---	Report ppt	2/Year[12]	Grab
Ammonia Nitrogen[18]	---	Report mg/L	2/Year[12]	Grab

Total Cadmium[18]	---	Report µg/L	2/Year[12]	Grab
Total Copper[18]	---	Report µg/L	2/Year[12]	Grab
Total Nickel[18]	---	Report µg/L	2/Year[12]	Grab
Total Lead[18]	---	Report µg/L	2/Year[12]	Grab
Total Zinc[18]	---	Report µg/L	2/Year[12]	Grab
pH[19]	---	Report SU	2/Year[12]	Grab
Temperature[19]	---	Report °C	2/Year[12]	Grab

Footnotes:

1. Grab samples for Outfall 001 shall be collected at the discharge point from the Facility's treatment system, prior to commingling with any other wastestream. Samples shall be collected during the first qualifying event that occurs for each required measurement frequency, after treatment through the stormwater treatment system and free from tidal influence. A qualifying event shall be defined as a discharge that occurs during daylight hours on an outgoing tide at least one hour from both the low and high slack tide. To identify a qualifying event, the Permittee may use tide charts to predict the two four-hour intervals of an outgoing tide each day that are one hour from both low and high slack tide. If a measurable discharge does not occur such that sampling cannot be completed during the first qualifying event of the required sampling frequency, the Permittee is to sample the next qualifying event. The qualifying event requirement does not apply to sampling for the measurement frequency "when discharging". Samples shall be grab samples taken within 15 minutes of the initiation of a discharge during a qualifying event where practicable, but in no case later than within the first hour of discharge from the outfall. Changes in sampling location must be approved in writing by the Environmental Protection Agency Region 1 (EPA). The Permittee shall report the results to EPA and the State of any additional testing above that required herein, if testing is done in accordance with 40 Code of Federal Regulations (CFR) Part 136.

2. In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is "sufficiently sensitive" when: 1) the method minimum level (ML) is at or below

the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) the method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.

3. When a parameter is not detected above the ML, the Permittee must report the data qualifier signifying less than the ML for that parameter (e.g., < 5 µg/L, if the ML for a parameter is 5 µg/L). For calculating and reporting the average monthly concentration when one or more values are not detected, assign a value of zero to all non-detects and report the average of all the results. The number of exceedances shall be enumerated for each parameter in the field provided on every Discharge Monitoring Report (DMR).

4. Measurement frequency of "when discharging" is defined as the sampling of any measurable discharge event, reported for each calendar month. Sampling frequency of 1/week is defined as the sampling of one discharge event in a seven day period. Sampling frequency of 1/month is defined as the sampling of one discharge event in each calendar month. Sampling frequency of 1/quarter is defined as the sampling of one discharge event in each quarter. Calendar quarters are defined as January through March, inclusive, April through June, inclusive, July through September, inclusive and October through December, inclusive. Sampling frequency of 1/year is defined as the sampling of one discharge event during one calendar year, unless otherwise specified. If no sample is collected during the measurement frequencies defined above, the Permittee must report an appropriate No Data Indicator Code.

5. For Flow Rate, the maximum daily value represents the maximum instantaneous flow rate measured by the Facility as passing through the treatment system for each day that a discharge occurs during the reported period. The maximum instantaneous flow rate, which is to be reported in units of gallons per minute (GPM), shall be an estimate based on the summation of the pump curve value(s) for all pumps in operation which control the rate of flow through the OWS when discharge is occurring. The Permittee shall at no time exceed the design flow rate of the treatment system.

6. For Total Flow, the value reported represents the sum of the recorded discharge volume for each day that effluent is discharged during that month, measured at the treatment system using a totalizer or similar device. Total Flow shall be reported in the units of millions of gallons per month (Mgal/Mo). The Permittee shall also report the total number of days during the reporting period discharges from the outfall occurred (i.e., a measurable volume of effluent passes through the totalizer or similar device), noted on the DMR form under "Discharge event observation" parameter.

7. The pH shall be within the specified range at all times. The minimum and maximum pH sample measurement values for the month shall be reported in standard units (S.U.).

8. The ML for analysis for benzene, ethylbenzene, toluene and total xylenes shall be no greater than 2 µg/L.

9. The Permittee shall conduct annual monitoring of the effluent during the month of September for the following compounds: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorene, naphthalene, phenanthrene, pyrene, toluene, ethylbenzene, and total xylenes. Sampling shall be performed concurrently with the monthly monitoring event. If no discharge occurs during the month of September, the Permittee shall sample the next qualifying event.

10. The ML for analysis for the Polycyclic Aromatic Hydrocarbons (PAHs) shall be no greater than the following: 0.1 µg/L for benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene and 5 µg/L for acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorene, naphthalene, phenanthrene, pyrene. The ML for benzo(a)pyrene, 0.1 µg/L, shall represent the compliance level for that compound.

11. The ML for analysis for phenol (i.e., not total phenols) shall be no greater than 300 µg/L.

12. The monitoring frequency for phenol, free cyanide, total iron, and WET tests will be two times per year. One sample will be collected anytime during the first six months of the year (January – June) and reported on the June DMR. The other sample will be collected during the second half of the year (July – August) and reported on the December DMR.

13. For the purposes of this permit, cyanide analysis must be completed using a test method in 40 CFR Part 136 that achieves a minimum level of detection no greater than 5 µg/L.

14. The Permittee shall conduct acute toxicity tests (LC_{50}) in accordance with test procedures and protocol specified in **Attachment A** of this permit. LC_{50} is defined in Part II.E. of this permit. The Permittee shall test the mysid shrimp, *Americamysis bahia*, and the inland silverside, *Menidia beryllina*. The complete report for each toxicity test shall be submitted as an attachment to the monthly DMR submittal immediately following the completion of the test.

15. For Part I.A.1., Whole Effluent Toxicity Testing, the Permittee shall conduct the analyses specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS for the effluent sample. If toxicity test(s) using the receiving water as diluent show the receiving water to be toxic or unreliable, the Permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER. Even

where alternate dilution water has been used, the results of the receiving water control (0% effluent) analyses must be reported. Minimum levels and test methods are specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS.

16. This reporting requirement for the listed PFAS parameters takes effect six months after EPA's multi-lab validated method for wastewater is made available to the public on EPA's CWA methods program website. *See* https://www.epa.gov/cwa-methods/other-clean-water-act-test-methods-chemical and https://www.epa.gov/cwa-methods .

17. After one year of monitoring, if all samples are non-detect for all six PFAS compounds, using EPA's multi-lab validated method for wastewater, the Permittee may request to remove the requirement for PFAS monitoring. *See* Special Condition in Part I.C.5.

18. For Part I.A.1., Ambient Characteristic, the Permittee shall conduct the analyses specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS for the receiving water sample collected as part of the WET testing requirements. Such samples shall be taken from the receiving water at a point immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location, as specified in **Attachment A**. Minimum levels and test methods are specified in **Attachment A**, Part VI. CHEMICAL ANALYSIS.

19. A pH and temperature measurement shall be taken of each receiving water sample at the time of collection and the results reported on the appropriate DMR. These pH and temperature measurements are independent from any pH and temperature measurements required by the WET testing protocols.

2. During the period beginning on the effective date and lasting through the expiration date, the Permittee is authorized to discharge treated groundwater through **Outfall Serial Number 002**, an internal outfall that discharges through Outfall Serial Number 001 to the Weymouth Fore River. The discharge shall be limited and monitored as specified below.

Effluent Characteristic	**Effluent Limitation**		**Monitoring Requirements[1,2,3]**	
	Average Monthly	**Maximum Daily**	**Measurement Frequency[4]**	**Sample Type**
Flow Rate[5]	---	25 GPM	Continuous	Flow Meter
Benzene[6]	---	5 µg/L	1/Quarter	Grab
Ethylbenzene[6]	---	Report µg/L	1/Quarter	Grab
Toluene[6]	---	Report µg/L	1/Quarter	Grab
Total Xylenes[6]	---	Report µg/L	1/Quarter	Grab
Total BTEX[7]	---	100 µg/L	1/Quarter	Grab
Total Petroleum Hydrocarbons	---	5 mg/L	1/Quarter	Grab
Methyl tert-butyl ether	---	70 µg/L	1/Quarter	Grab

Footnotes:

1. Grab samples for Outfall 002 shall be collected at the discharge point from the Facility's treatment system, prior to commingling with any other wastestream. Changes in sampling location must be approved in writing by the Environmental Protection Agency Region 1 (EPA). The Permittee shall report the results to EPA and the State of any additional testing above that required herein, if testing is done in accordance with 40 Code of Federal Regulations (CFR) Part 136.

2. In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or

pollutant parameters (except WET). A method is "sufficiently sensitive" when: 1) the method minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) the method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.

3. When a parameter is not detected above the ML, the Permittee must report the data qualifier signifying less than the ML for that parameter (e.g., < 5 µg/L, if the ML for a parameter is 5 µg/L). For calculating and reporting the average monthly concentration when one or more values are not detected, assign a value of zero to all non-detects and report the average of all the results. The number of exceedances shall be enumerated for each parameter in the field provided on every Discharge Monitoring Report (DMR).

4. Sampling frequency of "continuous" for Flow Rate is described further in footnote 5. Sampling frequency of 1/quarter is defined as the sampling of one discharge event in each quarter. Calendar quarters are defined as January through March, inclusive, April through June, inclusive, July through September, inclusive and October through December, inclusive. If no sample is collected during the measurement frequencies defined above, the Permittee must report an appropriate No Data Indicator Code.

5. For Flow Rate, the maximum daily value represents the maximum instantaneous flow rate measured by the Facility as passing through the treatment system for each day that a discharge occurs during the reported period. The maximum instantaneous flow rate, which is to be reported in units of gallons per minute (GPM), shall be an estimate based on the summation of the pump curve value(s) for all pumps in operation which control the rate of flow through the OWS when discharge is occurring. The Permittee shall at no time exceed the design flow rate of the treatment system.

6. The ML for analysis for benzene, ethylbenzene, toluene and total xylenes shall be no greater than 2 µg/L.

7. Total BTEX is the sum of the concentrations of benzene, ethylbenzene, toluene and total xylenes.

Part I.A. continued.

3. The discharge shall not cause a violation of the water quality standards of the receiving water.

4. The discharge shall be free from pollutants in concentrations or combinations that, in the receiving water, settle to form objectionable deposits; float as debris, scum or other matter to form nuisances; produce objectionable odor, color, taste or turbidity; or produce undesirable or nuisance species of aquatic life.

5. The discharge shall be free from pollutants in concentrations or combinations that adversely affect the physical, chemical, or biological nature of the bottom.

6. The discharge shall not result in pollutants in concentrations or combinations in the receiving water that are toxic to humans, aquatic life or wildlife.

7. The discharge shall be free from floating, suspended and settleable solids in concentrations or combinations that would impair any use assigned to the receiving water.

8. The discharge shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life.

9. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe (40 CFR § 122.42):

   a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

      (1) 100 micrograms per liter (µg/L);
      (2) 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (mg/L) for antimony;
      (3) Five times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR § 122.21(g)(7); or
      (4) Any other notification level established by the Director in accordance with 40 CFR § 122.44(f) and State regulations.

   b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

      (1) 500 µg/L;
      (2) One mg/L for antimony;
      (3) 10 times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR § 122.21(g)(7); or

(4) Any other notification level established by the Director in accordance with 40 CFR § 122.44(f) and State regulations.

c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

B. UNAUTHORIZED DISCHARGES

1. This permit authorizes discharges only from the outfall(s) listed in Parts I.A.1 and I.A.2, in accordance with the terms and conditions of this permit. Discharges of wastewater from any other point sources are not authorized by this permit and shall be reported in accordance with Part D.1.e.(1) of the Standard Conditions of this permit (24-hour reporting).

2. The following discharges are expressly prohibited:

a. Discharge of tank bottom water and/or bilge water alone or in combination with stormwater discharge or other wastewater;

b. Discharge of any sludge and/or bottom deposits from any storage tank(s), basin(s), and/or diked area(s) to the receiving waters. Examples of storage tanks and/or basins include, but are not limited to: primary catch basins, oil/water separators, petroleum product storage tanks, baffled storage tanks collecting spills, and tank truck loading rack sumps;

c. Discharge of liquid hazardous waste alone or in combination with stormwater or other wastewater;

d. Discharges of runoff from any vehicle and equipment washing alone or in combination with stormwater or other wastewater, including from the leased property;

e. Discharges of ballast water alone or in combination with stormwater or other wastewater;

f. Runoff resulting from accidental spill or release, alone or in combination with stormwater or other wastewater;

g. Discharges of emulsion chemicals, including surfactants (e.g., detergents and soaps) alone or in combination with stormwater or other wastewater;

h. Discharges of contaminated, untreated groundwater, including, but not limited to wastewater generated during activities conducted under the Massachusetts Contingency Plan, alone or in combination with stormwater or other wastewater;

i. Discharges of aqueous film-forming foam and alcohol resistant foam either in concentrate form or as foam diluted with water during testing or maintenance of the fires suppression system at the Facility.

C. SPECIAL CONDITIONS

1. Best Management Practices (BMPs)

a. The Permittee shall design, install, and implement control measures to minimize pollutants discharged from stormwater associated with the Facility operations to the receiving water. At a minimum, the Permittee must implement control measures, both structural controls (e.g., OWS, containment areas, holding tanks) and non-structural (e.g., operational procedures and operator training) consistent with those described in Part 2.1.2 and of EPA's Multi-Sector General Permit (MSGP).[2] The control measures must ensure the following non-numeric effluent limitations are met:

(1) Minimize exposure of processing and material storage areas to stormwater discharges;
(2) Design good housekeeping measures to maintain areas that are potential sources of pollutants;
(3) Implement preventative maintenance programs to avoid leaks, spills, and other releases of pollutants to stormwater that is discharged to receiving waters;
(4) Implement spill prevention and response procedures to ensure effective response to spills and leaks if or when they occur, including, but not limited to, those required by Section 311 of the CWA, 33 U.S.C. § 1321. The Permittee shall report immediately the appearance of any size sheen attributable to the discharge from the Facility to the appropriate agency of the United States Government in accordance with Section 311 of the CWA;
(5) Design of erosion and sediment controls to stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants;
(6) Utilize runoff management practices to divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff;
(7) Develop proper handling procedures for salt or materials containing chlorides that are used for snow and ice control;
(8) Conduct employee training to ensure personnel understand the requirements of this permit;
(9) Evaluate for the presence of non-stormwater discharges and require the elimination of any non-stormwater discharges not explicitly authorized in the Draft Permit or covered by another NPDES permit; and
(10) Minimize dust generation and vehicle tracking of industrial materials.

b. In addition, the Permittee must design, install, and/or implement the following BMPs:

[2] The current MSGP was effective June 4, 2015 and is available https://www.epa.gov/npdes/final-2015-msgp-documents.

(1) The Permittee shall comply with the inspection requirements in Part 3.1 and 3.2 of the 2015 MSGP and the corrective action requirements in Part 4.1 through 4.5 of the 2015 MSGP.[3]
(2) The Permittee shall avoid discharging stormwater during worst-case conditions (i.e., the hour before and after slack tide and during periods of lowest receiving water flow);
(3) The Permittee shall implement proper handling procedures for ethanol and response procedures for releases of ethanol or materials that are used for ethanol spill or fire control. This must include specific provisions for the treatment of ethanol, should release occur;
(4) The Permittee shall document the measures and methods used to control flow through both the stormwater and groundwater treatment systems to ensure that the design flow of the treatment system is not exceeded;
(5) The Permittee shall comply with the control measure requirements in Part 2.1 and 2.1.1 of the 2015 MSGP in order to identify pollutant sources and select, design, install and maintain the pollution control technology necessary to meet the effluent limitations in the permit that ensure dilution is not used as a form of treatment.
(6) The Permittee shall implement structural improvements, enhanced pollution prevention measures, and other mitigation measures, to minimize impacts from stormwater discharges from major storm events that cause extreme flooding conditions, including:
   i. Reinforce materials storage structures to withstand flooding and additional exertion of force;
   ii. Prevent floating of semi-stationary structures by elevating to the Base Flood Elevation (BFE)[4] level or securing with non-corrosive device;
   iii. When a delivery of materials is expected, and a storm is anticipated within 48 hours, delay delivery until after the storm or store materials as appropriate (refer to emergency procedures);
   iv. Temporarily store materials and waste above the BFE level;
   v. Temporarily reduce or eliminate outdoor storage;
   vi. Temporarily relocate any mobile vehicles and equipment to upland areas;
   vii. Develop scenario-based emergency procedures for major storms that are complementary to regular stormwater pollution prevention planning and identify emergency contacts for staff and contractors; and
   viii. Conduct staff training for implementing your emergency procedures at regular intervals.
(7) The Permittee shall document quality assurance/quality control (QA/QC) practices including, at a minimum:
   i. A summary of the monitoring requirements specified in the permit;
   ii. A map and/or treatment system diagram indicating the location of each sampling location with a geographic identifier (i.e., latitude and longitude coordinates);

[3] Where the MSGP refers to limitations, conditions or benchmarks, including the SWPPP, for the purposes of this permit, these shall refer to the limitations and conditions in this permit.
4 Base Flood Elevation (BFE) is the computed elevation to which floodwater is anticipated to rise during the base flood. BFEs are shown on the Federal Emergency Management Agency's Flood Maps and on the flood profiles, which can be access through https://msc.fema.gov/portal/search.

iii. Specifications for the number of samples, type of samples, type and number of containers, type of preservation, type and number of quality assurance samples, if applicable, type and number of field samples, if applicable, and sample storage, holding times, and shipping methods, including chain-of-custody procedures;
iv. Specifications for EPA-approved test methods and sufficiently sensitive minimum levels for each required parameter;
v. A schedule for review of sample results; and
vi. A description of data validation and data reporting processes.

2. Stormwater Pollution Prevention Plan

The Permittee shall develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that documents the selection, design and installation of control measures, including BMPs designed to meet the effluent limitations required in this permit to minimize the discharge of pollutants from the Facilty's operations to the receiving water. The SWPPP shall be a written document and consistent with the terms of this Permit.

a. The SWPPP shall be developed and signed consistent with the signatory requirements in Part II.D.2 of this Permit within ninety (90) days after the effective date of this Permit.

b. The SWPPP shall be consistent with the general provisions for SWPPPs included in Part 5 of EPA's MSGP. The SWPPP shall be prepared in accordance with good engineering practices and manufacturer's specifications and must take future conditions into consideration. The SWPPP must identify potential sources of pollution that may reasonably be expected to affect the quality of the stormwater discharges, and document the implementation of non-numeric technology based effluent limitations in Part I.C.1 that will be used to reduce the pollutants and assure compliance with this Permit, including any remedies taken when non-compliance occurs. Specifically, the SWPPP shall contain the elements listed in Parts 5.2.1 through 5.2.5 of the 2015 MSGP and briefly described below:

(1) Stormwater pollution prevention team;
(2) Site description;
(3) Drainage area site map;
(4) Summary of potential pollutant sources;
(5) Description of all stormwater control measures; and
(6) Schedules and procedures pertaining to implementation of stormwater control measures, inspections and assessments, and monitoring.

c. The Permittee shall amend and update the SWPPP within fourteen (14) days of any changes at the Facility affecting the SWPPP. Changes that may affect the SWPPP include, but are not limited to: 1) a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the United States; 2) a release of a reportable quantity of pollutants as described in 40 CFR § 302; 3) a determination by the Permittee or EPA that the SWPPP appears to be ineffective in achieving the general objective of controlling pollutants in

stormwater discharges associated with industrial activity; and 4) any revisions or improvements made to the Facility's stormwater management program based on new information and experiences with wet weather events, including major storm events and extreme flooding conditions. Any amended or updated versions of the SWPPP shall be re-certified by the Permittee. Such re-certifications also shall be signed in accordance with the requirements identified in Part II.D.2 of this Permit.

d. The Permittee shall certify at least annually that the previous year's inspections, corrective actions, control measures, and training activities were conducted, results were recorded, and records were maintained, as described in the SWPPP. If the Facility is not in compliance with any limitations and/or BMPs described in the SWPPP, the annual certification shall state the non-compliance and the remedies which are being undertaken. Such annual certifications also shall be signed in accordance with the requirements identified in Part II.D.2 of this Permit. The Permittee shall keep a copy of the current SWPPP and all SWPPP certifications (i.e., the initial certification, recertifications, and annual certifications) signed during the effective period of this Permit at the Facility and shall make them available for inspection by EPA. All documentation of SWPPP activities shall be kept at the Facility for at least five years and provided to EPA upon request.

3. Hydrostatic Test Water

Hydrostatic test water shall be monitored as described below and treated through the stormwater treatment system prior to being discharged through Outfall 001 to the Weymouth Fore River and is subject to the Effluent Limitations in Part I.A.1., above.

a. The flow of hydrostatic test water into the stormwater treatment system shall be controlled to prevent it from exceeding the maximum design flow rate of the system (i.e., 6,000 GPM at OWS 1).

b. The Permittee shall take a minimum of five representative samples of the hydrostatic test water:
   (1) For Tanks, the Permittee shall take:
      i. one grab sample of the influent (fill source) water during the first 10% of the estimated fill segment time at the intake;
      ii. for tanks, one in-process sample of the tank water following maintenance or testing, but before draining. The operator shall analyze and review the results of the in-process sample prior to initiating discharge. If the analysis indicates that the tank water does not meet the effluent limitations in this permit, the operator shall not discharge the tank water unless treatment will reduce the pollutant levels below the effluent levels established in this permit;
      iii. for pipelines, one in-process sample of the pipeline water following depressurization, but before draining. The operator shall analyze and review the results of the in-process sample prior to initiating discharge. If the analysis indicates that the pipeline water does not meet the effluent limitations in this permit, the operator shall not discharge the pipeline water unless treatment will reduce the pollutant levels below the effluent levels established in this permit; and

iv. three grab samples of the effluent (at the discharge point for the treatment system), one sample during the first 10% of discharge, one sample at the approximate midpoint of discharge, and one sample during the last 10% of discharge after treatment. If at any time analysis indicates that the hydrostatic test water does not meet the effluent limitations in this permit, corrective action must be taken in accordance with Part I.C.1.b(1), above.

c. The influent, when required, and effluent samples of hydrostatic test water shall be analyzed for the following parameters:

(1) Total Flow;
(2) Flow Rate;
(3) Total Suspended Solids (TSS);
(4) Oil & Grease (O&G);
(5) pH;
(6) Chemical Oxygen Demand (COD);
(7) Dissolved Oxygen (DO);
(8) Total Surfactants;
(9) VOCs (benzene, toluene, ethylbenzene, and total xylenes);
(10) PAHs (Group I and II PAHs listed in Part I.A.1., Pollutant Scan, Effluent, benzo(a)anthracene through pyrene);
(11) Metals (total recoverable iron, and total recoverable metals listed in Part I.A.1., Whole Effluent Toxicity, cadmium through zinc);
(12) Methyl tert-butyl ether;
(13) Ethanol, if tank or line has been used to store and/or convey ethanol and/or petroleum products containing ethanol within the previous year; and
(14) Total Residual Chlorine, if potable water or a similar source of water which is likely to contain residual chlorine concentrations is used for hydrostatic testing.

d. The Permittee shall submit a letter/report to EPA and the MassDEP, summarizing the results of the hydrostatic test **within 90 days of completion of the test**. This report shall contain:

(1) The date(s) during which the hydrostatic testing occurred;
(2) The volume of hydrostatic test water discharged;
(3) A copy of the laboratory data sheets for each analysis, providing the test method, the detection limits for each analyte, and a brief discussion of whether all appropriate QA/QC procedures were met and were within acceptable limits; and
(4) A brief discussion of the overall test results and how they relate to the Effluent Limitations in this permit.

f. EPA reserves the right to re-open this permit, in accordance with 40 CFR § 122.62(a)(2), to examine hydrostatic test water discharges in the event that sampling results indicate that the water quality standards for the assigned classification of the Weymouth Fore River might not be attained.

4. Discharges of Chemicals and Additives

The discharge of any chemical or additive, including chemical substitution, which was not reported in the application submitted to EPA or provided through a subsequent written notification submitted to EPA is prohibited. Upon the effective date of this permit, chemicals and/or additives which have been disclosed to EPA may be discharged up to the frequency and level disclosed, provided that such discharge does not violate §§ 307 or 311 of the CWA or applicable State water quality standards. Discharges of a new chemical or additive are authorized under this permit 30 days following written notification to EPA unless otherwise notified by EPA. To request authorization to discharge a new chemical or additive, the Permittee must submit a written notification to EPA in accordance with Part I.D.3 of this permit. The written notification must include the following information, at a minimum:

a. The following information for each chemical and/or additive that will be discharged:

(1) Product name, chemical formula, general description, and manufacturer of the chemical/additive;
(2) Purpose or use of the chemical/additive;
(3) Safety Data Sheet (SDS), Chemical Abstracts Service (CAS) Registry number, and EPA registration number, if applicable, for each chemical/additive;
(4) The frequency (e.g., daily), magnitude (i.e., maximum application concentration), duration (e.g., hours), and method of application for the chemical/additive;
(5) The maximum discharge concentration; and
(6) The vendor's reported aquatic toxicity, if available (i.e., NOAEL and/or LC_{50} in percent for aquatic organism(s)).

b. Written rationale which demonstrates that the discharge of such chemicals and/or additives as proposed will not: 1) add any pollutants in concentrations which exceed any permit effluent limitation; and 2) add any pollutants that would justify the application of permit conditions different from, or in addition to those currently in this permit.

c. Discharges of glutaraldehyde, ethylene glycol, butoxyethanol, alkylacrylate nitrito styrene polymer, coco alkylamine, 1,2,3 and 4-trimethylbenzene, 1,3,5-trimethylbenzene and methyl isobutyl ketone are prohibited.

5. After one year of monitoring, if all samples are non-detect for all six PFAS compounds, using EPA's multi-lab validated method for wastewater, the Permittee may request to remove the requirement for PFAS monitoring. Until written notice is received from EPA indicating that the monitoring requirements have been changed, the Permittee is required to continue the monitoring specified in this Permit. *See* Reporting Requirements in Part I.D.3.a.

6. Unpermitted Stormwater Outfall Additional Monitoring

Within six months of the effective date of this permit, the Permittee is required to complete EPA's CWA § 308(a) request for information on the outfall associated with the Vortex separator and wetland swale area. The following are required:

1. Additional monitoring to characterize the outfall associated with the Vortex separator and wetland swale area based on sampling and analysis using a sufficiently sensitive test method in accordance with 40 CFR Part 136 (see Fact Sheet Appendix C). Collect two grab (2) samples prior to treatment in the Vortex separator: one (1) during a qualifying event and one (1) during any qualifying event at least seventy-two (72) hours after the first qualifying event sampled. Analyze for the following parameters:

    a. Total recoverable metals analysis for: antimony, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, and zinc.
    b. Flow, TSS and pH, concurrently with the samples requested in a. above.
    c. Oil & grease, TPH, total Group I PAHs, total Group II PAHs, and total BTEX, concurrently with the samples requested in a. above.
    d. Total nitrogen, ammonia, total phosphorus, total cyanide, concurrently with the samples requested in a. above.

Grab samples shall be collected within thirty (30) minutes of the initiation of the discharge from the outfall where practicable, but in no case later than the first hour of discharge from the outfall. A qualifying event is defined as a storm event that is greater than 0.1 inches in magnitude and that occurs at least seventy-two (72) hours from the previously measurable (i.e., greater than 0.1-inch rainfall) storm event. Results of sample analysis shall be summarized and a copy of the analytical laboratory report(s) shall be attached to the information submitted. The summary shall be in an electronic format (e.g. database).

With regard to the information that must be submitted under this condition, Citgo may assert a business confidentiality claim with respect to part or all of the information submitted to EPA in the manner described at 40 CFR § 2.203(b). Information covered by such a claim will be disclosed by EPA only to the extent, and by means of the procedures, set forth in 40 CFR Part 2, Subpart B. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA without further notice to Citgo. Please note that effluent data under 40 CFR § 2.302 may not be regarded as confidential business information.

Please be aware that failure to comply with this information request could, depending on the circumstances, subject the facility to enforcement action pursuant to Section 309 of the CWA, 33 U.S.C. § 1319. To the extent you have already submitted any of the requested information to EPA as part of another submission, it is sufficient for you simply to reference where in the other submission the pertinent information is provided.

Please submit information pursuant to this request according to the reporting requirements outlined in Part D.3 of this permit.

D. REPORTING REQUIREMENTS

Unless otherwise specified in this permit, the Permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

1. Submittal of DMRs Using NetDMR

The Permittee shall continue to submit its monthly monitoring data in DMRs to EPA and the State no later than the 15th day of the month electronically using NetDMR. When the Permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA or the State. NetDMR is accessible through EPA's Central Data Exchange at https://cdx.epa.gov/.

2. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the Permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. *See* Part I.D.5. for more information on State reporting. Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15th day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR with the next DMR due following the particular report due date specified in this permit.

3. Submittal of Requests and Reports to EPA Water Division (WD)

a. The following requests, reports, and information described in this permit shall be submitted to the NPDES Applications Coordinator in EPA WD:

(1) Transfer of Permit notice;
(2) Request for changes in sampling location;
(3) BMP/SWPPP reports and certifications, if required;
(4) Request to discharge new chemicals or additives;
(5) Request for discontinuation of per- and polyfluoroalkyl substances (PFAS) sampling;
(6) Unpermitted Stormwater Outfall Additional Monitoring; and
(7) Report on unacceptable dilution water/request for alternative dilution water for WET testing.

b. These reports, information, and requests shall be submitted to EPA WD electronically at R1NPDESReporting@epa.gov or by hard copy mail to the following address:

U.S. Environmental Protection Agency
Water Division
NPDES Applications Coordinator
5 Post Office Square - Suite 100 (06-03)
Boston, MA 02109-3912

4. Submittal of Reports in Hard Copy Form

a. The following notifications and reports shall be signed and dated originals, submitted in hard copy, with a cover letter describing the submission:

(1) Prior to December 21, 2020, written notifications required under Part II. Starting on December 21, 2020, such notifications must be done electronically using EPA's NPDES Electronic Reporting Tool ("NeT"), or another approved EPA system, which will be accessible through EPA's Central Data Exchange at https://cdx.epa.gov/.

b. This information shall be submitted to EPA Region 1's Enforcement and Compliance Assurance Division at the following address:

U.S. Environmental Protection Agency
Enforcement and Compliance Assurance Division
Water Compliance Section
5 Post Office Square, Suite 100 (04-SMR)
Boston, MA 02109-3912

5. State Reporting

Duplicate signed copies of all WET test reports shall be submitted to the Massachusetts Department of Environmental Protection, Division of Watershed Management, at the following address:

Massachusetts Department of Environmental Protection
Bureau of Water Resources
Division of Watershed Management
8 New Bond Street
Worcester, Massachusetts 01606

6. Verbal Reports and Verbal Notifications

a. Any verbal reports or verbal notifications, if required, in Parts I and/or II of this permit, shall be made to both EPA and to the State. This includes verbal reports and notifications which require reporting within 24 hours (e.g., Part II.B.4.c. (2), Part II.B.5.c. (3), and Part II.D.1.e.).

b. Verbal reports and verbal notifications shall be made to EPA's Enforcement and Compliance Assurance Division at:

617-918-1510

c. Verbal reports and verbal notifications shall be made to MassDEP's Emergency Response at:

888-304-1133

E. STATE 401 CERTIFICATION CONDITIONS

1. This permit is in the process of receiving state water quality certification issued by the State under § 401(a) of the CWA and 40 CFR § 124.53. EPA will incorporate by reference all state water quality certification requirements (if any) into the final permit.

MARINE ACUTE

TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

The permittee shall conduct acceptable acute toxicity tests in accordance with the appropriate test protocols described below:

- **2007.0 - Mysid Shrimp (Americamysis bahia) definitive 48 hour test.**
- **2006.0 - Inland Silverside (Menidia beryllina) definitive 48 hour test.**

Acute toxicity data shall be reported as outlined in Section VIII.

II. METHODS

The permittee shall use the most recent 40 CFR Part 136 methods. Whole Effluent Toxicity (WET) Test Methods and guidance may be found at:

http://water.epa.gov/scitech/methods/cwa/wet/index.cfm#methods

The permittee shall also meet the sampling, analysis and reporting requirements included in this protocol. This protocol defines more specific requirements while still being consistent with the Part 136 methods. If, due to modifications of Part 136, there are conflicting requirements between the Part 136 method and this protocol, the permittee shall comply with the requirements of the Part 136 method.

III. SAMPLE COLLECTION

A discharge and receiving water sample shall be collected. The receiving water control sample must be collected immediately upstream of the permitted discharge's zone of influence. The acceptable holding times until initial use of a sample are 24 and 36 hours for on-site and off-site testing, respectively. A written waiver is required from the regulating authority for any holding time extension. Sampling guidance dictates that, where appropriate, aliquots for the analysis required in this protocol shall be split from the samples, containerized and immediately preserved, or analyzed as per 40 CFR Part 136. EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection. Testing for the presence of total residual chlorine[1] (TRC) must be analyzed immediately or as soon as possible, for all effluent samples, prior to WET testing. TRC analysis may be performed on-site or by the toxicity testing laboratory and the samples must be dechlorinated, as necessary, using sodium thiosulfate

[1] For this protocol, total residual chlorine is synonymous with total residual oxidants.

prior to sample use for toxicity testing. If performed on site the results should be included on the chain of custody (COC) presented to WET laboratory.

Standard Methods for the Examination of Water and Wastewater describes dechlorination of samples (APHA, 1992). Dechlorination can be achieved using a ratio of 6.7 mg/L anhydrous sodium thiosulfate to reduce 1 mg/L chlorine. If dechlorination is necessary, a thiosulfate control consisting of the maximum concentration of thiosulfate used to dechlorinate the sample in the toxicity test control water must also be run in the WET test.

All samples submitted for chemical and physical analyses will be analyzed according to Section VI of this protocol. Grab samples must be used for pH, temperature, and total residual chlorine (as per 40 CFR Part 122.21).

All samples held for use beyond the day of sampling shall be refrigerated and maintained at a temperature range of 0-6^{o} C.

IV. DILUTION WATER

Samples of receiving water must be collected from a reasonably accessible location in the receiving water body immediately upstream of the permitted discharge's zone of influence. Avoid collection near areas of obvious road or agricultural runoff, storm sewers or other point source discharges and areas where stagnant conditions exist. EPA strongly urges that screening for toxicity be performed prior to the set up of a full, definitive toxicity test any time there is a question about the test dilution water's ability to achieve test acceptability criteria (TAC) as indicated in Section V of this protocol. The test dilution water control response will be used in the statistical analysis of the toxicity test data. All other control(s) required to be run in the test will be reported as specified in the Discharge Monitoring Report (DMR) Instructions, Attachment F, page 2,Test Results & Permit Limits.

The test dilution water must be used to determine whether the test met the applicable TAC. When receiving water is used for test dilution, an additional control made up of standard laboratory water (0% effluent) is required. This control will be used to verify the health of the test organisms and evaluate to what extent, if any, the receiving water itself is responsible for any toxic response observed.

If dechlorination of a sample by the toxicity testing laboratory is necessary a "sodium thiosulfate" control, representing the concentration of sodium thiosulfate used to adequately dechlorinate the sample prior to toxicity testing, must be included in the test.

If the use of alternate dilution water (ADW) is authorized, in addition to the ADW test control, the testing laboratory must, for the purpose of monitoring the receiving water, also run a receiving water control.

If the receiving water is found to be, or suspected to be toxic or unreliable, ADW of known quality with hardness similar to that of the receiving water may be substituted. Substitution is

species specific meaning that the decision to use ADW is made for each species and is based on the toxic response of that particular species. Substitution to an ADW is authorized in two cases. The first case is when repeating a test due to toxicity in the site dilution water requires an **immediate decision** for ADW use by the permittee and toxicity testing laboratory. The second is when two of the most recent documented incidents of unacceptable site dilution water toxicity require ADW use in future WET testing.

For the second case, written notification from the permittee requesting ADW use **and** written authorization from the permit issuing agency(s) is required **prior to** switching to a long-term use of ADW for the duration of the permit.

Written requests for use of ADW must be mailed with supporting documentation to the following addresses:

Director
Office of Ecosystem Protection (CAA)
U.S. Environmental Protection Agency, Region 1
Five Post Office Square, Suite 100
Mail Code OEP06-5
Boston, MA 02109-3912

and

Manager
Water Technical Unit (SEW)
U.S. Environmental Protection Agency
Five Post Office Square, Suite 100
Mail Code OES04-4
Boston, MA 02109-3912

Note: USEPA Region 1 retains the right to modify any part of the alternate dilution water policy stated in this protocol at any time. Any changes to this policy will be documented in the annual DMR posting.

See the most current annual DMR instructions which can be found on the EPA Region 1 website at http://www.epa.gov/region1/enforcementandassistance/dmr.html for further important details on alternate dilution water substitution requests.

V. TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

EPA Region 1 requires tests be performed using four replicates of each control and effluent concentration because the non-parametric statistical tests cannot be used with data from fewer replicates. The following tables summarize the accepted Americamysis and Menidia toxicity test conditions and test acceptability criteria:

EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE MYSID, AMERICAMYSIS BAHIA 48 HOUR TEST[1]

1. Test type	48hr Static, non-renewal
2. Salinity	25ppt ± 10 percent for all dilutions by adding dry ocean salts
3. Temperature (^{o}C)	20^{o}C ± 1^{o}C or 25^{o}C ± 1^{o}C, temperature must not deviate by more than 3^{o}C during test
4. Light quality	Ambient laboratory illumination
5. Photoperiod	16 hour light, 8 hour dark
6. Test chamber size	250 ml (minimum)
7. Test solution volume	200 ml/replicate (minimum)
8. Age of test organisms	1-5 days, < 24 hours age range
9. No. Mysids per test chamber	10
10. No. of replicate test chambers per treatment	4
11. Total no. Mysids per test concentration	40
12. Feeding regime	Light feeding using concentrated Artemia naupli while holding prior to initiating the test
13. Aeration [2]	None
14. Dilution water	5-30 ppt, +/- 10%; Natural seawater, or deionized water mixed with artificial sea salts
15. Dilution factor	≥ 0.5
16. Number of dilutions [3]	5 plus a control. An additional dilution at the permitted effluent concentration (%

	effluent) is required if it is not included in the dilution series.
17. Effect measured	Mortality - no movement of body appendages on gentle prodding
18. Test acceptability	90% or greater survival of test organisms in control solution
19. Sampling requirements	For on-site tests, samples are used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples must be first used within 36 hours of collection.
20. Sample volume required	Minimum 1 liter for effluents and 2 liters for receiving waters

Footnotes:

[1] Adapted from EPA 821-R-02-012.

[2] If dissolved oxygen falls below 4.0 mg/L, aerate at rate of less than 100 bubbles/min. Routine D.O. checks are recommended.

[3] When receiving water is used for dilution, an additional control made up of standard laboratory dilution water (0% effluent) is required.

EPA NEW ENGLAND TOXICITY TEST CONDITIONS FOR THE INLAND SILVERSIDE, MENIDIA BERYLLINA 48 HOUR TEST[1]

1. Test Type	48 hr Static, non-renewal
2. Salinity	25 ppt ± 10 % by adding dry ocean salts
3. Temperature	20°C ± 1°C or 25°C ± 1°C, temperature must not deviate by more than 3°C during test
4. Light Quality	Ambient laboratory illumination
5. Photoperiod	16 hr light, 8 hr dark
6. Size of test vessel	250 mL (minimum)
7. Volume of test solution	200 mL/replicate (minimum)
8. Age of fish	9-14 days; 24 hr age range
9. No. fish per chamber	10 (not to exceed loading limits)
10. No. of replicate test vessels per treatment	4
11. Total no. organisms per concentration	40
12. Feeding regime	Light feeding using concentrated Artemia nauplii while holding prior to initiating the test
13. Aeration[2]	None
14. Dilution water	5-32 ppt, +/- 10% ; Natural seawater, or deionized water mixed with artificial sea salts.
15. Dilution factor	≥ 0.5
16. Number of dilutions[3]	5 plus a control. An additional dilution at the permitted concentration (% effluent) is required if it is not included in the dilution series.
17. Effect measured	Mortality-no movement on gentle prodding.

18. Test acceptability	90% or greater survival of test organisms in control solution.
19. Sampling requirements	For on-site tests, samples must be used within 24 hours of the time they are removed from the sampling device. Off-site test samples must be used within 36 hours of collection.
20. Sample volume required	Minimum 1 liter for effluents and 2 liters for receiving waters.

Footnotes:

[1] Adapted from EPA 821-R-02-012.

[2] If dissolved oxygen falls below 4.0 mg/L, aerate at rate of less than 100 bubbles/min. Routine D.O. checks recommended.

[3] When receiving water is used for dilution, an additional control made up of standard laboratory dilution water (0% effluent) is required.

V.1. Test Acceptability Criteria

If a test does not meet TAC the test must be repeated with fresh samples within 30 days of the initial test completion date.

V.2. Use of Reference Toxicity Testing

Reference toxicity test results and applicable control charts must be included in the toxicity testing report.

In general, if reference toxicity test results fall outside the control limits established by the laboratory for a specific test endpoint, a reason or reasons for this excursion must be evaluated, correction made and reference toxicity tests rerun as necessary as prescribed below.

If a test endpoint value exceeds the control limits at a frequency of more than one out of twenty then causes for the reference toxicity test failure must be examined and if problems are identified corrective action taken. The reference toxicity test must be repeated during the same month in which the exceedance occurred.

If two consecutive reference toxicity tests fall outside control limits, the possible cause(s) for the exceedance must be examined, corrective actions taken and a repeat of the reference toxicity test must take place immediately. Actions taken to resolve the problem must be reported.

V.2.a. Use of Concurrent Reference Toxicity Testing

In the case where concurrent reference toxicity testing is required due to a low frequency of testing with a particular method, if the reference toxicity test results fall slightly outside of laboratory established control limits, but the primary test met the TAC, the results of the primary test will be considered acceptable. However, if the results of the concurrent test fall well outside the established **upper** control limits i.e. ≥3 standard deviations for IC25s and LC50 values and ≥ two concentration intervals for NOECs or NOAECs, and even though the primary test meets TAC, the primary test will be considered unacceptable and must be repeated.

VI. CHEMICAL ANALYSIS

At the beginning of the static acute test, pH, salinity, and temperature must be measured at the beginning and end of each 24 hour period in each dilution and in the controls. The following chemical analyses shall be performed for each sampling event.

Parameter	Effluent	Diluent	Minimum Level for effluent[*1] (mg/L)
pH	x	x	---
Salinity	x	x	ppt(o/oo)
Total Residual Chlorine [*2]	x	x	0.02
Total Solids and Suspended Solids	x	x	---
Ammonia	x	x	0.1
Total Organic Carbon	x	x	0.5
Total Metals			
Cd	x	x	0.0005
Pb	x	x	0.0005
Cu	x	x	0.003
Zn	x	x	0.005
Ni	x	x	0.005

Superscript:

[*1] These are the minimum levels for effluent (fresh water) samples. Tests on diluents (marine waters) shall be conducted using the Part 136 methods that yield the lowest MLs.

[*2] Either of the following methods from the 18th Edition of the APHA Standard Methods for the Examination of Water and Wastewater must be used for these analyses:

-Method 4500-Cl E Low Level Amperometric Titration (the preferred method);
-Method 4500-CL G DPD Photometric Method.

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration

An estimate of the concentration of effluent or toxicant that is lethal to 50% of the test organisms during the time prescribed by the test method.

Methods of Estimation:

- Probit Method
- Spearman-Karber
- Trimmed Spearman-Karber
- Graphical

See flow chart in Figure 6 on page 73 of EPA 821-R-02-012 for appropriate method to use on a given data set.

No Observed Acute Effect Level (NOAEL)

See flow chart in Figure 13 on page 87 of EPA 821-R-02-012.

VIII. TOXICITY TEST REPORTING

A report of results must include the following:

- Toxicity Test summary sheet(s) (Attachment F to the DMR Instructions) which includes:
    - Facility name
    - NPDES permit number
    - Outfall number
    - Sample type
    - Sampling method
    - Effluent TRC concentration
    - Dilution water used
    - Receiving water name and sampling location
    - Test type and species
    - Test start date
    - Effluent concentrations tested (%) and permit limit concentration
    - Applicable reference toxicity test date and whether acceptable or not
    - Age, age range and source of test organisms used for testing
    - Results of TAC review for all applicable controls
    - Permit limit and toxicity test results
    - Summary of any test sensitivity and concentration response evaluation that was conducted

Please note: The NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) are available on EPA's website at http://www.epa.gov/NE/enforcementandassistance/dmr.html

In addition to the summary sheets the report must include:

- A brief description of sample collection procedures;
- Chain of custody documentation including names of individuals collecting samples, times and dates of sample collection, sample locations, requested analysis and lab receipt with time and date received, lab receipt personnel and condition of samples upon receipt at the lab(s);
- Reference toxicity test control charts;
- All sample chemical/physical data generated, including minimum levels (MLs) and analytical methods used;
- All toxicity test raw data including daily ambient test conditions, toxicity test chemistry, sample dechlorination details as necessary, bench sheets and statistical analysis;
- A discussion of any deviations from test conditions; and
- Any further discussion of reported test results, statistical analysis and concentration-response relationship and test sensitivity review per species per endpoint.

NPDES PART II STANDARD CONDITIONS
(April 26, 2018)[1]

TABLE OF CONTENTS

[1] Updated July 17, 2018 to fix typographical errors.

A. GENERAL REQUIREMENTS

1. Duty to Comply

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA or Act) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

a. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

b. Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (83 Fed. Reg. 1190-1194 (January 10, 2018) and the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note. See Pub. L.114-74, Section 701 (Nov. 2, 2015)). These requirements help ensure that EPA penalties keep pace with inflation. Under the above-cited 2015 amendments to inflationary adjustment law, EPA must review its statutory civil penalties each year and adjust them as necessary.

(1) Criminal Penalties

(a) *Negligent Violations.* The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of not less than $2,500 nor more than $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation or by imprisonment of not more than 2 years, or both.

(b) *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

(c) *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than $250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing

endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

(d) *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(2) *Civil Penalties*. The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

(3) *Administrative Penalties*. The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty as follows:

(a) *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

(b) *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

2. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit

condition.

3. Duty to Provide Information

The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from responsibilities, liabilities or penalties to which the Permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

5. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

6. Confidentiality of Information

a. In accordance with 40 C.F.R. Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 C.F.R. Part 2 (Public Information).

b. Claims of confidentiality for the following information will be denied:

(1) The name and address of any permit applicant or Permittee;
(2) Permit applications, permits, and effluent data.

c. Information required by NPDES application forms provided by the Director under 40 C.F.R. § 122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

7. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit. The Permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

8. State Authorities

Nothing in Parts 122, 123, or 124 precludes more stringent State regulation of any activity

covered by the regulations in 40 C.F.R. Parts 122, 123, and 124, whether or not under an approved State program.

9. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a Permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Bypass

a. Definitions

(1) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.

(2) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. *Bypass not exceeding limitations.* The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this Section.

c. Notice

(1) *Anticipated bypass*. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass. As of December 21, 2020 all notices submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.

(2) *Unanticipated bypass*. The Permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (24-hour notice). As of December 21, 2020 all notices submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or required to do so by law.

d. *Prohibition of bypass.*

(1) Bypass is prohibited, and the Director may take enforcement action against a Permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(c) The Permittee submitted notices as required under paragraph 4.c of this Section.

(2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 4.d of this Section.

5. Upset

a. *Definition*. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or

improper operation.

b. *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph B.5.c. of this Section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. *Conditions necessary for a demonstration of upset.* A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
(2) The permitted facility was at the time being properly operated; and
(3) The Permittee submitted notice of the upset as required in paragraph D.1.e.2.b. (24-hour notice).
(4) The Permittee complied with any remedial measures required under B.3. above.

d. *Burden of proof.* In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof.

C. MONITORING REQUIREMENTS

1. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. Except for records of monitoring information required by this permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least 5 years (or longer as required by 40 C.F.R. § 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

c. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;
(2) The individual(s) who performed the sampling or measurements;
(3) The date(s) analyses were performed;
(4) The individual(s) who performed the analyses;
(5) The analytical techniques or methods used; and
(6) The results of such analyses.

d. Monitoring must be conducted according to test procedures approved under 40 C.F.R. § 136 unless another method is required under 40 C.F.R. Subchapters N or O.

e. The Clean Water Act provides that any person who falsifies, tampers with, or

knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

2. Inspection and Entry

The Permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

D. REPORTING REQUIREMENTS

1. Reporting Requirements

a. *Planned Changes*. The Permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. § 122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements at 40 C.F.R. § 122.42(a)(1).

(3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. *Anticipated noncompliance*. The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

c. *Transfers.* This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Clean Water Act. *See* 40 C.F.R. § 122.61; in some cases, modification or revocation and reissuance is mandatory.

d. *Monitoring reports*. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices. As of December 21, 2016 all reports and forms submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by State law.

(2) If the Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 C.F.R. § 136, or another method required for an industry-specific waste stream under 40 C.F.R. Subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

e. *Twenty-four hour reporting.*

(1) The Permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written report shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. As of December 21, 2020 all

reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section.

(2) The following shall be included as information which must be reported within 24 hours under this paragraph.

(a) Any unanticipated bypass which exceeds any effluent limitation in the permit. *See* 40 C.F.R. § 122.41(g).
(b) Any upset which exceeds any effluent limitation in the permit.
(c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. *See* 40 C.F.R. § 122.44(g).

(3) The Director may waive the written report on a case-by-case basis for reports under paragraph D.1.e. of this Section if the oral report has been received within 24 hours.

f. *Compliance Schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

g. *Other noncompliance.* The Permittee shall report all instances of noncompliance not reported under paragraphs D.1.d., D.1.e., and D.1.f. of this Section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph D.1.e. of this Section. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in paragraph D.1.e. and the applicable required data in Appendix A to 40 C.F.R. Part 127. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), §122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this Section.

h. *Other information.* Where the Permittee becomes aware that it failed to submit any

relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

i. *Identification of the initial recipient for NPDES electronic reporting data*. The owner, operator, or the duly authorized representative of an NPDES-regulated entity is required to electronically submit the required NPDES information (as specified in Appendix A to 40 C.F.R. Part 127) to the appropriate initial recipient, as determined by EPA, and as defined in 40 C.F.R. § 127.2(b). EPA will identify and publish the list of initial recipients on its Web site and in the FEDERAL REGISTER, by state and by NPDES data group (see 40 C.F.R. § 127.2(c) of this Chapter). EPA will update and maintain this listing.

2. Signatory Requirement

a. All applications, reports, or information submitted to the Director shall be signed and certified. *See* 40 C.F.R. §122.22.

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

3. Availability of Reports.

Except for data determined to be confidential under paragraph A.6. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Director. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

E. DEFINITIONS AND ABBREVIATIONS

1. General Definitions

For more definitions related to sludge use and disposal requirements, see EPA Region 1's NPDES Permit Sludge Compliance Guidance document (4 November 1999, modified to add regulatory definitions, April 2018).

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Applicable standards and limitations means all, State, interstate, and federal standards and limitations to which a "discharge," a "sewage sludge use or disposal practice," or a related activity is subject under the CWA, including "effluent limitations," water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," pretreatment standards, and "standards for sewage sludge use or disposal" under Sections 301, 302, 303, 304, 306, 307, 308, 403 and 405 of the CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions, or modifications to the forms; or forms approved by EPA for use in

"approved States," including any approved modifications or revisions.

Approved program or *approved State* means a State or interstate program which has been approved or authorized by EPA under Part 123.

Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Average weekly discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.

Best Management Practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Bypass see B.4.a.1 above.

C-NOEC or *"Chronic (Long-term Exposure Test) – No Observed Effect Concentration" means* the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specified time of observation.

Class I sludge management facility is any publicly owned treatment works (POTW), as defined in 40 C.F.R. § 501.2, required to have an approved pretreatment program under 40 C.F.R. § 403.8 (a) (including any POTW located in a State that has elected to assume local program responsibilities pursuant to 40 C.F.R. § 403.10 (e)) and any treatment works treating domestic sewage, as defined in 40 C.F.R. § 122.2, classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for its sewage sludge use or disposal practice to affect public health and the environment adversely.

Contiguous zone means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

Continuous discharge means a "discharge" which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92-500, as amended by Public Law 95-217, Public Law 95-576, Public Law 96-483and Public Law 97-117, 33 U.S.C. 1251 *et seq*.

CWA and regulations means the Clean Water Act (CWA) and applicable regulations promulgated thereunder. In the case of an approved State program, it includes State program requirements.

Daily Discharge means the "discharge of a pollutant" measured during a calendar day or any

other 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Direct Discharge means the "discharge of a pollutant."

Director means the Regional Administrator or an authorized representative. In the case of a permit also issued under Massachusetts' authority, it also refers to the Director of the Division of Watershed Management, Department of Environmental Protection, Commonwealth of Massachusetts.

Discharge

(a) When used without qualification, *discharge* means the "discharge of a pollutant."

(b) As used in the definitions for "interference" and "pass through," *discharge* means the introduction of pollutants into a POTW from any non-domestic source regulated under Section 307(b), (c) or (d) of the Act.

Discharge Monitoring Report ("DMR") means the EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by Permittees. DMRs must be used by "approved States" as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Discharge of a pollutant means:

(a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or

(b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Effluent limitation means any restriction imposed by the Director on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States," the waters of the "contiguous zone," or the ocean.

Effluent limitation guidelines means a regulation published by the Administrator under section 304(b) of CWA to adopt or revise "effluent limitations."

Environmental Protection Agency ("EPA") means the United States Environmental Protection

Agency.

Grab Sample means an individual sample collected in a period of less than 15 minutes.

Hazardous substance means any substance designated under 40 C.F.R. Part 116 pursuant to Section 311 of CWA.

Incineration is the combustion of organic matter and inorganic matter in sewage sludge by high temperatures in an enclosed device.

Indirect discharger means a nondomestic discharger introducing "pollutants" to a "publicly owned treatment works."

Interference means a discharge (see definition above) which, alone or in conjunction with a discharge or discharges from other sources, both:

(a) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

(b) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resources Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SDWA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile.

Land application is the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.

Land application unit means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for agricultural purposes or for treatment and disposal.

LC_{50} means the concentration of a sample that causes mortality of 50% of the test population at a specific time of observation. The LC_{50} = 100% is defined as a sample of undiluted effluent.

Maximum daily discharge limitation means the highest allowable "daily discharge."

Municipal solid waste landfill (MSWLF) unit means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 C.F.R. § 257.2. A MSWLF unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, very small quantity generator waste and industrial solid waste. Such a landfill may be

publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion. A construction and demolition landfill that receives residential lead-based paint waste and does not receive any other household waste is not a MSWLF unit.

Municipality

(a) When used without qualification *municipality* means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of CWA.

(b) As related to sludge use and disposal, *municipality* means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal Agency of two or more of the foregoing entities) created by or under State law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge management; or a designated and approved management Agency under Section 208 of the CWA, as amended. The definition includes a special district created under State law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in Section 201 (e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use or disposal of sewage sludge.

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the CWA. The term includes an "approved program."

New Discharger means any building, structure, facility, or installation:

(a) From which there is or may be a "discharge of pollutants;"

(b) That did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;

(c) Which is not a "new source;" and

(d) Which has never received a finally effective NPDES permit for discharges at that "site."

This definition includes an "indirect discharger" which commences discharging into "waters of the United States" after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a "site" for which it does not have a permit; and any offshore or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a "site" under EPA's permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Director in the issuance of a final permit to be in an area of biological concern. In determining whether an area is an area of biological concern, the Director shall consider the factors specified in 40 C.F.R. §§ 125.122 (a) (1) through (10).

An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a "new discharger" only for the duration of its discharge in an area of biological concern.

New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced:

(a) After promulgation of standards of performance under Section 306 of CWA which are applicable to such source, or

(b) After proposal of standards of performance in accordance with Section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

NPDES means "National Pollutant Discharge Elimination System."

Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES programs.

Pass through means a Discharge (see definition above) which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Pathogenic organisms are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of Parts 122, 123, and 124. "Permit" includes an NPDES "general permit" (40 C.F.R § 122.28). "Permit" does not include any permit which has not yet been the subject of final agency action, such as a "draft permit" or "proposed permit."

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Person who prepares sewage sludge is either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge.

pH means the logarithm of the reciprocal of the hydrogen ion concentration measured at 25° Centigrade or measured at another temperature and then converted to an equivalent value at 25° Centigrade.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 C.F.R. § 122.3).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials

(except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq*.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or

(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well is used either to facilitate production or for disposal purposes is approved by the authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Primary industry category means any industry category listed in the NRDC settlement agreement (*Natural Resources Defense Council et al. v. Train*, 8 E.R.C. 2120 (D.D.C. 1976), *modified* 12 E.R.C. 1833 (D.D.C. 1979)); also listed in Appendix A of 40 C.F.R. Part 122.

Privately owned treatment works means any device or system which is (a) used to treat wastes from any facility whose operator is not the operator of the treatment works and (b) not a "POTW."

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly owned treatment works (POTW) means a treatment works as defined by Section 212 of the Act, which is owned by a State or municipality (as defined by Section 504(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in Section 502(4) of the Act, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

Regional Administrator means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

Secondary industry category means any industry which is not a "primary industry category."

Septage means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Sewage Sludge means any solid, semi-solid, or liquid residue removed during the treatment of municipal waste water or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced waste water treatment, scum, septage, portable toilet pumpings, type III marine sanitation device pumpings (33 C.F.R. Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

Sewage sludge incinerator is an enclosed device in which only sewage sludge and auxiliary fuel are fired.

Sewage sludge unit is land on which only sewage sludge is placed for final disposal. This does

not include land on which sewage sludge is either stored or treated. Land does not include waters of the United States, as defined in 40 C.F.R. § 122.2.

Sewage sludge use or disposal practice means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substance designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

Significant spills includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the CWA (see 40 C.F.R. §§ 110.10 and 117.21) or Section 102 of CERCLA (*see* 40 C.F.R. § 302.4).

Sludge-only facility means any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to section 405(d) of the CWA, and is required to obtain a permit under 40 C.F.R. § 122.1(b)(2).

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, or an Indian Tribe as defined in the regulations which meets the requirements of 40 C.F.R. § 123.31.

Store or storage of sewage sludge is the placement of sewage sludge on land on which the sewage sludge remains for two years or less. This does not include the placement of sewage sludge on land for treatment.

Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant.

Surface disposal site is an area of land that contains one or more active sewage sludge units.

Toxic pollutant means any pollutant listed as toxic under Section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing Section 405(d) of the CWA.

Treatment works treating domestic sewage means a POTW or any other sewage sludge or waste water treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices.

For purposes of this definition, "domestic sewage" includes waste and waste water from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Director may designate any person subject to the standards for sewage sludge use and

disposal in 40 C.F.R. Part 503 as a "treatment works treating domestic sewage," where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 C.F.R. Part 503.

Upset see B.5.a. above.

Vector attraction is the characteristic of sewage sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

Waste pile or *pile* means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

Waters of the United States or waters of the U.S. means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(b) All interstate waters, including interstate "wetlands;"

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands", sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

    (1) Which are or could be used by interstate or foreign travelers for recreational or other purpose;

    (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

    (3) Which are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters identified in paragraphs (a) through (d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 C.F.R. § 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland.

Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

Wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Whole Effluent Toxicity (WET) means the aggregate toxic effect of an effluent measured directly by a toxicity test.

*Zone of Initial Dilution (*ZID) means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports, provided that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards.

2. Commonly Used Abbreviations

BOD	Five-day biochemical oxygen demand unless otherwise specified
CBOD	Carbonaceous BOD
CFS	Cubic feet per second
COD	Chemical oxygen demand
Chlorine	
Cl_2	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)
TRO	Total residual chlorine in marine waters where halogen compounds are present
FAC	Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont.	Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc.
Cu. M/day or M^3/day	Cubic meters per day
DO	Dissolved oxygen

kg/day	Kilograms per day
lbs/day	Pounds per day
mg/L	Milligram(s) per liter
mL/L	Milliliters per liter
MGD	Million gallons per day
Nitrogen	
Total N	Total nitrogen
NH_3-N	Ammonia nitrogen as nitrogen
NO_3-N	Nitrate as nitrogen
NO_2-N	Nitrite as nitrogen
NO_3-NO_2	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
Surfactant	Surface-active agent
Temp. °C	Temperature in degrees Centigrade
Temp. °F	Temperature in degrees Fahrenheit
TOC	Total organic carbon
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)
µg/L	Microgram(s) per liter
WET	"Whole effluent toxicity"
ZID	Zone of Initial Dilution

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT NUMBER: MA0004782

PUBLIC NOTICE START AND END DATES: 10/26/2020 – 11/24/2020

NAME AND MAILING ADDRESS OF APPLICANT:

Citgo Petroleum Corporation
P.O. Box 655
Pennsauken, NJ 08110

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Citgo Braintree Terminal
385 Quincy Avenue
East Braintree, MA 02184

RECEIVING WATER AND CLASSIFICATION:

Weymouth Fore River (MA74-14)
Weymouth Weir Watershed
Class SB

SIC CODE: 5171 (Bulk Petroleum Storage)

Table of Contents

Tables

Figures

Appendices

1.0 Proposed Action

Citgo Petroleum Corporation (the Permittee) has applied to the U.S. Environmental Protection Agency (EPA) for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge from the CITGO Braintree Terminal located in East Braintree Massachusetts (the Facility) into the Weymouth Fore River.

The permit currently in effect was issued on June 12, 2008 with an effective date of September 1, 2008 and expired on August 31, 2013 (the 2008 Permit). The Permittee filed an application for permit reissuance with EPA dated February 21, 2013, as required by 40 Code of Federal Regulations (CFR) § 122.6. EPA sent the Permittee a Notice of Deficiency dated April 23, 2013. In response, the Permittee submitted a revised individual permit application dated revised May 30, 2013. Since the permit application was deemed timely and complete by EPA on June 5, 2013, the Facility's 2008 Permit has been administratively continued pursuant to 40 CFR § 122.6 and § 122.21(d). EPA and the State conducted a site visit on June 10, 2014. On April 12, 2017, EPA sent a letter pursuant to Section 308 of the Clean Water Act ("308 letter") requesting more information related to discharges from the Facility. The Permittee provided additional information in a response dated May 24, 2017.

2.0 Statutory and Regulatory Authority

Congress enacted the Federal Water Pollution Control Act, codified at 33 U.S.C. § 1251 – 1387 and commonly known as the Clean Water Act (CWA), "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." CWA § 101(a). To achieve this objective, the CWA makes it unlawful for any person to discharge any pollutant into the waters of the United States from any point source, except as authorized by specific permitting sections of the CWA, one of which is § 402. *See* CWA §§ 301(a), 402(a). Section 402(a) established one of the CWA's principal permitting programs, the NPDES Permit Program. Under this section, EPA may "issue a permit for the discharge of any pollutant or combination of pollutants" in accordance with certain conditions. CWA § 402(a). NPDES permits generally contain discharge limitations and establish related monitoring and reporting requirements. *See* CWA § 402(a)(1) and (2). The regulations governing EPA's NPDES permit program are generally found in 40 CFR §§ 122, 124, 125, and 136.

"Congress has vested in the Administrator [of EPA] broad discretion to establish conditions for NPDES permits" in order to achieve the statutory mandates of Section 301 and 402. *Arkansas v. Oklahoma,* 503 U.S. 91, 105 (1992). *See also* 40 CFR §§ 122.4(d), 122.44(d)(1), and 122.44(d)(5). CWA §§ 301 and 306 provide for two types of effluent limitations to be included in NPDES permits: "technology-based" effluent limitations (TBELs) and "water quality-based" effluent limitations (WQBELs). *See* CWA §§ 301 and 304(b); 40 CFR §§ 122, 125, and 131.

2.1 Technology-Based Requirements

Technology-based treatment requirements represent the minimum level of control that must be imposed under CWA §§ 301(b) and 402 to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control

technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. *See* 40 CFR § 125 Subpart A.

Subpart A of 40 CFR Part 125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under § 301(b) of the CWA, including the application of EPA promulgated Effluent Limitation Guidelines (ELGs) and case-by-case determinations of effluent limitations under CWA § 402(a)(1). EPA promulgates New Source Performance Standards (NSPS) under CWA § 306 and 40 CFR § 401.12. *See also* 40 CFR §§ 122.2 (definition of "new source") and 122.29.

In general, ELGs for non-POTW facilities must be complied with as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989. *See* 40 CFR § 125.3(a)(2). Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit. In the absence of published technology-based effluent guidelines, the permit writer is authorized under CWA § 402(a)(1)(B) to establish effluent limitations on a case-by-case basis using best professional judgment (BPJ).

2.2 Water Quality-Based Requirements

The CWA and federal regulations require that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water. This is necessary when less stringent TBELs would interfere with the attainment or maintenance of water quality criteria in the receiving water. *See* CWA § 301(b)(1)(C) and 40 CFR §§ 122.44(d)(1),122.44(d)(5), 125.84(e) and 125.94(i).

2.2.1 Water Quality Standards

The CWA requires that each state develop water quality standards (WQSs) for all water bodies within the State. *See* CWA § 303 and 40 CFR §§ 131.10-12. Generally, WQSs consist of three parts: 1) beneficial designated use or uses for a water body or a segment of a water body; 2) numeric or narrative water quality criteria sufficient to protect the assigned designated use(s); and 3) antidegradation requirements to ensure that once a use is attained it will not be degraded and to protect high quality and National resource waters. *See* CWA § 303(c)(2)(A) and 40 CFR § 131.12. The applicable State WQSs can be found in Title 314 of the Code of Massachusetts Regulations, Chapter 4 (314 CMR 4.00).

As a matter of state law, state WQSs specify different water body classifications, each of which is associated with certain designated uses and numeric and narrative water quality criteria. When using chemical-specific numeric criteria to develop permit limitations, acute and chronic aquatic life criteria and human health criteria are used and expressed in terms of maximum allowable in-stream pollutant concentrations. In general, aquatic-life acute criteria are considered applicable to daily time periods (maximum daily limit) and aquatic-life chronic criteria are considered applicable to monthly time periods (average monthly limit). Chemical-specific human health

criteria are typically based on lifetime chronic exposure and, therefore, are typically applicable to monthly average limits.

When permit effluent limitation(s) are necessary to ensure that the receiving water meets narrative water quality criteria, the permitting authority must establish effluent limits in one of the following three ways: 1) based on a "calculated numeric criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and fully protect the designated use," 2) based on a "case-by-case basis" using CWA § 304(a) recommended water quality criteria, supplemented as necessary by other relevant information; or, 3) in certain circumstances, based on use of an indicator parameter. *See* 40 CFR § 122.44(d)(1)(vi)(A-C).

2.2.2 Antidegradation

Federal regulations found at 40 CFR § 131.12 require states to develop and adopt a statewide antidegradation policy that maintains and protects existing in-stream water uses and the level of water quality necessary to protect these existing uses. In addition, the antidegradation policy ensures maintenance of high quality waters which exceed levels necessary to support propagation of fish, shellfish, and wildlife and to support recreation in and on the water, unless the State finds that allowing degradation is necessary to accommodate important economic or social development in the area in which the waters are located.

Massachusetts' statewide antidegradation policy, entitled "Antidegradation Provisions," is found in the State's WQSs at 314 CMR 4.04. Massachusetts guidance for the implementation of this policy is in an associated document entitled "Implementation Procedure for the Antidegradation Provisions of the Massachusetts Surface Water Quality Standards, 314 CMR 4.00" dated October 21, 2009. According to the policy, no lowering of water quality is allowed, except in accordance with the antidegradation policy, and all existing in-stream uses, and the level of water quality necessary to protect the existing uses of a receiving water body must be maintained and protected.

This permit is being reissued with effluent limitations sufficiently stringent to satisfy the State's antidegradation requirements, including the protection of the existing uses of the receiving water.

2.2.3 Assessment and Listing of Waters and Total Maximum Daily Loads

The objective of the CWA is to restore and maintain the chemical, physical and biological integrity of the Nation's waters. To meet this goal, the CWA requires states to develop information on the quality of their water resources and report this information to EPA, the U.S. Congress, and the public. To this end, EPA released guidance on November 19, 2001, for the preparation of an integrated "List of Waters" that could combine reporting elements of both § 305(b) and § 303(d) of the CWA. The integrated list format allows states to provide the status of all their assessed waters in one list. States choosing this option must list each water body or segment in one of the following five categories: 1) unimpaired and not threatened for all designated uses; 2) unimpaired waters for some uses and not assessed for others; 3) insufficient information to make assessments for any uses; 4) impaired or threatened for one or more uses but

not requiring the calculation of a Total Maximum Daily Load (TMDL); and 5) impaired or threatened for one or more uses and requiring a TMDL.

A TMDL is a planning tool and potential starting point for restoration activities with the ultimate goal of attaining water quality standards. A TMDL essentially provides a pollution budget designed to restore the health of an impaired water body. A TMDL typically identifies the source(s) of the pollutant from point sources and non-point sources, determines the maximum load of the pollutant that the water body can tolerate while still attaining WQSs for the designated uses, and allocates that load among the various sources, including point source discharges, subject to NPDES permits. *See* 40 CFR § 130.7.

For impaired waters where a TMDL has been developed for a particular pollutant and the TMDL includes a waste load allocation (WLA) for a NPDES permitted discharge, the effluent limitation in the permit must be "consistent with the assumptions and requirements of any available WLA". 40 CFR § 122.44(d)(1)(vii)(B).

2.2.4 Reasonable Potential

Pursuant to CWA § 301(b)(1)(C) and 40 CFR § 122.44(d)(1), NPDES permits must contain any requirements in addition to TBELs that are necessary to achieve water quality standards established under § 303 of the CWA. *See also* 33 U.S.C. § 1311(b)(1)(C). In addition, limitations "must control any pollutant or pollutant parameter (conventional, non-conventional, or toxic) which the permitting authority determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any water quality standard, including State narrative criteria for water quality." 40 CFR § 122.44(d)(1)(i). To determine if the discharge causes, or has the reasonable potential to cause, or contribute to an excursion above any WQS, EPA considers: 1) existing controls on point and non-point sources of pollution; 2) the variability of the pollutant or pollutant parameter in the effluent; 3) the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity); and 4) where appropriate, the dilution of the effluent by the receiving water. *See* 40 CFR § 122.44(d)(1)(ii).

If the permitting authority determines that the discharge of a pollutant will cause, has the reasonable potential to cause, or contribute to an excursion above WQSs, the permit must contain WQBELs for that pollutant. *See* 40 CFR § 122.44(d)(1)(i).

2.2.5 State Certification

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving water(s) either certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate the State WQSs, the State waives, or is deemed to have waived, its right to certify. *See* 33 U.S.C. § 1341(a)(1). Regulations governing state certification are set forth in 40 CFR § 124.53 and § 124.55. EPA has requested permit certification by the State pursuant to 40 CFR § 124.53 and expects that the Draft Permit will be certified.

If the State believes that conditions more stringent than those contained in the Draft Permit are necessary to meet the requirements of either CWA §§ 208(e), 301, 302, 303, 306 and 307, or applicable requirements of State law, the State should include such conditions in its certification and, in each case, cite the CWA or State law provisions upon which that condition is based. Failure to provide such a citation waives the right to certify as to that condition. EPA includes properly supported State certification conditions in the NPDES permit. The only exception to this is that the permit conditions/requirements regulating sewage sludge management and implementing CWA § 405(d) are not subject to the State certification requirements. Reviews and appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State and may not be made through EPA's permit appeal procedures of 40 CFR Part 124.

In addition, the State should provide a statement of the extent to which any condition of the Draft Permit can be made less stringent without violating the requirements of State law. Since the State's certification is provided prior to final permit issuance, any failure by the State to provide this statement waives the State's right to certify or object to any less stringent condition.

It should be noted that under CWA § 401, EPA's duty to defer to considerations of State law is intended to prevent EPA from relaxing any requirements, limitations or conditions imposed by State law. Therefore, "[a] State may not condition or deny a certification on the grounds that State law allows a less stringent permit condition." 40 CFR § 124.55(c). In such an instance, the regulation provides that, "The Regional Administrator shall disregard any such certification conditions or denials as waivers of certification." *Id.* EPA regulations pertaining to permit limitations based upon WQSs and State requirements are contained in 40 CFR §§ 122.4(d) and 122.44(d).

2.3 Effluent Flow Requirements

Generally, EPA uses effluent flow both to determine whether an NPDES permit needs certain effluent limitations and to calculate the effluent limitations themselves. EPA practice is to use effluent flow as a reasonable and important worst-case condition in EPA's reasonable potential and WQBEL calculations to ensure compliance with WQSs under CWA § 301(b)(1)(C). Should the effluent flow exceed the flow assumed in these calculations, the in-stream dilution would be reduced and the calculated effluent limitations might not be sufficiently protective (i.e., might not meet WQSs). Further, pollutants that do not have the reasonable potential to exceed WQSs at a lower discharge flow may have reasonable potential at a higher flow due to the decreased dilution. In order to ensure that the assumptions underlying EPA's reasonable potential analyses and permit effluent limitation derivations remain sound for the duration of the permit, EPA may ensure the validity of its "worst-case" effluent flow assumptions through imposition of permit conditions for effluent flow.[1] In this regard, the effluent flow limitation is a component of WQBELs because the WQBELs are premised on a maximum level flow. The effluent flow limit

[1] EPA's regulations regarding "reasonable potential" require EPA to consider "where appropriate, the dilution of the effluent in the receiving water," *id.* 40 CFR §122.44(d)(1)(ii). *Both* the effluent flow and receiving water flow may be considered when assessing reasonable potential. *In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 599 (EAB 2010). EPA guidance directs that this "reasonable potential" analysis be based on "worst-case" conditions. *See In re Washington Aqueduct Water Supply Sys., 11 E.A.D. 565, 584 (EAB 2004)*.

is also necessary to ensure that other pollutants remain at levels that do not have a reasonable potential to exceed WQSs.

The limitation on effluent flow is within EPA's authority to condition a permit to carry out the objectives and satisfy the requirements of the CWA. *See* CWA §§ 402(a)(2) and 301(b)(1)(C); 40 CFR §§ 122.4(a) and (d), 122.43 and 122.44(d). A condition on the discharge designed to ensure the validity of EPA's WQBELs and reasonable potential calculations that account for "worst case" conditions is encompassed by the references to "condition" and "limitations" in CWA §§402 and 301 and the implementing regulations, as WQBELs are designed to assure compliance with applicable water quality regulations, including antidegradation requirements. Regulating the quantity of pollutants in the discharge through a restriction on the quantity of effluent is also consistent with the CWA.

In addition, as provided in Part II.B.1 of this permit and 40 CFR § 122.41(e), the Permittee is required to properly operate and maintain all facilities and systems of treatment and control. Improper operation and maintenance may result in non-compliance with permit effluent limitations. Consequently, the effluent flow limit is a permit condition that relates to the Permittee's duty to mitigate (*i.e.*, minimize or prevent any discharge in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment) and to properly operate and maintain the treatment works. *See* 40 CFR §§ 122.41(d), (e).

2.4 Monitoring and Reporting Requirements

2.4.1 Monitoring Requirements

Sections 308(a) and 402(a)(2) of the CWA and the implementing regulations at 40 CFR Parts 122, 124, 125, and 136 authorize EPA to include monitoring and reporting requirements in NPDES permits.

The monitoring requirements included in this permit have been established to yield data representative of the Facility's discharges in accordance with CWA §§ 308(a) and 402(a)(2), and consistent with 40 CFR §§ 122.41(j), 122.43(a), 122.44(i) and 122.48. The Draft Permit specifies routine sampling and analysis requirements to provide ongoing, representative information on the levels of regulated constituents in the discharges. The monitoring program is needed to enable EPA and the State to assess the characteristics of the Facility's effluent, whether Facility discharges are complying with permit limits, and whether different permit conditions may be necessary in the future to ensure compliance with technology-based and water quality-based standards under the CWA. EPA and/or the State may use the results of the chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to CWA § 304(a)(1), State water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including, but not limited to, those pollutants listed in Appendix D of 40 CFR Part 122.

NPDES permits require that the approved analytical procedures found in 40 CFR Part 136 be used for sampling and analysis unless other procedures are explicitly specified. Permits also include requirements necessary to comply with the *National Pollutant Discharge Elimination*

System (NPDES): Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting Rule.[2] This Rule requires that where EPA-approved methods exist, NPDES applicants must use sufficiently sensitive EPA-approved analytical methods when quantifying the presence of pollutants in a discharge. Further, the permitting authority must prescribe that only sufficiently sensitive EPA-approved methods be used for analyses of pollutants or pollutant parameters under the permit. The NPDES regulations at 40 CFR § 122.21(e)(3) (completeness), 40 CFR § 122.44(i)(1)(iv) (monitoring requirements) and/or as cross referenced at 40 CFR § 136.1(c) (applicability) indicate that an EPA-approved method is sufficiently sensitive where:

- The method minimum level[3] (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or
- In the case of permit applications, the ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or parameter in the discharge; or
- The method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

2.4.2 Reporting Requirements

The Draft Permit requires the Permittee to report monitoring results obtained during each calendar month to EPA and the State electronically using NetDMR. The Permittee must submit a Discharge Monitoring Report (DMR) for each calendar month no later than the 15th day of the month following the completed reporting period.

NetDMR is a national web-based tool enabling regulated CWA permittees to submit DMRs electronically via a secure internet application to EPA through the Environmental Information Exchange Network. NetDMR has eliminated the need for participants to mail in paper forms to EPA under 40 CFR §§ 122.41 and 403.12. NetDMR is accessible through EPA's Central Data Exchange at https://cdx.epa.gov/. Further information about NetDMR can be found on EPA's NetDMR support portal webpage.[4]

With the use of NetDMR, the Permittee is no longer required to submit hard copies of DMRs and reports to EPA and the State unless otherwise specified in the Draft Permit. In most cases, reports required under the permit shall be submitted to EPA as an electronic attachment through NetDMR. Certain exceptions are provided in the permit such as for providing written notifications required under the Part II Standard Conditions.

---

[2] Fed. Reg. 49,001 (Aug. 19, 2014).
[3] The term "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor. EPA is considering the following terms related to analytical method sensitivity to be synonymous: "quantitation limit," "reporting limit," "level of quantitation," and "minimum level." *See* Fed. Reg. 49,001 (Aug. 19, 2014).
[4] https://netdmr.zendesk.com/hc/en-us

2.5 Standard Conditions

The Standard Conditions, included as Part II of the Draft Permit, are based on applicable regulations found in the Code of Federal Regulations. *See generally* 40 CFR Part 122.

2.6 Anti-backsliding

The CWA's anti-backsliding requirements prohibit a permit from being renewed, reissued or modified to include less stringent limitations or conditions than those contained in a previous permit except in compliance with one of the specified exceptions to those requirements. *See* CWA §§ 402(o) and 303(d)(4) and 40 CFR § 122.44(l). Anti-backsliding provisions apply to effluent limits based on technology, water quality, and/or State certification requirements.

All proposed limitations in the Draft Permit are at least as stringent as limitations included in the 2008 Permit unless specific conditions exist to justify relaxation in accordance with CWA § 402(o) or § 303(d)(4). Discussion of any less stringent limitations and corresponding exceptions to anti-backsliding provisions is provided in the sections that follow.

3.0 Description of Facility and Discharge

3.1 Location and Type of Facility

The Facility is situated on a 62-acre site located on Quincy Avenue in East Braintree, Massachusetts. The Facility lies along the western bank of the Weymouth Fore River, approximately three-quarters of a mile upstream of the confluence of the Weymouth Fore River and Town River. A location map is provided in Figure 1. The main features of the Facility are a marine vessel dock; a tank farm; a truck loading rack; and the pervious grassy surface between the tank farm and the marine vessel dock. The site also includes a warehouse with office areas and indoor parking, outdoor parking areas, roads, two groundwater remediation systems, three treatment systems, a warehouse leased to other tenants, and open space with landscaped or natural vegetation. A site plan is provided in Figure 2.

The Facility receives, stores and distributes petroleum products and fuel additives. The Facility primarily handles gasoline, distillate products (i.e., diesel, fuel oil and kerosene), ethanol, and biodiesel. The Facility receives bulk quantities of petroleum products and ethanol via ship or barge at the marine vessel dock located along the Weymouth Fore River at the northeast edge of the property. Off-loading practices at the marine vessel dock are regulated by the U.S. Coast Guard and are not discussed further in this fact sheet. Product is transferred from the marine vessel dock via pipeline to aboveground storage tanks (ASTs) located within the Facility tank farm located between the marine vessel dock and Quincy Avenue. Biodiesel and fuel additives may also be received via tanker truck.

The tank farm consists of 24 ASTs used to store petroleum products, ethanol and fuel additives. The ASTs range in size from 40,000 to 116,000 barrels. Mixing of petroleum products and

additives occur within the fuel lines. Approximately once every ten years, tank(s) are taken out of service for inspection and repairs. If required, these tanks are tested using hydrostatic test water before returning to service. Secondary containment for the tank farm consists of earthen berms surrounding each bulk storage tank, sized to contain at least 110 to 130 percent of the largest tank's storage capacity, plus additional volume to contain any fire-extinguishment chemicals, water and/or precipitation.

Final distribution of product is conducted primarily at the Facility truck loading rack, which consists of eight loading racks to transfer petroleum products to tanker trucks. No fueling or washing of vehicles or equipment occurs in this area. A slight rise in the asphalt surrounding the loading rack is designed to contain spills and stormwater runoff from the truck rack transfer area. The roof of the truck loading rack has a slight overhang to minimize the amount of stormwater entering the truck rack drains underneath the loading racks. Roof runoff is directed to the raised area surrounding the loading racks.

3.1.1 Effluent Limitation Guidelines

EPA has not promulgated technology-based ELGs for petroleum bulk stations and terminals (SIC 5171) in 40 CFR Subchapter N Parts 405 through 471 for the discharge of pollutants from petroleum bulk stations and terminals. Therefore, in accordance with CWA § 402(a)(1)(B) and 40 CFR § 125.3(c)(2), EPA may establish effluent limitations on a case-by-case basis using BPJ. The NPDES regulations in 40 CFR § 125.3(c)(2) state that permits developed on a case-by-case basis under CWA § 402 (a)(1) shall apply the appropriate factors listed in 40 CFR § 125.3(d) and must consider 1) the appropriate technology for the category class of point sources of which the applicant is a member, based on available information, and 2) any unique factors relating to the applicant.

To the extent applicable to the Facility, EPA considered the following information from other ELGs and/or NPDES permits.

- EPA promulgated technology-based ELGs for the Steam Electric Point Source Category in 1974, and amended the regulations in 1977, 1978, 1980, 1982 and 2015. *See* 40 CFR 423. This regulation applies to discharges resulting from the operation of a generating unit by an establishment whose generation of electricity is the predominant source of revenue or principal reason for operation, and whose generation of electricity results primarily from a process utilizing fossil-type fuel (coal, oil, or gas), fuel derived from fossil fuel (e.g., petroleum coke, synthesis gas), or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium. EPA considered ELGs for facilities that utilize tank farms for bulk fuel storage.

- EPA's *Technical Support Document for the 2004 Effluent Guidelines Program Plan.*[5] In 2003, EPA evaluated whether a new subcategory, petroleum bulk stations and terminals (SIC 5171), was appropriate under the Petroleum Refining Point Source Category. *See*

[5] EPA Office of Science and Technology. *Technical Support Document for the 2004 Effluent Guidelines Program Plan.* EPA-821-R-04-014: August 2004, Section 7.12, p 81-126. EPA-821-R-04-014 is currently available at: https://www.epa.gov/eg/effluent-guidelines-plan-support-documents.

CWA Section 304(b). EPA deferred the development of effluent guidelines for petroleum bulk stations and terminals as a new subcategory under 40 CFR Part 419. EPA considered pollutant sources and/or control measures described in its case-by-case evaluation of technology-based effluent limitations.

- EPA's *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP)[6] effective June 4, 2015, and EPA's *General Permit for Remediation Activity Discharges* (RGP)[7] effective April 8, 2017. EPA considered industrial sectors and/or activity categories with similar operations, pollutants, and/or treatment technologies in its case-by-case evaluation of technology-based effluent limitations.

3.2 Location and Type of Discharge

The Draft Permit regulates discharges from two outfalls, Outfall 001 and Outfall 002. Outfall 001 is authorized to discharge stormwater runoff, hydrostatic test water, and remediated groundwater to the Weymouth Fore River. Outfall 002 is an internal outfall that discharges groundwater from an onsite remediation system. EPA established Outfall 002 in the 2008 Permit, in accordance with 40 CFR § 122.45(h). Monitoring requirements and limitations were put in place at the internal waste stream to minimize the potential impacts of diluting the stormwater discharge with treated groundwater.

The Facility contains an additional outfall, referred to herein as "Unpermitted Stormwater Outfall", that discharges stormwater runoff, previously routed through Outfall 001 to the Weymouth Fore River. Under Section 308 of the CWA, EPA requested additional information to determine if this outfall is a significant contributor of pollutants to the receiving water and therefore subject to the NPDES permit program. In a letter dated May 24, 2017, the Permittee provided a partial response to the information request; however, as of the public notice of the Draft Permit, EPA has not received the requested chemical analysis. As a result, the request for information on Unpermitted Stormwater Outfall is included as part of this Draft Permit as a Special Condition discussed further below.

A schematic of water flow is provided in Figure 3.

3.2.1 Outfall 001

Outfall 001 is located at Latitude 42° 14' 09.6", Longitude -70° 58' 13.6" and discharges northward into the Weymouth Fore River. The permitted discharge to the river via Outfall 001 consists of treated: 1) stormwater runoff from parking areas, building roofs, tank farm secondary containment areas and paved roads; 2) hydrostatic test water; 3) treated stormwater runoff from

[6] *Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity* (MSGP), currently available at: https://www.epa.gov/npdes/final-2015-msgp-documents.
[7] EPA Region 1. *National Pollutant Discharge Elimination System (NPDES) General Permit for Remediation Activity Discharges* – the Remediation General Permit (RGP), currently available at https://www.epa.gov/npdes-permits/remediation-general-permit-rgp-massachusetts-new-hampshire.

the truck loading rack; and 4) treated groundwater remediation system effluent from internal Outfall 002.

Prior to discharging through Outfall 001 into the Weymouth Fore River, the four wastewater sources above pass through a main oil water separator (OWS) treatment system, referred to herein as OWS 1. Remediated groundwater and stormwater from the truck rack loading area are pretreated through their own remediation systems, before combining with both stormwater from parking areas, building roofs, tank farm secondary containment areas, and paved roads, and hydrostatic test water from intermittent testing events. These sources comingle and are routed through OWS 1. OWS 1 consists of a Vortex Stormceptor Unit with a design flow rate of 6,000 gallons per minute (GPM) and a maximum rating of 7.294 million gallons per day (MGD) and two American Petroleum Institute (API) OWSs in parallel, each with a design flow rate of 3,000 GPM (6,000 GPM total).

The pretreated sources contributing to OWS 1 include the remediated groundwater discharging through internal Outfall 002 (discussed below) and the stormwater runoff from the truck loading rack. The latter is collected and processed through a treatment system consisting of an API OWS with a maximum design flow rate of 1,600 GPM (OWS 2). OWS 2 is in place due to the increased likelihood of oil spills when conducting oil transfers at the truck rack. The OWS 1 and OWS 2 treatment systems are upgrades from the OWSs described in the 2008 Permit.

3.2.2 Outfall 002

Outfall 002 is located in the vicinity of the truck loading rack and is permitted to discharge treated groundwater to the Weymouth Fore River through Outfall 001 and its treatment system. A release of gasoline near the truck loading rack led to the installation of a series of groundwater recovery wells to pump and treat contaminated groundwater. The product and groundwater are collected and processed through a treatment system consisting of an API OWS, carbon adsorption units, and a shallow tray air stripper (collectively referred to herein as OWS 3). The design flow rate of OWS 3 is 25 GPM. The treated groundwater remediation effluent then comingles with the treated stormwater runoff from the truck loading rack (OWS 2, see Outfall 001, above) and is treated through OWS 1 prior to discharge through Outfall 001 to the Weymouth Fore River.

3.2.3 Unpermitted Stormwater Outfall

Since the issuance of the 2008 Permit, the Permittee completed site improvements to segregate the stormwater runoff from the southern and eastern portions of the Facility to a separate outfall. The southern and eastern portions of the Facility consist of approximately 7.1 acres of land between the tank farm/truck loading rack and marine vessel dock. The stormwater runoff from the southern and eastern portions of the Facility is collected and processed through a treatment system consisting of a Vortex Stormceptor Unit with a design flow rate of 6,000 GPM and a maximum rating of 7.5942 MGD prior to discharge through Unpermitted Stormwater Outfall to the Weymouth Fore River (OWS 4).

A separate groundwater remediation system in the southeastern portion of the Facility, referred to as the BELD system, is covered under EPA's Remediation General Permit (RGP Permit No. MAG910106). A series of groundwater recovery wells pump product and groundwater from the subsurface in the vicinity of and outside of secondary containment for Tank 23, where a release of fuel oil occurred. The product and groundwater are collected and processed through a treatment system consisting of an OWS, bag filters, and granular activated carbon units. The design flow rate of this treatment system is 30 GPM. The treated groundwater remediation effluent is then discharged directly to the Weymouth Fore River adjacent to the Unpermitted Stormwater Outfall. This groundwater remediation effluent does not comingle with the stormwater runoff discharged through this outfall. The Draft Permit does not cover the discharge from the BELD system and it remains covered under EPA's RGP.

A quantitative description of the discharge from Outfall 001 and Outfall 002 in terms of effluent parameters, based on monitoring data submitted by the Permittee, including Discharge Monitoring Reports (DMRs), from July 1, 2015 through June 30, 2020, is provided in Appendix A of this Fact Sheet.

4.0 Description of Receiving Water and Dilution

4.1 Receiving Water

The Facility discharges its effluent through Outfall 001 to the Weymouth Fore River (Massachusetts segment MA74-14). Depending on tidal stage, the Weymouth Fore River can flow either northward away from the Facility or southward towards the Facility. This segment of the river is 2.29 square miles in size, bounded by Commercial Street in Braintree upstream of the Facility and its downstream point at Wall Street on Houghs Neck in Quincy. The Weymouth Fore River is part of the Boston Harbor Drainage Area and the Weymouth and Weir River subwatershed.

MassDEP classifies this segment of the Weymouth Fore River as Class SB. Class SB waters are described in the Commonwealth of Massachusetts Surface Water Quality Standards (WQSs) (314 CMR 4.05(4)(b)) as follows: "*These waters are designated as a habitat for fish, other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. In certain waters, habitat for fish, other aquatic life and wildlife may include, but is not limited to, seagrass. Where designated in the tables to 314 CMR 4.00 for shellfishing, these waters shall be suitable for shellfish harvesting with depuration (Restricted and Conditionally Restricted Shellfish Areas). These waters shall have consistently good aesthetic value*." The Weymouth Fore River is one of ten Designated Port Areas (DPAs) established by the Massachusetts Office of Coastal Zone Management to promote and protect water-dependent industrial uses.

Weymouth Fore River segment MA74-14 is listed as a Category 5 "Waters Requiring a TMDL" on the Final Massachusetts Year 2016 Integrated List of Waters (CWA Sections 303d and 305b)[8]. The pollutants and conditions requiring a Total Maximum Daily Load (TMDL) are fecal

[8] *Massachusetts Year 2016 Integrated List of Waters*. MassDEP Division of Watershed Management Watershed Planning Program, Worcester, Massachusetts; December 2019.

coliform, polychlorinated biphenyls (PCBs) in fish tissue, and other (contaminants in fish and shellfish). The status of each designated use described in the Weymouth and Weir River Basin 2004 Water Quality Assessment Report (WQAR)[9] is presented in Table 1.

Table 1: Summary of Designated Uses and Listing Status

Designated Use	Status	Cause of Impairment
Aquatic Life	Not Assessed	N/A
Aesthetics	Not Assessed	N/A
Primary Contact	Supporting	N/A
Secondary Contact	Supporting	N/A
Fish Consumption	Impaired	PCB in fish tissue, other
Shellfishing	Impaired	Fecal coliform

The Aquatic Life and Aesthetics uses are noted as not assessed. The Primary Contact and Secondary Contact uses are assessed as supporting. The Fish Consumption use is assessed as impaired given the health advisory issued by the Massachusetts Department of Public Health for Boston Harbor. The cause of this impairment is noted in the WQAR as PCBs in fish tissue. The WQAR also notes "other contaminants in fish and shellfish". The source of this impairment is listed as unknown. The Shellfishing use is also assessed as impaired. The cause of this impairment is noted in the WQAR as fecal coliform. The source of this impairment is listed as unknown and unspecified urban stormwater.

4.2 Available Dilution

To ensure that discharges do not cause or contribute to violations of State WQSs under all expected conditions, WQBELs are derived assuming critical conditions for the receiving water.[10]

The critical flow in marine and coastal waters is determined on a case-by-case basis. State WQSs specify that, "the Department will establish extreme hydrologic conditions at which aquatic life criteria must be applied on a case-by-case basis. In all cases existing uses shall be protected and the selection shall not interfere with the attainment of designated uses." *See* 314 CMR 4.03(3)(c). State WQSs further specify that, "human health-based criteria may be applied at conditions the Department determines will result in protection at least equivalent to that provided for rivers and streams." *See* 314 CMR 4.03(3)(d). The State determined that the dilution factor for the Facility is zero (i.e., 1:1). EPA used this dilution factor (DF) in its quantitative derivation of WQBELs for pollutants in the Draft Permit.

5.0 Proposed Effluent Limitations and Conditions

The proposed effluent limitations and conditions derived under the CWA and State WQSs are described below. These proposed effluent limitations and conditions, the bases of which are discussed throughout this Fact Sheet, may be found in Part I of the Draft Permit.

---

[9] *Weymouth and Weir River Basin 2004 Water Quality Assessment Report*. MassDEP Division of Watershed Management, Worcester, Massachusetts; April 2010, Report Number: 74-AC-1.
[10] EPA Permit Writer's Manual, Section 6.2.4

Completion of EPA's CWA § 308(a) request for information on the Unpermitted Stormwater Outfall is included as a special condition in the Draft Permit and discussed further in Section 5.3.9 of this document.

The State and Federal regulations, data regarding discharge characteristics, and data regarding ambient characteristics described above, were used during the effluent limitation development process. Discharge data are included in Appendix A. EPA's Reasonable Potential Analysis for chemical-specific parameters is included in Appendix B and results are discussed in the sections below.

In accordance with 40 CFR § 122.45(b)(2), EPA determined that the measure of production appropriate for this Facility is the design flow of the treatment system. For the purposes of this permit, design flow is defined as the maximum flow rate through the treatment component with the lowest capacity based on the specifications reported by the Permittee. The design flow reflects the magnitude, frequency and duration of discharges treated within the specifications of the treatment system in use. EPA based this design flow on the treatment system specifications reported by the Permittee.

5.1 Indicator Parameters

During the development of the Draft Permit, EPA identified common groups of pollutants present or likely present at this and similar facilities. Further, EPA determined that it would be both impractical and unnecessary to attempt to evaluate and limit every possible individual pollutant among these common groups of pollutants. As a result, EPA determined that limiting "indicator parameters" in accordance with 40 CFR § 122.44(d)(1)(vi)(C) is reasonable and sufficiently stringent to carry out the provisions of the CWA and ensure compliance with applicable WQSs as required by CWA §401(a)(2) and 40 CFR §122.4(d).

For this Draft Permit, EPA contends that:

- The Draft Permit identifies indicator parameters and which pollutants are intended to be controlled using the effluent limitations for these indicator parameters;
- This Fact Sheet sets forth the basis for the limitations, and finds that compliance with the effluent limitations on the indicator parameters will result in controls on the pollutants of concern which are sufficient to attain and maintain applicable WQSs;
- The Draft Permit requires effluent and ambient monitoring necessary for EPA to evaluate whether the limitations on the indicator parameters meet applicable WQSs; and
- The Draft Permit contains a reopener clause allowing EPA to modify or revoke and reissue the permit if the limitations on the indicator parameters no longer attain and maintain applicable WQSs.

EPA selected indicator parameters that: 1) are more common (i.e., more frequently detected in effluent from this and similar facilities); 2) are more toxic (e.g., priority pollutants in Appendix A to 40 CFR §423); 3) exhibit limiting physical and/or chemical characteristics with respect to susceptibility to treatment by pollution control technologies; and/or 4) exhibit physical and/or chemical characteristics strongly representative of other pollutants, which ensures that other

pollutants with similar characteristics would also be removed by pollution control technologies. Therefore, effluent limitations established to control indicator parameters, also control the pollutants the indicator parameters represent. EPA has grouped most indicator parameters, as shown below and described in the sections that follow. Stand-alone parameters included in the Draft Permit are noted as such (e.g., effluent flow, pH).

- Conventional Pollutants
- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs)
- Chemicals and Additives
- Metals

The following sections describe the stand-alone and indicator parameters and the basis for their effluent limitations or monitor-only requirements, including justification for removal, if applicable.

5.2 Effluent Limitations and Monitoring Requirements

5.2.1 Effluent Flow

OWSs are the typical minimum treatment technology employed by petroleum bulk storage terminals for treatment of stormwater runoff. These devices use gravity to separate lower-density oils from water, resulting in an oil phase above the oil/water interface and a heavier particulate phase on the bottom of the separator. The sizing of an OWS is based upon the flow rate, density of oil to be separated, desired percent removal of oil, and the operating temperature range. Effluent flow through the permitted outfalls has been evaluated in the context of each outfall OWS's design flow capacity.

Outfall 001

Stormwater runoff, hydrostatic test water, and remediated groundwater discharge to the Weymouth Fore River through Outfall 001 after treatment. OWS 1, the primary OWS for Outfall 001, has a design flow capacity of 6,000 gallons per minute (GPM). The 2008 Permit included a daily maximum flow rate limitation of 7,500 GPM based on the performance and characteristics of the previous OWS.

From July 1, 2015 through June 30, 2020, total monthly flow reported for Outfall 001 ranged from 0 to 9.844 million gallons (Mgal). The daily maximum flow rate reported for Outfall 001 for this period ranged from 433 to 3604.1 GPM and the monthly average flow rate ranged from 5.31 to 228 GPM. The number of discharge events reported for Outfall 001 ranged from 27 to 31 per month.

The Draft Permit has revised the daily maximum flow rate limitation for Outfall 001 from 7,500 GPM to 6,000 GPM. The revised limitation represents the design flow capacity of the upgraded OWS 1. Monitoring for flow using a totalizer or similar device is required when the Facility is discharging. The Draft Permit also maintains the reporting requirements for both total flow per

month and total number of discharge events per month, in order to accurately characterize the magnitude and frequency of discharges from the Facility going forward. EPA has determined that reporting of monthly average flow is no longer necessary to adequately characterize the magnitude and duration of flow through Outfall 001 given the other reporting requirements.

Outfall 002

Groundwater is treated by OWS 3 and discharged through internal Outfall 002. OWS 3, has a design flow capacity of 25 GPM. The 2008 Permit included a daily maximum flow rate limitation of 25 GPM. From July 1, 2015 through June 30, 2020, the daily maximum flow rate reported for Outfall 002 ranged from 2.1 to 24 GPM and the monthly average flow rate ranged from 1 to 6 GPM. The Draft Permit maintains the daily maximum flow rate limit of 25 GPM for Outfall 002 as well as continuous monitoring for flow using a totalizer or similar device, when the Facility is discharging.

For all outfalls, the Permittee must document the measures and methods used to control flow through the stormwater treatment systems in its Stormwater Pollution Prevention Plan (SWPPP). See Section 5.3.2, below.

5.2.2 Conventional Pollutants

5.2.2.1 Total Suspended Solids (TSS)

Solids could include inorganic (e.g., silt, sand, clay, and insoluble hydrated metal oxides) and organic matter (e.g., flocculated colloids and compounds that contribute to color). Solids can clog fish gills, resulting in an increase in susceptibility to infection or asphyxiation. Suspended solids can increase turbidity in receiving waters and reduce light penetration through the water column or settle to form bottom deposits in the receiving water. Suspended solids also provide a medium for the transport of other adsorbed pollutants, such as metals, which may accumulate in settled deposits that can have a long-term impact on the water column through cycles of re-suspension.

At Outfall 001, the 2008 Permit included a daily maximum effluent limit of 100 mg/L and a monthly average effluent limit of 30 mg/L for TSS, monitored monthly. From July 1, 2015 through June 30, 2020, TSS levels have ranged from below laboratory minimum levels to 32.5 mg/L, with no permit limitation exceedances. Monitoring for TSS at Outfall 002 was not required.

In establishing the technology-based limits in the 2008 Permit, EPA considered similar facilities and the Facility's use of an OWS. In the technology guidelines promulgated at 40 CFR § 423 for the Steam Electric Power Point Source Category, the storage of fuel oil at steam electric facilities at the time the technology guidelines were promulgated was similar to the storage of petroleum products at bulk stations and terminals. In developing effluent limits for the Steam Electric Power Point Source Category, EPA identified TSS as a potential pollutant due to the drainage associated with equipment containing fuel oil and/or the leakage associated with the storage of

oil.[11] EPA then considered the level of treatment that could be technologically achieved for TSS using an OWS and set corresponding limits in the guidelines.[12] *See* 40 CFR § 423.12(b)(3) and (12). In reviewing the technology-based limits for TSS for the Draft Permit, EPA determined that operations at the Facility remain consistent with the conditions under which the technology guidelines promulgated at 40 CFR § 423 can be achieved. Furthermore, EPA determined that the TSS limits in the Draft Permit are similar to technology-based limits established for other facilities in Region 1 and similar facilities in other regions, as described in the ELG documents cited above.

The Draft Permit maintains the maximum daily limit of 100 mg/L, and the average monthly limit of 30 mg/L for Outfall 001, consistent with anti-backsliding requirements found in 40 CFR § 122.44(*l*). Monitoring frequency for TSS has been increased from monthly to twice monthly. This increase will ensure that enough data is available to calculate a TSS concentration more representative of the monthly average value[13] and is consistent with the requirements in other terminals in Massachusetts.

5.2.2.2 pH

The hydrogen-ion concentration in an aqueous solution is represented by the pH using a logarithmic scale of 0 to 14 standard units (S.U.). Solutions with pH 7.0 S.U. are neutral, while those with pH less than 7.0 S.U. are acidic and those with pH greater than 7.0 S.U. are basic. Discharges with pH values markedly different from the receiving water pH can have a detrimental effect on the environment. Sudden pH changes can kill aquatic life. pH can also have an indirect effect on the toxicity of other pollutants in the water.

From July 1, 2015 through June 30, 2020 (Appendix A), at Outfall 001, pH has ranged from 6.8 to 8.0 S.U., with no exceedances of the limited range. Monitoring for pH at Outfall 002 was not required. The Draft Permit requires a pH range of 6.5 to 8.5 S.U. at Outfall 001 when the Facility is discharging, monitored weekly by grab samples. The pH limitations are based on the State WQSs for Coastal and Marine Waters, Class SB at 314 CMR 4.05(4)(b)3, which require that the pH of the receiving water be in the range of 6.5 to 8.5 S.U. These limitations are based on CWA § 301(b)(1)(C) and 40 CFR § 122.44(d).

5.2.2.3 Oil and Grease

Oil and Grease is not a single chemical constituent, but includes a large range of organic compounds, which can be both petroleum-related (e.g., hydrocarbons) and non-petroleum (e.g., vegetable and animal oils and greases, fats, and waxes). These compounds have varying physical, chemical, and toxicological properties. Generally, oils and greases in surface waters either float on the surface, are solubilized or emulsified in the water column, adsorb onto floating

[11] *See* Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category. EPA-440-1-82-029. Washington, DC. (November 1982).
[12] *See* Steam Electric Power Generating Category Effluent Guidelines and Standards. 39 Fed. Reg. 36186 (October 8, 1974).
[13] Since the 2008 Permit only requires the collection of one value, the monthly average and maximum daily values have effectively been the same, when in reality they should differ.

or suspended solids and debris, or settle on the bottom or banks. Oil and grease, or certain compounds within an oil and grease mixture, can be lethal to fish, benthic organisms and water-dwelling wildlife.

The 2008 Permit limit of 15 mg/L is based on the benchmark level from EPA's guidance to, and as a means of establishing a categorization within, the petroleum marketing terminals and oil production-facilities categories.[14] Performance data from this Facility and other terminals in Massachusetts support that this effluent limit can be achieved through the proper operation of a correctly-sized OWS and properly implemented best management practices (BMPs). In addition, a concentration of 15 mg/L is recognized as the level at which many oils produce a visible sheen and/or cause an undesirable taste in fish.[15] Maintaining oil and grease levels at or below this level will demonstrate compliance with State WQSs at 314 CMR 4.05(4)(b)(7), "*These waters shall be free from oil, grease and petrochemicals that produce a visible film on the surface of the water, impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or become toxic to aquatic life.*".

From July 1, 2015 through June 30, 2020, oil and grease has not been detected at Outfall 001 above the laboratory minimum level of 5 mg/L. Monitoring for oil and grease at Outfall 002 was not required. The Draft Permit maintains the maximum daily limit of 15 mg/L for oil and grease at Outfall 001, monitored monthly, consistent with anti-backsliding requirements found in 40 CFR § 122.44(*l*).

5.2.2.4 Bacteria

While the Facility does not engage in activities that would be expected to generate large sources of bacteria, stormwater runoff can readily transport bacteria from surfaces susceptible to the waste products of warm-blooded animals or pathogens, which attach to organic and inorganic particles. Fecal coliform, *E. coli*, and enterococci bacteria, are indicators of contamination from sewage and/or the feces of warm-blooded wildlife (mammals and birds). Bacteria can survive in freshwater and saltwater environments and can impact water quality.

As described above, the Weymouth Fore River is a Class SB water. Where designated, Class SB waters shall be suitable for shellfish harvesting with depuration (Restricted and Conditionally Restricted Shellfish Areas). Due to the impairments in the Weymouth Fore River, the Massachusetts Division of Marine Fisheries (DMF) Shellfish Sanitation and Management classifies the shellfish area including Town River Bay and the Weymouth Fore River (GBH1) as prohibited for shellfishing (closed to harvest of shellfish under all conditions, except gathering of seeds for municipal propagation programs under a DMF permit).[16] Waters designated for shellfishing use fecal coliform as an indicator for bacterial contamination. *See* 314 CMR 4.05(4)(b)4a.

---

[14] See *Additional Guidance for Petroleum Marketing Terminals and Oil Production Facilities.* N-74-1. Washington, D.C. (July, 1974).
[15] USEPA. 1976. *The Red Book – Quality Criteria for Water.* July 1976.
[16] Massachusetts Division of Marine Fisheries Shellfish Area Classification Map. Growing Area Code GBH1. Available at http://www.massmarinefisheries.net/shellfish/dsga/GBH1.pdf.

The Massachusetts WQSs at 314 CMR 4.05(4)(b)4a limit fecal coliform in Class SB waters designated for shellfishing. The Massachusetts water quality standards limit fecal coliform to a median or geometric mean MPN (most probable number) of 88 organisms per 100 mL and not more than 10% of the samples exceeding an MPN of 260 organisms per 100 mL or other values of equivalent protection based on sampling and analytical methods used by the Massachusetts Division of Marine Fisheries and approved by the National Shellfish Sanitation Program in the latest revision of the *Guide For The Control of Molluscan Shellfish* (more stringent regulations may apply, *see* 314 CMR 4.06(1)(d)(5)). In addition, when primary contact recreation is a designated use, as is the case for Class SB waters, specific criteria apply for enterococci based on the presence of bathing and non-bathing beaches, *see* 314 CMR 4.05(4)(b)(4)(b). For bathing beach waters and non-bathing beach waters, no single enterococci sample shall exceed 104 colonies per 100 mL and the geometric mean of the five most recent samples shall not exceed 35 enterococci colonies per 100 mL.

MassDEP released the Final Pathogen TMDL for the Boston Harbor, Weymouth-Weir, and Mystic Watersheds in October 2018.[17] The TMDL contains specific water quality targets for pathogens in the Weymouth and Weir sub-basin, including the Weymouth Fore River (MA74-14). According to the TMDL, bacteria problems persist over much of the area due to urban runoff from storm sewers and sanitary sewer overflows. Most of the bacteria sources are believed to be stormwater related. The TMDL identifies the Weymouth Fore River as a high priority with the potential to exacerbate shellfishing impairments or compromise the safety of public swimming areas. High priority segments are indicative of the potential presence of raw sewage and pose a greater risk to the public. The TMDL stipulates Waste Load Allocations for impaired segments equivalent to the State WQSs mentioned above.

The 2008 Permit required quarterly *Enterococcus* monitoring at Outfall 001 due to pathogen impairments in the Weymouth Fore River. From July 1, 2015 through June 30, 2020, enterococci concentrations ranged from no detections to 6000 colony forming units (cfu) per 100 mL. This data exhibited high variability with the median of 11 detected values equal to 18 cfu per 100 mL. Monitoring data from other oil terminals in the Boston Harbor Watershed exhibit a similar pattern with high pathogen discharges reported during some monitoring events and non-detects during others. Birds are often observed congregating at oil terminals in the containment areas where water ponds. While bacteria from wildlife is considered a natural condition under the TMDL, the presence of impervious surface and the ponded water at oil terminals are due to industrial activity. For further information on pathogen impairments and mitigation measures, a companion document to the TMDL was drafted that serves as general guidance for addressing bacteria pollution impairments, *Mitigation Measures to Address Pathogen Pollution in Surface Water: A TMDL Implementation Guidance Manual for Massachusetts*[18].

[17] Final Pathogen TMDL for the Boston Harbor, Weymouth-Weir, and Mystic Watersheds. October 2018. Available at https://www.mass.gov/total-maximum-daily-loads-tmdls

[18] *Mitigation Measures to Address Pathogen Pollution in Surface Waters: A TMDL Implementation Guidance Manual for Massachusetts, A Companion Document to the Watershed-Specific Pathogen TMDL Reports*. USEPA New England Region 1, July 2005.

The Draft Permit establishes monitoring requirements and limitations consistent with the TMDL and State WQSs for discharges to the Weymouth Fore River. These requirements apply to Outfall 001 and include monthly monitoring for fecal coliform and *Enterococcus* and limitations for *Enterococcus*, a daily maximum limitation of 104 colonies per 100 mL and a monthly average limitation of 35 colonies per 100 mL. The Draft Permit does not impose limitations for fecal coliform because there currently is no data indicating its presence in the Facility's discharge. The required monitoring data will help establish whether or not fecal coliform is discharged at concentrations that could violate WQSs and necessitate limitations.

5.2.3 Volatile Organic Compounds (VOCs)

5.2.3.1 Benzene, Toluene, Ethyl benzene, and Xylenes

Refined petroleum products contain numerous types of volatile organic compounds (VOCs). Effluent limitations for the VOCs present in refined petroleum products are typically established for the compounds most difficult to remove from the environment and that demonstrate the greatest degree of toxicity. VOCs partition to environmental media based on physical and chemical properties, including solubility and vapor pressure. Generally, the higher the solubility of a VOC in water, the more difficult it is to remove. Relative to other VOCs, the VOCs benzene, toluene, ethylbenzene, and the three xylene compounds (i.e., total xylenes) – collectively known as BTEX – exhibit high solubility, are more toxic, are more difficult to treat, and are found at high concentrations in gasoline and light distillates such as diesel fuel. BTEX concentrations generally decrease in heavier grades of petroleum distillate products such as fuel oils.[19]

In developing the 2008 Permit, benzene was chosen as the indicator parameter for the BTEX compounds at Outfall 001 and Outfall 002. Benzene was selected because this compound has the highest solubility, is one of the most toxic constituents, is found at relatively high concentrations in light distillate products and a recommended water quality criterion has been published. The concentration of benzene in gasoline is approximately 20,000 parts per million.[20] The concentration in diesel fuel, although several orders of magnitude smaller than that found in gasoline, is still environmentally significant. The average percent by weight of benzene in diesel fuel is approximately 0.03 percent which is equivalent to a concentration of benzene of approximately 300 parts per million.

The 2008 Permit established a WQBEL for benzene at Outfall 001 of 51 µg/L, monitored quarterly, based on State WQSs. State WQSs contain minimum criteria applicable to all surface waters for toxic pollutants and require the use of EPA's *National Recommended Water Quality Criteria: 2002, EPA 822-R-02-047, November 2002* where a specific pollutant is not otherwise listed in 314 CMR 4.00. *See* 314 CMR 4.05(5)(e). 51 µg/L of benzene is the human health criteria for the consumption of organism only. Quarterly monitoring for toluene, ethylbenzene, and total xylene was also required to ensure that selection of benzene as an indicator parameter is sufficiently stringent to meet State WQSs. For Outfall 002, the 2008 Permit established a TBEL

[19] *Toxicological Profile for Benzene.* Agency for Toxic Substances and Disease Registry, August 2007.
[20] See "Composition of Petroleum Mixtures", Total Petroleum Hydrocarbon Criteria Working Group Series, T.L. Potter and K.E. Simmons, Vol. 2, p. 52 (May 1998).

for benzene of 5 µg/L, based on EPA's 2005 RGP for Category I, Subcategory A – Gasoline Only Sites and the use of carbon treatment alongside OWS 3. Since carbon treatment was not used at OWS 1, this TBEL was not implemented for Outfall 001.

From July 1, 2015 through June 30, 2020, benzene was detected at Outfall 001 above laboratory minimum levels in 17 of 20 samples, at concentrations ranging from 1.3 to 13.3 µg/L. Toluene was not detected above 0.92 µg/L, ethylbenzene concentrations were below 0.8 µg/L, and total xylenes were detected as high as 1.1 µg/L at Outfall 001. At Outfall 002, none of the four BTEX constituents were detected above laboratory minimum levels. Since monitoring results indicate that the concentrations of toluene, ethylbenzene, and xylene compounds do not exceed applicable criteria, EPA has determined that the use of benzene as an indicator parameter and the effluent limitations imposed meets State WQSs.

In 2015, EPA updated human health criteria for benzene using both noncarcinogenic and carcinogenic toxicity endpoints.[21] The updated human health criteria for noncarcinogenic effects for benzene are 90 µg/L for consumption of organisms only. The updated human health for carcinogenic effects (at a 10^{-6} cancer risk level) for benzene are 16 µg/L using the lower cancer slope factor and 58 µg/L using the upper cancer slope factor for consumption of organisms only. EPA recommended the lower criterion, based on the carcinogenic effects of benzene, as the updated human health criterion. These updated criteria replaced EPA's previously published values (i.e., the 2002 criteria discussed above). The State issued proposed revised surface WQSs for public notice and comment from October 4, 2019, through November 8, 2019, that would adopt all of the current federal toxic pollutant criteria, with the exception of selenium. The revised State surface WQSs have not been finalized, however. If the proposed benzene criterion, 16 µg/L, is finalized prior to issuance of the Final Permit, EPA will consider the applicability of the 16 µg/L criterion to discharges from this Facility when establishing the appropriate effluent limitation.

Further, EPA is required to apply the more stringent of applicable water quality-based effluent limits and technology-based limits. In 2017, EPA issued a revised benzene limitation in EPA's RGP of 5 µg/L. In establishing this revised limitation, EPA considered the presence of benzene at contaminated or formerly contaminated sites. EPA identified benzene as a pollutant based on: 1) the type of activity taking place, which includes dewatering, remediation and/or hydrostatic testing; and 2) available data showing the presence of benzene in discharges of contaminated groundwater and certain surface waters, which may include stormwater, surface water and potable water. EPA then considered the types of treatment typically used for dewatering, remediation and/or hydrostatic testing. Treatment types considered in the RGP, which are required at RGP sites if necessary to meet effluent limitations, include: 1) adsorption/absorption; 2) advanced oxidation processes; 3) air stripping; 4) granulated activated carbon/liquid phase carbon adsorption; 5) ion exchange; 6) precipitation/coagulation/flocculation; and 7)

[21] See *Update of Human Health Ambient Water Quality Criteria: Benzene 71-43-2*, EPA 820-R-15-009, June 2015.

separation/filtration. Free product recovery, air stripping,[22] mechanical pre-treatment, flow equalization, oil/water separation, membrane, and adsorptive media[23] remove benzene.

In reviewing the applicability of a 5 µg/L technology-based limitation for benzene to this Facility, EPA finds that discharges from bulk stations and terminals are consistent with the type of discharges considered under the RGP, which include hydrostatic testing discharges from dewatering of pipelines, tanks, and similar structures and appurtenances that store or convey petroleum products, and dewatering and/or remediation discharges from collection structures (e.g., dikes) utilized for collecting miscellaneous sources of water from contaminated or formerly contaminated sites or sources, including when contamination is a result of the infiltration of contaminated groundwater or stormwater. Further, conditions at the Facility are consistent with those under which this limitation can be achieved. Specifically, the combination of best management practices and treatment are used at the Facility. Finally, EPA finds that a benzene concentration of 5 µg/L is consistent with monitoring results from this and other facilities in Region 1 with similar activities and discharges. Specifically, the concentrations of benzene reported by other bulk petroleum storage facilities that discharge to coastal waters in the Boston Harbor Drainage Area from December 1, 2014 through November 30, 2019 are summarized in Table 2, below[24].

Table 2: Summary of Benzene Concentrations in Discharges from the Bulk Petroleum Storage Facilities located in the Boston Harbor Drainage Area

Permit Number (Facility)	Outfall Number	Number of Detections	Maximum of Detected Values (µg/L)	Number of Values >5 µg/L
MA0000825 (Global South, Revere)	001	10	3.8	0
MA0001091 (Gulf, Chelsea)	003	5	2.5	0
MA0001929 (Irving, Revere)	001	12	18.5	4
MA0003280 (Chelsea Sandwich, Everett)	001	0	---	---
MA0003280 (Chelsea Sandwich, Everett)	002	1	48.2*	1
MA0003298 (Global REVCO, Revere)	001	0	---	---
MA0003298 (Global REVCO, Revere)	005	4	4.2	0
MA0003425 (Global Petroleum, Revere)	001	1	2.2	0
MA0003425 (Global Petroleum, Revere)	002	21	56.8*	8
MA0003425 (Global Petroleum, Revere)	003	0	---*	0
MA0004006 (Sunoco, East Boston)	001	11	7.2	1
MA0004782 (CITGO, Braintree)**	001	17	13.3	13
MA0004782 (CITGO, Braintree)**	002	0	--*	0
MA0028037 (Sprague Twin Rivers)**	001	6	1	0
MA0020869 (Sprague Quincy)**	002	7	1	0

Note: *This outfall is already limited to 5 µg/L for benzene.

[22] See *Model NPDES Permit for Discharges Resulting From The Cleanup of Gasoline Released From Underground Storage Tanks,* June 1989.
[23] See benzene entries in *Industrial Wastewater Treatment Technology Database (IWTT)* at https://watersgeo.epa.gov/iwtt/guided-search.
[24] This modified table was taken from the following draft permits: MA0000825, MA0001091, MA0001929, and MA0003280.

**The reporting period is July 1, 2015 through June 30, 2020. Reporting periods differ in this table due to differences in when permits were developed.

Relative to the monitoring data from other terminals over a five-year monitoring period, the Facility reported a benzene concentration at Outfall 001 less than 5 µg/L in 7 of 20 samples, with a median value of 5.9 µg/L for the 20 samples. However, based on available information for the performance of typical treatment technologies implemented at bulk petroleum storage facilities, EPA has determined that discharges containing benzene at this Facility can achieve a limitation of 5 µg/L by implementing improvements on existing technology and/or control measures (i.e., BMPs) consistent with other facilities in the area. *See* 40 CFR § 125.3(d).

The Draft Permit proposes a daily maximum TBEL for benzene of 5 µg/L for Outfall 001 on a case-by-case basis using best professional judgement, consistent with requirements found in CWA § 402(a)(1)(B). For Outfall 001, benzene monitoring shall be monthly. The Draft Permit also maintains monitoring requirements for toluene, ethylbenzene and xylenes in the discharge on an annual basis and establishes a reopener clause in accordance with 40 CFR § 122.44(d)(1)(vi)(C). For Outfall 002, the benzene and total BTEX TBELs are retained in accordance with anti-backsliding requirements found at 40 CFR §122.44(l). Due to the low variability in BTEX concentrations as well as the low concentrations more generally, the Draft Permit reduces the monitoring frequency for toluene, ethylbenzene and xylenes to annually.

5.2.3.2 Total Petroleum Hydrocarbons

TPH analysis measures the hydrocarbon fraction of oil and grease, consisting of compounds with six carbon atoms (C_6) to compounds with 25 carbon atoms (C_{25}). The physical characteristics of the various petroleum fractions determine their fate and transport in the environment. The more soluble and volatile fractions are more likely to leach to groundwater, enter the air, or biodegrade. The relatively low density of smaller petroleum fractions tend to float in water and form thin surface films that affect aquatic organisms or other animals on the water's surface. The higher molecular weight compounds tend to sorb to sediment and persist at the site of release. These petroleum fractions tend to accumulate in substrates, causing stresses for benthic organisms, shellfish, or bottom-feeding fish.[25]

TPH is regulated by the CWA as stated in Title 40 Section 112, which pertains to stormwater discharge permitting. *See also* 40 CFR 122.26. Because petroleum products are complex mixtures of hundreds of hydrocarbon compounds, sampling a range of hydrocarbon compounds (e.g., TPH) and the most prevalent individual compounds (e.g., benzene, toluene, ethylbenzene, xylenes and Group I and II polycyclic aromatic hydrocarbons) serves as an indicator of relative petroleum contamination. The use of TPH as an indicator parameter is a common approach implemented by regulatory agencies in the United States to establish target cleanup levels for contaminated soil or water.[26]

[25] *Toxicological Profile for Total Petroleum Hydrocarbons (TPH).* September 1999; Agency for Toxic Substances and Disease Registry.
[26] See Weisman, W. (1998) *Analysis of Petroleum Hydrocarbons in Environmental Media.* Total Petroleum Hydrocarbons Criteria Working Group Series. Volume 1.

At Outfall 002, TPH monitoring and a maximum daily TBEL of 5 mg/L was maintained in the 2008 Permit. From July 1, 2015 through June 30, 2020, TPH never exceeded the laboratory minimum levels of 5 mg/L. The Draft Permit maintains this limitation at Outfall 002, consistent with anti-backsliding requirements found in 40 CFR §122.44(l).

5.2.4 Semi-Volatile Organic Compounds (SVOCs)

5.2.4.1 Polycyclic Aromatic Hydrocarbons

Polycyclic Aromatic Hydrocarbons (PAHs) are a group of semi-volatile organic compounds (SVOCs) that form through the incomplete combustion of hydrocarbons and are present in petroleum derivatives and residuals. Discharge of these materials can introduce PAHs into surface water where they may volatilize, photolyze, oxidize, biodegrade, bind to suspended particles or sediments, or accumulate in aquatic organisms.[27] In soils, PAHs may also undergo degradation, accumulation in plants, or transport via groundwater. In an estuarine environment, volatilization and adsorption to suspended sediments with subsequent deposition are the primary removal processes for medium and high molecular weight PAHs. Several PAHs are well known animal carcinogens, while others can enhance the response of the carcinogenic PAHs.

There are 16 PAH compounds identified as priority pollutants under the CWA. *See* Appendix A to 40 CFR Part 423. Group I PAHs are comprised of seven known animal carcinogens. They are: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Group II PAHs are comprised of nine priority pollutant PAHs which are not considered carcinogens, but which can enhance or inhibit the response of the carcinogenic PAHs. They are: acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene.

While the distillation process removes a greater proportion of Group I PAHs by weight, these compounds can still be present in low concentrations, particularly benzo(a)pyrene. Benzo(a)pyrene has been used extensively as a model carcinogen and as a positive control in a variety of risk assessment tests. EPA has designated this compound as a known animal carcinogen and probable human carcinogen. Relative to the other Group I PAHs, it is strongly carcinogenic. Of Group II PAHs, naphthalene, like benzo(a)pyrene poses high calculable risk relative to other PAHs. It is included as a priority pollutant under the CWA and is classified as a possible human carcinogen. In middle and heavy distillates, naphthalene is one of the most commonly found compounds, present in diesel fuel at up to approximately 0.8 and 0.4 percent by weight, respectively.[28] Naphthalene is only slightly soluble in water, but is highly soluble in benzene and other solvents.

Due to historically low but persistent PAH concentrations, the 2008 Permit included monitor-only requirements at Outfall 001 for the seven Group I PAHs and naphthalene, sampled annually. From July 1, 2015 through June 30, 2020, these eight compounds were sampled for

[27] Bioconcentration factors generally range from 10-10,000.
[28] See Agency for Toxic Substances and Disease Registry Toxic Substances Portal entries for naphthalene at http://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=240&tid=43.

five times, with only naphthalene detected above laboratory minimum levels at a concentration of 0.03 µg/L in August 2019.

In determining the reasonable potential for concentrations of PAHs in the effluent to cause or contribute to an excursion above water quality criteria (WQC),[29] EPA determined that there was an insufficient amount of data to project a statistical distribution of PAH concentrations – only five data values were collected, almost all non-detects. Therefore, EPA followed guidance in EPA's *Technical Support Document for Water Quality-Based Toxics Control*[30] (TSD) for determining whether a pollutant has reasonable potential to cause or contribute to an excursion above WQC with limited monitoring data and in accordance with 40 CFR §122.44(d)(1)(ii). Given that the Facility's effluent is afforded no dilution in the receiving water, oil terminals are known sources of PAHs, and oil terminals have led to water quality impairments in other Massachusetts waterbodies (e.g. Chelsea River terminals), EPA finds there is reasonable potential for the effluent to cause or contribute to an excursion above WQC for Group I PAHs. However, given how much lower the detected concentration of naphthalene, the indicator parameter for Group II PAHs, is compared to WQC[31], EPA finds there is not reasonable potential for the effluent to cause or contribute to an excursion above WQC for Group II PAHs.

Given the reasonable potential analysis results, the Draft Permit establishes an average monthly WQBEL of 0.018 µg/L for benzo(a)pyrene to ensure compliance with Massachusetts WQSs. The limitation for benzo(a)pyrene is based on EPA's 2002 "organism only" human health criteria, selected because of the designated uses for Class SB waters. Monitoring for benzo(a)pyrene is increased to monthly to ensure the discharge is adequately characterized, while reporting of the other Group I PAHs remains annually. The Draft Permit also includes annual monitoring for the Group II PAHs to continue to monitor their prevalence in the discharge.

The *National Pollutant Discharge Elimination System (NPDES): Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting Rule*[32] requires use of an EPA-approved method that is sufficiently sensitive. Therefore, the Draft Permit requires that the quantitative methodology used for PAH analysis must achieve the ML of ≤0.1 µg/L for each Group I PAH compound and 5 µg/L for Group II PAH compounds. For benzo(a)pyrene 0.1 µg/L is the compliance level. These MLs are based on the method that has the lowest ML of the analytical methods approved under 40 CFR Part 136,[33] and is consistent with EPA Region 1's Remediation General Permit.

5.2.5 Chemicals and Additives

5.2.5.1 Ethanol

[29] For example, EPA's human health for consumption of organism-only water quality criteria found at https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table.
[30] EPA, *Technical Support Document for Water Qaulity-Based Toxics Control*, 2nd Printing, EPA 505/2-90-001, March 1991. Available at https://www3.epa.gov/npdes/pubs/owm0264.pdf.
[31] EPA, *Ambient Water Quality Criteria for Naphthalene*, EPA 440/5-80-059, October 1980, Available at https://www.epa.gov/wqc/ambient-water-quality-criteria-naphthalene.
[32] Fed. Reg. 49,001 (Aug. 19, 2014).
[33] Method 624.1 with the selected ion monitoring modification.

Ethanol (EtOH) is an oxygenate blended with gasoline. EtOH is a clear, colorless liquid, miscible with water and many organic solvents. When released into surface water, it will volatilize or biodegrade rapidly and does not generally adsorb to sediment or bioaccumulate in fish. However, large releases of ethanol may deplete dissolved oxygen concentrations resulting in levels unable to support aquatic life. EPA has not promulgated ELGs for EtOH at bulk petroleum storage facilities although ELGs exist for EtOH as a non-conventional pollutant in the pharmaceutical manufacturing point source category (40 CFR Part 439). EPA has also not established human health or aquatic life water quality criteria for EtOH. However, the New England Interstate Water Pollution Control Commission utilized guidance included in EPA's *Final Water Quality Guidance for the Great Lakes System* (1995), referred to as Tier II procedures, to calculate conservative water quality benchmark concentrations for EtOH in the absence of sufficient data to derive water quality criteria. These represent the concentrations at which EtOH would be expected to deplete dissolved oxygen levels below those necessary to sustain aquatic life or cause acute and chronic effects, conditions that would violate Massachusetts WQSs. These levels are 13 mg/L for depletion of in stream dissolved oxygen in a large river (most conservative), and 564 mg/L and 63 mg/L for acute and chronic effect concentrations, respectively. [34] Safety Data Sheets for ethanol indicate lethal effects to aquatic life occur at concentrations between approximately 11,000 mg/L to 34,000 mg/L.

The 2008 Permit did not include monitoring of EtOH at any of the Facility's outfalls. Given the short residence time expected in the environment and a lack of practical technologies to remove EtOH from stormwater, EPA is not applying numeric effluent limitations or monitoring requirements in the Draft Permit. However, EPA has included a site-specific technology-based BMP pertaining to ethanol to address the potential discharge of ethanol.

5.2.5.2 Methyl tert-Butyl Ether

Methyl tert-butyl Ether (MtBE) is a synthetic volatile organic compound used as an anti-knock and octane boosting additive in fuels to replace tetraethyl lead. MtBE was typically added in concentrations less than 1 percent by volume in regular gasoline, and two to nine percent by volume in premium gasoline. When the additional oxygen content requirements of the 1990 Clean Air Act were enacted, MtBE concentrations increased to 11-15 percent by volume. MtBE has a relatively high solubility in water and small molecular size. While MtBE is no longer in widespread use, MtBE has been detected in significant concentrations in groundwater impacted by releases of petroleum fuels.

State WQSs do not include numeric criteria for MtBE, but the narrative criterion for toxic pollutants at 314 CMR 4.05(5)(e) states that, "All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife." The narrative criterion is further elaborated on at 314 CMR 4.05 (5)(e)2, which states, "Where EPA has not set human health risk levels for a toxic pollutant, the human health based regulation of the toxic pollutant shall be in accordance with guidance issued by the Department of Environmental Protection's Office of Research and Standards. The Department's goal is to prevent all adverse

[34] New England Interstate Water Pollution Control Commission, *Health, Environmental, and Economic Impacts of Adding Ethanol to Gasoline in the Northeast States, Volume 3, Water Resources and Associated Health Impacts.* July 2001, 129 pp.

health effects which may result from the ingestion, inhalation or dermal absorption of toxins attributable to waters during their reasonable use as designated in 314 CMR 4.00." EPA has issued lifetime health advisories for MtBE in drinking water based on taste and odor thresholds, also considered protective of human health. EPA's health advisory for MtBE established a concentration of 20 µg/L based on the odor threshold and 40 µg/L based on the taste threshold. These values are the State secondary maximum contaminant levels for MTBE.[35]

The 2008 Permit implemented a 70 µg/L TBEL for MtBE at Outfall 002, monitored monthly, due to the discharge of remediated groundwater impacted by gasoline releases. This TBEL was based on the available treatment technologies used at remediation sites (e.g. air stripping, carbon adsorption) which have been found to routinely achieve concentrations of MtBE in treated effluent below 70 µg/L. This TBEL was a BPJ determination under Section 402(a)(1)(B) of the CWA. From July 1, 2015 through June 30, 2020, concentrations of MtBE ranged from non-detect (less than the laboratory minimum level of 2 µg/L) to 58 µg/L at Outfall 002.

In addition, quarterly monitoring for MtBE was conducted at Outfall 001 to monitor its prevalence from the internal waste stream. From July 1, 2015 through June 30, 2020, MtBE was detected on multiple occasions at low concentrations, with a maximum value of 0.92 µg/L. EPA completed an analysis to determine if these discharges cause, or have a reasonable potential to cause, or contribute to an excursion above State WQSs (Appendix B). The results of this analysis indicate that the discharge does not have a reasonable potential to cause or contribute to excursions of the applicable criterion for MtBE in the Weymouth Fore River.

The Draft Permit does not include any additional monitoring limits but maintains the TBEL of 70 µg/L at Outfall 002 in accordance with anti-backsliding requirements found in 40 CFR §122.44(l). Monitoring frequency has been reduced to quarterly at Outfall 002 and remains quarterly at Outfall 001 to ensure adequate data is available for future reasonable potential assessments.

5.2.5.3 Phenol

Phenol and phenolic compounds are widely used chemical intermediates and occur in the environment as a result of manufacturing, use of products containing phenols, from combustion sources, coal gas, and natural decay of organic matter. Phenol can also be present at low concentrations in gasoline, diesel and kerosene. Phenol and a number of other compounds including nitro-phenols and chlorinated phenols are listed as priority pollutants in Appendix A to 40 CFR Part 423. State WQSs contain minimum criteria applicable to all surface waters for toxic pollutants, which requires the use of EPA's *National Recommended Water Quality Criteria: 2002, EPA 822-R-02-047, November 2002* where a specific pollutant is not otherwise listed in 314 CMR 4.00. *See* 314 CMR 4.05(5)(e). Phenol and other phenolic compounds are included in EPA's *National Recommended Water Quality Criteria* as having organoleptic (i.e., taste and odor) effects in water at low levels. The threshold at which phenol has an effect on taste and odor in water is 300 µg/L.

[35] *Standards and Guidelines for Contaminants in Massachusetts Drinking Waters*. Massachusetts Department of Environmental Protection, Office of Research and Standards: Winter 2020.

Phenol monitoring has not been required at the Facility. However, phenol is commonly detected at similar facilities where monitoring has been conducted.[36] Therefore, in order to determine if phenol is present at concentrations that would have reasonable potential to cause, or contribute to excursions above water quality criteria, the Draft Permit includes phenol monitoring at a frequency of twice per year at Outfall 001. This monitoring frequency is consistent with EPA's *Technical Support Document for Water Quality-based Toxics Control* recommendation of a minimum of three years of data for determining the attainment of both acute and chronic effects for chemical-specific approaches,[37] the recommendation for a minimum data set of 8 to 12 samples for evaluation of pollutants of concern[38] and 10 or more samples for statistical analysis.[39] This monitoring is necessary and appropriate for EPA to carry out its responsibilities under the Clean Water Act because EPA must determine if the discharge causes, has reasonable potential to cause, or contribute to an excursion above of water quality standards and impose effluent limitations, if necessary to meet water quality standards.

5.2.6 Cyanide

Cyanide is an inorganic pollutant often limited in conjunction with metals, because it readily forms complexes with transition metals, particularly iron. Cyanide occurs in water in many forms, including hydrogen cyanide (HCN), the cyanide ion (CN^-), simple cyanides, metallocyanide complexes, and as organic compounds. The relative concentrations of these forms depend mainly on pH and temperature. Both HCN and CN^- are toxic to aquatic life. The cyanide ion readily converts to hydrogen cyanide at pH values less than 7.0. As a result, when present in surface water, cyanide occurs more commonly as the more toxic hydrogen cyanide. Certain bacteria, fungi, and algae can also produce cyanide, and cyanide is found naturally in several species of plants.[40]

State WQSs contain minimum criteria applicable to all surface waters for toxic pollutants, which requires the use of EPA's *National Recommended Water Quality Criteria: 2002, EPA 822-R-02-047, November 2002* where a specific pollutant is not otherwise listed in 314 CMR 4.00. *See* 314 CMR 4.05(5)(e). Applicable criteria for cyanide include the acute saltwater aquatic life criteria because the discharge occurs intermittently and the human health organism-only criteria because the receiving water is not a public water supply. The acute saltwater aquatic life criterion is 1 µg/L and the human health organism-only criterion is 220,000 µg/L. In Region 1, cyanide is commonly detected at remediation sites with discharges of contaminated groundwater. In order to assess whether cyanide is present at concentrations that cause, have a reasonable potential to cause, or contribute to an excursion above water quality criteria, the Draft Permit includes cyanide monitoring requirements. The Draft Permit includes monitoring twice per year for total cyanide at Outfall 001. See the Section above on Phenol for an explanation of the chosen monitoring frequency.

---

[36] See NPDES Permits for oil terminals discharging to the Chelsea River: MA0001929, MA0000825, MA0003280, MA0001091, MA0004006
[37] See Chapter 2; EPA/505/2-90-001: March 1991.
[38] See Chapter 3; EPA/505/2-90-001: March 1991.
[39] See Appendix E; EPA/505/2-90-001: March 1991.
[40] *Toxicological Profile for Cyanide.* Agency for Toxic Substances and Disease Registry: July, 2006.

Because test methods for free cyanide are not available within a reasonable geographic area in proximity to the Facility (i.e., New England), the Draft Permit specifies that analysis must be completed for total cyanide. The Draft Permit requires that the quantitative methodology used for total cyanide analysis must achieve a ML of 5 µg/L.[41] This value is based on the method with the lowest published minimum level of the analytical methods approved under 40 CFR Part 136.

5.2.7 Whole Effluent Toxicity

CWA §§ 402(a)(2) and 308(a) provide EPA and States with the authority to require toxicity testing. Section 308 specifically describes biological monitoring methods as techniques that may be used to carry out objectives of the CWA. Whole effluent toxicity (WET) testing is conducted to ensure that the additivity, antagonism, synergism, and persistence of the pollutants in the discharge do not cause toxicity, even when the individual pollutants are present at low concentrations in the effluent. The inclusion of WET requirements in the Draft Permit will assure that the Facility does not discharge combinations of pollutants into the receiving water in amounts that would be toxic to aquatic life or human health.

The regulations at 40 CFR §122.44(d)(ii) state, "*When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution...(including) the sensitivity of the species to toxicity testing...*" In addition, under CWA § 301(b)(1)(C), discharges are subject to effluent limitations based on State WQSs. Under CWA §§ 301, 303 and 402, EPA and the States may establish toxicity-based limitations to implement narrative water quality criteria calling for "no toxics in toxic amounts." *See also* 40 CFR § 122.44(d)(1). The Massachusetts WQSs at 314 CMR 4.05(5)(e) state, "*All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife*." Further, the State implementation policy[42] specifies WET testing requirements as part of its interpretation of the narrative criteria for toxic pollutants, stating that "[w]*hole effluent toxicity testing will be used to complement specific chemical testing*." This State implementation policy establishes numeric criteria for toxicity. The State recommended criterion to prevent acutely toxic effects is 0.3 toxic units (T.U.). This is based on an adjustment factor of one-third used to extrapolate the LC_{50} to an LC_1 (concentration at which 1% of the test organisms die).

The 2008 Permit did not require toxicity testing. In accordance with EPA guidance,[43] EPA determined that WET testing is warranted because the Facility's discharge is afforded no dilution in the receiving water and more than one of the pollutants the Facility discharges is known to exhibit additive, synergistic or antagonistic effects. WET testing is necessary to ensure State WQSs are met when the discharge contains pollutants not limited through chemical-specific testing and when pollutants are discharged that have additive, synergistic or antagonistic effects,

[41] Method OIA 1677-09. *Available Cyanide by Ligand Exchange and Flow Injection Analysis (FIA)*. 2010.
[42] *Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters*. February 23, 1990.
[43] See *Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants*, 49 FR 9016, March 9, 1984, *NPDES Permit Writer's Manual*, EPA-833-K-10-001, September 2010, and *Technical Support Document for Water Quality-based Toxics Control,* EPA/505/2-90-001, March 1991 (Second Printing).

for which bioavailability can vary. WET testing will also address monitoring necessary for additional pollutants required in this permit reissuance for the discharge, the receiving water, or both (e.g., metals and ammonia in the discharge and receiving water). Therefore, the WET requirements are necessary and appropriate to carry out the provisions of the CWA and ensure compliance with State WQSs. *See* CWA §308(a), 33 U.S.C. §1318(a).

The Draft Permit requires acute WET testing and associated chemical analysis at Outfall 001 twice per year. The mysid shrimp (*Americamysis bahia*) and inland silverside (*Menidia beryllina*) are the required test species. Acute testing was chosen due to the intermittent nature of the Facility's stormwater discharge. The monitoring frequency was chosen to ensure there is enough data to conduct a reasonable potential analysis at the next permit reissuance.

Toxicity testing must be performed in accordance with EPA Region 1's test procedures and protocols specified in **Attachment A,** *Marine Acute Toxicity Test Procedure and Protocol* (July 2012) of the Draft Permit. The Permittee must collect the required receiving water sample (i.e., diluent) from the Weymouth Fore River at a point immediately outside of the permitted discharge's zone of influence at a reasonably accessible location. A receiving water control (0% effluent) must also be tested. If toxicity is indicated, the Permittee may use alternate dilution water in accordance with the provisions in the Draft Permit. Results of these toxicity tests will demonstrate compliance with State WQSs. Included in the WET testing protocol is required sampling for specific metals, total residual chlorine, and ammonia in the receiving water and the discharge.

5.2.8 Metals

Metals are naturally occurring constituents in the environment and generally vary in concentration according to local geology. Metals are neither created nor destroyed by biological or chemical processes. However, metals can be transformed through processes including adsorption, precipitation, co-precipitation, and complexation. Some metals are essential nutrients at low levels for humans, animals, plants and microorganisms, but toxic at higher levels (e.g., copper and zinc). Other metals have no known biological function (e.g., lead). The environmental chemistry of metals strongly influences their fate and transport in the environment and their effects on human and ecological receptors. Toxicity results when metals are biologically available at concentrations affecting the survival, reproduction and behavior of an organism.

The Draft Permit's WET testing requirements include requirements to sample for cadmium, copper, lead, nickel, and zinc in the receiving water and the effluent. In addition, the Draft Permit requires sampling for iron twice per year in the discharge from Outfall 001. Iron in groundwater readily oxidizes to the more insoluble ferric hydroxide (Fe^{3+}) when exposed to air. Fe^{3+} can foul treatment systems, cause growth of iron bacteria, and may discolor effluent. Excessive amounts may cause or contribute to violations of State WQSs including those related to color, turbidity, solids, and odor. The applicable criterion for iron as of the noticing of the Draft Permit is EPA's *National Recommended Water Quality Criteria - Organoleptic Effects* Criterion of 300 µg/L. Metals monitoring requirements are included in the Draft Permit to

characterize the discharge and to conduct a reasonable potential analysis at the next permit reissuance.

5.2.9 Chlorine

Chlorine and chlorine compounds are toxic to aquatic life. Free chlorine is directly toxic to aquatic organisms and can react with naturally occurring organic compounds in receiving waters to form toxic compounds such as trihalomethane. The Facility uses potable water for hydrostatic test water and washdown water. Potable water sources are typically chlorinated to minimize or eliminate pathogens. 40 CFR § 141.72 stipulates that a public water system's residual disinfectant concentration in the water entering the distribution system cannot be less than 0.2 mg/L for more than four hours.

Chlorine has not been monitored for at the Facility. As part of WET testing, the Draft Permit contains a chlorine monitoring requirement, measured as total residual chlorine (TRC). Data collected will be used to ensure TRC is not present in the discharge at concentrations that could cause or contribute to an excursion of water quality criteria. See EPA's *National Recommended Water Quality Criteria: 2002, EPA 822-R-02-047, November 2002* for the applicable criteria.

5.2.10 Ammonia

Ammonia (NH_3) is the un-ionized form of ammonia nitrogen. Elevated levels of ammonia can be toxic to aquatic life. Temperature and pH affect the toxicity of ammonia to aquatic life. The toxicity of ammonia increases as temperature increases and ammonia concentration and toxicity increase as pH increases. Ammonia can affect fish growth, gill condition, organ weights and hematocrit, and can result in excessive plant and algal growth, which can cause eutrophication. Ammonia can also affect dissolved oxygen through nitrification, in which oxygen is consumed as ammonia is oxidized. Low oxygen levels can then, in turn, increase ammonia by inhibiting nitrification. Total ammonia-nitrogen concentrations in surface waters tends to be lower during summer than during winter due to uptake by plants and decreased ammonia solubility at higher temperatures.

Ammonia monitoring has not been conducted at the Facility. However, ammonia is a common stormwater pollutant and has been observed in stormwater from bulk petroleum storage terminals in Boston Harbor at concentrations that exceed water quality criteria. Therefore, the Draft Permit contains an ammonia monitoring requirement in conjunction with WET testing. Data collected will be used to ensure ammonia is not present in the discharge at concentrations that could cause or contribute to an excursion of water quality criteria. See EPA's *National Recommended Water Quality Criteria: 2002, EPA 822-R-02-047, November 2002* for the applicable criteria.

5.2.11 Per- and polyfluoroalkyl substances (PFAS)

As explained at https://www.epa.gov/pfas, PFAS are a group of synthetic chemicals that have been in use since the 1940s. PFAS are found in a wide array of consumer and industrial products. PFAS manufacturing and processing facilities, facilities using PFAS in production of other products, airports, and military installations can be contributors of PFAS releases into the air,

soil, and water. Due to their widespread use and persistence in the environment, most people in the United States have been exposed to PFAS. Exposure to some PFAS above certain levels may increase risk of adverse health effects.[44] EPA is collecting information to evaluate the potential impacts that discharges of PFAS from wastewater treatment plants may have on downstream drinking water, recreational and aquatic life uses.

On October 2, 2020, Massachusetts DEP published an Office of Research and Standards Guideline (ORSG) level for drinking water that applies to the sum of the following PFAS:[45,46]

- Perfluorohexanesulfonic acid (PFHxS)
- Perfluoroheptanoic acid (PFHpA)
- Perfluorononanoic acid (PFNA)
- Perfluorooctanesulfonic acid (PFOS)
- Perfluorooctanoic acid (PFOA)
- Perfluorodecanoic acid (PFDA)

Based on the ORSG, MassDEP recommends that:

1. Consumers in sensitive subgroups (pregnant women, nursing mothers and infants) not consume water when the level of the six PFAS substances, individually or in combination, is above 20 ppt.
2. Public water suppliers take steps expeditiously to lower levels of the six PFAS individually or in combination, to below 20 ppt for all consumers.

In December 2019, MassDEP proposed revisions to 310 CMR 22.00: Drinking Water Regulation that would set a new PFAS Maximum Contaminant Level (MCL) of 20 ppt (ng/L) for the sum of the concentrations of six PFAS compounds, including all six compounds addressed by the ORSG (listed above).

Although the Massachusetts water quality standards do not include numeric criteria for PFAS, the Massachusetts narrative criterion for toxic substances at 314 CMR 4.05(5)(e) states:

> All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.

The narrative criterion is further elaborated at 314 CMR 4.05(5)(e)2 which states:

> Human Health Risk Levels. Where EPA has not set human health risk levels for a toxic pollutant, the human health-based regulation of the toxic pollutant shall be in accordance with guidance issued by the Department of Environmental Protection's Office of Research and Standards. The Department's goal is to prevent all adverse health effects

[44] EPA, *EPA's Per- and Polyfluoroalkyl Substances (PFAS) Action Plan,* EPA 823R18004, February 2019. Available at: https://www.epa.gov/sites/production/files/2019-02/documents/pfas_action_plan_021319_508compliant_1.pdf
[45] https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas
[46] https://www.mass.gov/regulations/310-CMR-22-the-massachusetts-drinking-water-regulations

> which may result from the ingestion, inhalation or dermal absorption of toxins attributable to waters during their reasonable use as designated in 314 CMR 4.00.

Since PFAS chemicals are persistent in the environment and may lead to adverse human health and environmental effects, the Draft Permit requires that the facility conduct quarterly effluent sampling for PFAS chemicals, six months after appropriate, multi-lab validated test methods are made available by EPA to the public.

The purpose of this monitoring and reporting requirement is to better understand potential discharges of PFAS from this facility and to inform future permitting decisions, including the potential development of water quality-based effluent limits on a facility-specific basis. EPA is authorized to require this monitoring and reporting by CWA § 308(a), which states:

> "SEC. 308. (a) Whenever required to carry out the objective of this Act, including but not limited to (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition, or effluent standard, pretreatment standard, or standard of performance under this Act; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, pretreatment standard, or standard of performance; (3) any requirement established under this section; or (4) carrying out sections 305, 311, 402, 404 (relating to State permit programs), 405, and 504 of this Act—
>
> > A. the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as he may reasonably require…"

Since an EPA method for sampling and analyzing PFAS in wastewater is not currently available, the PFAS sampling requirement in the Draft Permit includes a compliance schedule which delays the effective date of this requirement until six months after EPA's multi-lab validated method for wastewater is made available to the public on EPA's CWA methods program website For wastewater see https://www.epa.gov/cwa-methods/other-clean-water-act-test-methods-chemical and https://www.epa.gov/cwa-methods.– EPA expects this method will be available by the end of 2021.This approach is consistent with 40 CFR § 122.44(i)(1)(iv)(B) which states that in the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136 or methods are not otherwise required under 40 CFR chapter I, subchapter N or O, monitoring shall be conducted according to a test procedure specified in the permit for such pollutants or pollutant parameters. After one year of monitoring, if all samples are non-detect for all six PFAS compounds, using EPA's multi-lab validated method for wastewater, the Permittee may request to remove the requirement for PFAS monitoring.

5.3 Special Conditions

5.3.1 Best Management Practices

Best management practices (BMPs) may be expressly incorporated into a permit on a case-by-case basis where it is determined that they are necessary to achieve effluent limitations and standards or to carry out the purpose and intent of the CWA under § 402(a)(1). BMPs may be necessary to control or abate the discharge of pollutants when: 1) authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) authorized under CWA § 402(p) for the control of stormwater discharges; 3) numeric effluent limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. *See* 40 CFR 122.44(k). Stormwater at the Facility has the potential to come into contact with materials stored at the Facility or contamination in soil or groundwater from historical and/or current activities. The Facility also periodically discharges hydrostatic test water.

The Draft Permit requires the selection, design, installation, and implementation of control measures for stormwater associated with the Facility operations to comply with the non-numeric technology-based effluent limits in the Draft Permit. In essence, the Draft Permit requires the Permittee to implement and continually evaluate the Facility's structural controls (e.g., OWS, containment areas, holding tanks), operational procedures, and operator training. Proper implementation of BMPs will minimize the potential discharge of pollutants in stormwater related to inadequate treatment, human error, and/or equipment malfunction. The non-numeric limitations in the Draft Permit, listed below, have been updated based on the limitations specified in Part 2.1.2 of EPA's MSGP.[47] Non-numeric limitations include:

- Minimize exposure of processing and material storage areas to stormwater discharges;
- Design good housekeeping measures to maintain areas that are potential sources of pollutants;
- Implement preventative maintenance programs to avoid leaks, spills, and other releases of pollutants to stormwater that is discharged to receiving waters;
- Implement spill prevention and response procedures to ensure effective response to spills and leaks if or when they occur;
- Design erosion and sediment controls to stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants;
- Utilize runoff management practices to divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff;
- Develop proper handling procedures for salt or materials containing chlorides that are used for snow and ice control;
- Conduct employee training to ensure personnel understand the requirements of this permit;
- Evaluate for the presence of non-stormwater discharges. Any non-stormwater discharges not explicitly authorized in the Draft Permit or covered by another NPDES permit must

[47] The 2015 MSGP is currently available at: https://www.epa.gov/npdes/final-2015-msgp-documents.

be eliminated; and
- Minimize dust generation and vehicle tracking of industrial materials.

In addition to the general limitations described above, the Draft Permit also includes BMPs, either continued from the 2014 Permit or based on EPA's *Technical Support Document for the 2004 Effluent Guidelines Program Plan*, EPA's MSGP, and/or EPA's RGP.[48] BMP requirements include:

- Administrative control BMP: requires the Permittee to comply with the inspection requirements in Part 3.1 and 3.2 of the 2015 MSGP and the corrective action requirements in Part 4.1 through 4.5 of the 2015 MSGP;[49]
- Discharge practices BMP: requires the Permittee to avoid discharging stormwater during worst-case conditions (i.e., the hour before and after slack tide and during periods of lowest receiving water flow);
- Ethanol BMP: requires the Permittee to implement proper handling procedures for ethanol, response procedures for releases of ethanol or materials that are used for ethanol spill or fire control, and treatment for ethanol, should release occur;
- Effluent Flow BMP: requires the Permittee to document the measures and methods used to control flow through both the stormwater and groundwater treatment systems to ensure that the design flow of the treatment system is not exceeded;
- Control Measure BMP: requires the Permittee to comply with the control measure requirements in Part 2.1 and 2.1.1 of the 2015 MSGP in order to identify pollutant sources and select, design, install and maintain the pollution control technology necessary to meet the effluent limitations in the permit that ensure dilution is not used as a form of treatment;[50]
- Major Storm Events BMP: requires the Permittee to implement structural improvements, enhanced pollution prevention measures, and other mitigation measures, to minimize impacts from stormwater discharges from major storm events that cause extreme flooding conditions. This BMP requirement is based on a similar provision proposed in EPA's 2020 MSGP;[51] and
- Quality Assurance/Quality Control BMP: requires the Permittee to document monitoring requirements, sample collection procedures, sample analysis procedures,[52] a schedule for the review of sample results and data validation and reporting processes.

---

[48] EPA-821-R-04-014 is currently available at: https://www.epa.gov/eg/effluent-guidelines-plan-support-documents; The 2015 MSGP is currently available at: https://www.epa.gov/npdes/final-2015-msgp-documents; The 2017 RGP is currently available at: https://www.epa.gov/npdes-permits/remediation-general-permit-rgp-massachusetts-new-hampshire.

[49] Where the MSGP refers to limitations, conditions or benchmarks, including the SWPPP, for the purposes of this permit, these shall refer to the limitations and conditions in this permit.

[50] Page 7-113 of EPA-821-R-04-014 states, "[w]astewater requiring primary and/or secondary treatment (because it is contaminated with oil and grease and total petroleum hydrocarbons) is typically tank bottom water, loading/unloading rack water, a portion of the tank basin water, wastewater generated during remediation, and water used for hydrostatic testing." *See* Part 2.5.2.d of the 2017 RGP for example technologies and additional resources.

[51] 85 Fed. Reg. 04254 (March 2, 2020).

[52] Sample analysis must comply with the *National Pollutant Discharge Elimination System (NPDES): Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting Rule*. *See* Fed. Reg. 49,001 (Aug. 19, 2014).

The non-numeric effluent limitations support, and are as equally enforceable as, the numeric effluent limitations included in the Draft Permit. The purpose of these requirements is to reduce or eliminate the discharge of pollutants to waters of the United States. They have been selected on a case-by-case basis based on those appropriate for this specific facility. *See* CWA §§ 304(e), 402(a)(1); 40 CFR § 122.44(k). These requirements will also ensure that discharges from the Facility will meet State WQSs pursuant to CWA § 301(b)(1)(C) and 40 CFR § 122.44(d)(1). Unless otherwise stated, the Permittee may select, design, install, implement and maintain BMPs as the Permittee deems appropriate to meet the permit requirements. The selection, design, installation, implementation and maintenance of control measures must be in accordance with good engineering practices and manufacturer's specifications and must take future conditions into consideration.

EPA requests comment on whether it is appropriate for the permit to require the Facility to consider implementing enhanced controls to minimize impacts from stormwater discharges from major storms that cause extreme flooding conditions. EPA requests information on structural improvements, enhanced pollution prevention measures, and other mitigation measures that the permit could require the Facility to consider. EPA also requests comment on how the permittee might identify areas of the Facility that are at the highest risk for stormwater impacts from major storms that cause extreme flooding conditions.

One approach could be to use the Federal Emergency Management Agency's (FEMA) Flood Map Service Center (found at https://msc.fema.gov/portal/search) to determine if a facility (or portions thereof) is in a "Special Flood Hazard Area" (SFHA) or "Other Area of Flood Hazard." SFHAs are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone AO, Zone AH, Zones A1-A30, Zone AE, Zone A99, Zone AR, Zone AR/AE, Zone AR/AO, Zone AR/A1-A30, Zone AR/A, Zone V, Zone VE, and Zones V1-V30. "Other flood hazard areas" (or moderate flood hazard areas) labeled Zone B or Zone X (shaded) are also shown on the Flood Map and are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are labeled Zone C or Zone X (unshaded). More information on FEMA flood zones can be found at https://www.fema.gov/flood-zones.

According to the FEMA map(s) covering the location of the Facility, portions of the marine vessel dock and the drainage to the Unpermitted Stormwater Outfall intersect the SFHA and are within Zone AE. *See* https://msc.fema.gov/portal/search. Most of the Facility, including the terminal yard and truck loading rack, is not within the SFHA and is classified Zone X, area of minimal flood hazard. *Id.* EPA seeks comment on whether it should use the FEMA maps to identify areas for which the Major Storm Events BMP should apply and, if so, which classifications EPA should use and why. EPA also invites comment on whether it should consider other data or information and, if so, requests that commenters identify any such data and information with particularity.

5.3.2 Stormwater Pollution Prevention Plan

On September 9, 1992, EPA issued its Multisector general permit (MSGP) for stormwater discharges associated with industrial activity, which, among other things, required all facilities to implement technology-based pollution prevention measures in lieu of numeric limitations and to prepare a Stormwater Pollution Prevention Plan (SWPPP) documenting the implementation of these measures. [53] The general permit established a process whereby the operator of the industrial facility evaluates potential pollutant sources at the site and selects and implements appropriate measures designed to prevent or control the discharge of pollutants in stormwater runoff.[54] This Draft Permit contains BMPs for stormwater associated with industrial activity at the Facility. In addition to BMPs, the Draft Permit also requires the Permittee to develop, implement, and maintain a SWPPP for stormwater discharges associated with the operation of the Facility. These requirements are consistent with Part 5 of EPA's MSGP effective June 4, 2015. The Draft Permit specifies that the SWPPP must include the following, at a minimum:

- Stormwater pollution prevention team;
- Site description;
- Drainage area site map;
- Summary of potential pollutant sources;
- Description of all stormwater control measures; and
- Schedules and procedures pertaining to implementation of stormwater control measures, inspections and assessments, and monitoring.

The development and implementation of the SWPPP is an enforceable element of the permit. The Draft Permit directs the Permittee to incorporate BMPs, as described above, directly into the SWPPP, which serves to document the selection, design and installation of control measures selected to meet the permit effluent limitations. The goal of the SWPPP is to document the implementation of BMPs designed to reduce or prevent the discharge of pollutants to waters of the United States either directly or indirectly through stormwater runoff.

The Draft Permit requires the Permittee within ninety (90) days of the effective date of the permit to certify that the SWPPP has been prepared, meets the requirements of the permit, and documents the control measures, including BMPs, that have been implemented to reduce or eliminate the discharge of pollutants from stormwater associated with the operation of the Facility. The Permittee must also certify at least annually that the Facility has complied with the BMPs described in the SWPPP, including inspections, maintenance, and training activities. The Permittee is required to amend and update the SWPPP if any change occurs at the Facility affecting the SWPPP, such as changes in the design, construction, operation, or maintenance of the Facility, or revisions and improvements are made to the stormwater management program based on new information and experiences with wet weather events, including major storm events and extreme flooding conditions. The SWPPP must be maintained on site at the Facility and provided to EPA and/or the State upon request. All SWPPP records must be maintained on-site for at least three years.

[53] 57 Fed. Reg. 41,236, 41,264 (September 9, 1992).
[54] *Id.* at 41242.

5.3.3 Hydrostatic Testing

The tanks and/or pipe networks used for the storage and conveyance of petroleum products at the Facility sometimes require maintenance or repair. To ensure safe working conditions during this maintenance work, storage tanks and/or pipe networks are rigorously cleaned (e.g., "Poly Brushed", "Squeegee Pigged") and certified as being product-free. After completing maintenance work, the vessels and/or pipe networks may be hydrostatically tested for leaks. Hydrostatic testing involves filling the vessel or pipe with fluid under pressure and monitoring pressure drops over time. If the system maintains a constant pressure, there are no leaks. River water or potable water may be used as a source of hydrostatic test water. Thus, hydrostatic test water discharge may contain minimal amounts of foreign matter, trace amounts of hydrocarbons, background material found in the river or residual chlorine. The Permittee has not discharged hydrostatic test water to the Weymouth Fore River since before the 2008 Permit was issued.

As a precaution, the Draft Permit requires any hydrostatic test water to be monitored as described in Part I.C.3 of the Draft Permit and treated through the stormwater treatment system prior to being discharged to the Weymouth Fore River. In addition, the Draft Permit requires control of the flow of hydrostatic test water to prevent exceeding the maximum design flow rate of OWS 1, 6,000 GPM. The Draft Permit requires the collection of a minimum of five representative samples of the hydrostatic test water, and specifies the pollutants required. These pollutants include those limited in the Draft Permit, based on requirements for this type of discharge surveyed in EPA's ELG Document and/or included in EPA's RGP, Category IV – Pipeline and Tank Dewatering.

The Draft Permit requires the hydrostatic test waters released from the tank(s) and/or pipelines and treated through the stormwater treatment system meet the effluent limitations and satisfy all other conditions of the Draft Permit. In addition, the Draft Permit requires the Permittee to routinely observe the surface of the OWS during discharge of hydrostatic test waters, in order to detect any increases in the separated oil layer and to prevent inadvertent release of hydrocarbons to the receiving water. In the event that there is evidence of such a release (e.g., visible oil sheen and/or noticeable increase in turbidity of discharge water), the Draft Permit requires the Permittee to immediately halt the transfer of hydrostatic test water and take steps to correct the problem.

These requirements are intended to provide adequate characterization of the influent, in-process, and effluent hydrostatic test water and are similar to requirements for similar facilities that discharge hydrostatic test water to Massachusetts receiving waters under EPA's RGP. Sampling of the above parameters is necessary to identify whether there are any residual contaminants present in the hydrostatic test water that might require the permit to be modified or reopened. All discharges of hydrostatic test water are subject to the numeric and non-numeric effluent limitations in the Draft Permit.

5.3.4 Allowable Non-Stormwater Discharges

Based on non-stormwater discharges allowable under EPA's MSGP, the Draft Permit allows the following non-stormwater discharges, provided they meet all effluent limitations in the Draft Permit[55].

- Discharges from emergency/unplanned fire-fighting activities;
- Fire hydrant flushings;
- Potable water, including water line flushings (unless associated with hydrostatic testing);
- Uncontaminated condensate from air conditioners, coolers/chillers, and other compressors and from the outside storage of refrigerated gases or liquids;
- Irrigation drainage;
- Landscape watering provided all pesticides, herbicides, and fertilizers have been applied in accordance with the approved labeling;
- Pavement wash waters where no detergents or hazardous cleaning products are used (e.g., bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols) and the wash waters do not come into contact with oil and grease deposits, sources of pollutants associated with industrial activities, or any other toxic or hazardous materials, unless residues are first cleaned up using dry clean-up methods (e.g., applying absorbent materials and sweeping, using hydrophobic mops/rags) and appropriate control measures have been implemented to minimize discharges of mobilized solids and other pollutants (e.g., filtration, detention; settlement);
- Routine external building washdown/power wash water that does not use detergents or hazardous cleaning products (e.g., those containing bleach, hydrofluoric acid, muriatic acid, sodium hydroxide, nonylphenols);
- Uncontaminated groundwater or spring water;
- Foundation or footing drains where flows are not contaminated with process materials; and
- Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the Facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown; drains).

EPA notes that the routine washdown of the exterior of the tanks at the Facility is allowable under these conditions. EPA believes this activity is encompassed by "building washdown/power wash water" provided chemicals and/or additives are not added, unless in accordance with the conditions pertaining to discharges of chemicals and additives, below.

5.3.5 Discharges of Chemicals and Additives

Chemicals and additives include, but are not limited to: algaecides/biocides, antifoams, coagulants, corrosion/scale inhibitors/coatings, disinfectants, flocculants, neutralizing agents, oxidants, oxygen scavengers, pH conditioners, and surfactants. The Draft Permit allows the discharge of only those chemicals and additives specifically disclosed by the Permittee to EPA and the State. No chemicals or additives were disclosed to EPA. However, EPA recognizes that chemicals and additives may become necessary at a Facility during the term of the permit. As a result, the Draft Permit includes a provision that requires the Permittee to notify EPA and the

[55] *See* Part 1.1.3 of EPA's 2015 MSGP.

State in writing of the proposed discharge of a new chemical or additive; allows for EPA and State review of the change; and provides the factors for EPA and State consideration of such a change. The Draft Permit specifies that for each chemical or additive, the Permittee must submit the following information, at a minimum, in writing to EPA and the State:

- Product name, chemical formula, and manufacturer of the chemical/additive.
- Purpose or use of the chemical/additive.
- Safety Data Sheet (SDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive.
- The frequency (e.g., hourly, daily), magnitude (e.g., maximum and average), duration (e.g., hours, days), and method of application for the chemical/additive.
- If available, the vendor's reported aquatic toxicity (i.e., NOAEL and/or LC_{50} in percent for aquatic organism(s)).

The Permittee must also provide an explanation which demonstrates that the discharge of such chemical or additive: 1) will not add any pollutants in concentrations which exceed any permit effluent limitation; and 2) will not add any pollutants that would justify the application of permit conditions different from, or in addition to those currently in this permit.

Assuming these requirements are met, discharge of a new chemical or additive is authorized under the permit upon notification to EPA and the State unless otherwise notified by EPA or the State.

5.3.6 Prohibited Discharges

The following discharges are prohibited in the Draft Permit as described below. These prohibited discharges are based on EPA's *Technical Support Document for the 2004 Effluent Guidelines Program Plan*[56] and are necessary to protect the receiving water from the discharges that are most likely to contain toxic pollutants.

5.3.6.1 Tank Bottom Water

Tank bottom water is generally a layer of water that has separated from the stored petroleum product in storage tanks due to the density difference between the product and water. Because there is much more product than water in a storage tank, as this water settles to the bottom of the tank, it can become highly concentrated with water-soluble materials in the product (e.g., BTEX and PAHs). Whereas stormwater primarily contacts only those hydrocarbons present at the ground surface and then generally only for short periods of time, tank bottom water remains in contact with petroleum products for prolonged periods. Facility operators drain this layer of water to prevent transfer with the finished product as well as to free up storage space. As a result, EPA considers tank bottom water process wastewater, since soluble toxic materials may partition from the petroleum product into the water over time. Discharges of any tank bottom water, either alone or in combination with stormwater or other wastewater discharges, are prohibited in the Draft Permit.

[56] EPA-821-R-04-014 is currently available at: https://www.epa.gov/eg/effluent-guidelines-plan-support-documents.

5.3.6.2 Solid Hazardous Waste

The Draft Permit prohibits discharges of sludge and bottom deposits from any storage tank(s), basin(s), and/or containment area(s) to the receiving water, such as the removal and disposal of accumulated sludge during tank cleaning. While not necessarily emptied specifically for cleaning purposes, a storage tank may be cleaned if it is emptied for maintenance or if it is needed to store a different product. Examples of storage tanks and/or basins include, but are not limited to: primary catch basins, oil/water separators, petroleum product storage tanks, baffled storage tanks collecting spills, and tank truck loading rack sumps. The Draft Permit uses the term "solid and hazardous waste" to refer not just to sludge and solid bottom deposits but to also more broadly include any solids generated at the Facility that must be managed as hazardous waste. Discharges of any solid hazardous waste, either alone or in combination with stormwater or other wastewater discharges, are prohibited in the Draft Permit.

5.3.6.3 Liquid Hazardous Waste

Several liquid hazardous waste sources are described in EPA's *Technical Support Document for the 2004 Effluent Guidelines Program Plan*, which are common at bulk petroleum storage facilities. For example, tank cleaning may include the recovery of water or detergents used for cleaning. Product sampling may include small volumes of product released from sampling nozzles and stations when the piping is purged of dead volume to obtain a representative sample. Equipment drainage may include pocketing (i.e., product trapped in low points in the piping that is not able to drain in either direction). Waste product (i.e., slop oil) is generated when petroleum product does not meet product specifications and cannot be used or distributed as is. Discharges of these, or any other liquid hazardous waste, either alone or in combination with stormwater or other wastewater discharges, are prohibited in the Draft Permit.

5.3.6.4 Vehicle and Equipment Washing

Vehicle maintenance and equipment washing wastewater sources are described in EPA's *Technical Support Document for the 2004 Effluent Guidelines Program Plan*. Vehicles and other product transferring equipment typically generate detergents or petroleum product residues. Such wastewater could also contain oil, antifreeze, brake fluid, or other vehicle fluids. Discharges of runoff from any vehicle and equipment washing, either alone or in combination with stormwater or other wastewater discharges are prohibited in the Draft Permit.

5.3.6.5 Ballast Water

The Draft Permit prohibits discharges of bilge water (i.e., ballast water). Tankers transporting petroleum products may contain ballast water, which may result in wastewater contaminated with product. These wastewaters are typically dilute and very large in volume and usually require treatment such as oil/water separation, dissolved air flotation, biological treatment, and air stripping. EPA's *Technical Support Document for the 2004 Effluent Guidelines Program Plan* describes one such facility that discharges ballast water treated by an oil/water separator and found that the effluent concentration of oil and grease typically ranged from 3 to 5 mg/L.

Discharges of ballast water, either alone or in combination with stormwater or other wastewater discharges, are prohibited in the Draft Permit.

5.3.6.6 Accidental Spill and Release

The Draft Permit prohibits discharges of runoff from spills and releases of petroleum products, excepting conditions that meet the requirements defined in Part II., Standard Conditions. Several sources are described in EPA's *Technical Support Document for the 2004 Effluent Guidelines Program Plan*, including leaks, tank deterioration, and product transfer mishaps. There are various types of leaks, such as pump seal leaks, valve seal leaks, and piping leaks. Tanks can deteriorate over time, causing leaks and rupture. Product transfer mishaps, such as tank overfilling and accidental opening of nozzles can result in accidental releases. Discharges of runoff from any accidental spill or release alone or in combination with stormwater or other wastewater are prohibited in the Draft Permit. *See* CWA § 311.

5.3.6.7 Emulsion Chemicals

Emulsions, the dispersion of product in water or vice versa, are commonly referred to as "rag" or "cuff." Emulsions typically accumulate at the product/water interface because their density is in between the densities of the product and water. Emulsions are stabilized by surfactants (e.g., detergent and soaps) collecting at the product/water interface, which reduce the surface tension and inhibit phase separation. Several sources of emulsions are described in EPA's *Technical Support Document for the 2004 Effluent Guidelines Program Plan*, including product droplets, surfactants, and fine solids. The Draft Permit prohibits the discharge of surfactants, as well as detergents, and emulsifiers, that were not disclosed in the permit application. However, because petroleum product is separated from wastewater in an OWS by gravity separation, the addition of surfactants, detergents and emulsifiers to the wastewater could adversely affect the separation of petroleum product from wastewater. As a result, discharges of emulsion chemicals, including surfactants (e.g., detergents and soaps), either alone or in combination with stormwater or other wastewater discharges, are prohibited in the Draft Permit.

5.3.6.8 Wastewater Remediation

Soil and/or groundwater contamination at the Facility is a result of past operations, current operations, or off-site contamination that has migrated on site. Several areas of the Facility have undergone remediation at various times. Groundwater contaminated with dissolved hydrocarbons is typically pumped to the surface, treated, and discharged. Soil contaminated with petroleum hydrocarbons is typically treated using technology such as air sparging and may generate dewatering discharges. The only wastewater remediation discharge authorized by the Draft Permit is through Outfall 002. In the event additional groundwater or soil remediation is conducted at the Facility during the permit term, the Permittee is responsible for informing EPA and MassDEP and obtaining coverage for wastewater remediation discharges, either by modifying this NPDES permit or seeking alternative coverage for these discharges (e.g., Remediation General Permit (RGP) coverage). Discharges of wastewater generated during remediation activities (e.g., conducted under the Massachusetts Contingency Plan), including,

but not limited to contaminated groundwater, either alone or in combination with stormwater or other wastewater discharges, are prohibited in the Draft Permit.

5.3.6.9 Fire Protection Foam

Aqueous fire protection foam is used for fire and vapor suppression of liquid fuel fires. This includes but is not limited to aqueous film-forming foam (AFFF) and alcohol-resistant foam. AFFF is a low expansion foam and can contain surfactants, solvents, or other additives such as corrosion inhibitors. Through 2001, surfactants used in the manufacturing of AFFF included the perfluorinated alkyl acid perfluorooctane sulfonate (PFOS). By 2002, manufacturers also began voluntary phase-out of perfluorooctanoic acid (PFOA).[57] Alcohol-resistant foams contain polymers that prevent alcohols from breaking down the foam. The Draft Permit prohibits discharges of AFFF either in concentrate form or as foam diluted with water during testing or maintenance of the fire suppression system at the Facility. Refer to Section 5.3.4 for information regarding allowable non-stormwater discharges related to emergency fire-fighting activities.

5.3.7 Reopener Clause

Since indicator parameters are included in the Draft Permit, the Draft Permit includes a reopener clause in accordance with 40 CFR § 122.44(d)(1)(vi)(c)(4). The reopener clause in the Draft Permit allows EPA to modify or revoke and reissue the permit in accordance with 40 CFR § 122.62, including if the limits on the indicator parameters no longer attain and maintain applicable water quality standards.

5.3.8 Compliance Schedule

Several new or more stringent effluent limitations are proposed in the Draft Permit (e.g., benzene, bacteria). The Draft Permit does not propose a compliance schedule. However, in order for discharges from the Facility to meet the proposed effluent limitations, physical modification of the existing treatment system may be necessary. Therefore, EPA encourages public comment regarding whether the permit should include a compliance schedule(s) and, if so, what the terms of any schedule(s) should be. Federal regulations provide that any such schedule must require compliance "as soon as possible, but not later than the applicable statutory deadline under the CWA." 40 CFR § 122.47(a)(1). Thus, while a NPDES permit may not include a compliance schedule to meet technology-based effluent limits, a permit may include compliance schedules for meeting water quality-based effluent limits, provided that the schedule would achieve compliance with such limits "as soon as possible." *See id.* § 125.3(a)(2). Further, if a permit establishes a schedule of compliance which exceeds one year from the date of permit issuance, the schedule must include interim requirements and the dates for their achievement. *See id.* § 122.47(a). Massachusetts regulations for schedules of compliance can be found at 314 CMR 3.11(10).

5.3.9 Unpermitted Stormwater Outfall Additional Monitoring

[57] U.S. EPA. *Technical Fact Sheet – Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)*. November 2017.

EPA has the authority to regulate stormwater discharges under section 402(p) of the Clean Water Act. As described in 40 CFR § 122.26(b)(14), this authority extends to stormwater associated with industrial activity, defined as, "areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water." Further, EPA may use its "residual designation" authority under 40 CFR § 122.26(a)(9)(i)(C) and (D) to require NPDES permits for discharges composed entirely of stormwater on a case-by-case basis when it determines that:

- the discharges contribute to a violation of water quality standards,
- are a significant contributor of pollutant to federally protected surface waters, or
- controls are needed for the discharge based on wasteload allocations that are part of TMDLs that address the pollutant(s) of concern.

Special conditions are often included in permits when data or information were not available at the time of permit development.[58] EPA is authorized to include additional monitoring requirements and other special conditions under CWA §§ 402(a)(2) and 308(a). CWA § 402(a)(2), 33 U.S.C. § 1342(a)(2), authorizes EPA to include conditions on additional data and information collection in NPDES Permits to determine whether the discharge meets the applicable requirements of the Act. CWA § 308(a), 33 U.S.C. §1318(a), authorizes EPA to require the owner or operator of any point source to provide information as may reasonably be required to:

> . . . carry out the objectives of ... [the CWA], including but not limited to: (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition ... or standard of performance under [the CWA] ...; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, . . . or standard of performance; (3) any requirement established under this section; or (4) carrying out section . . . 1342 . . . of [the CWA] . . ..

After conducting a site visit and discussing Facility operations with the Permittee, EPA learned that a stormwater discharge had been segregated and rerouted to flow through a new outfall (Unpermitted Stormwater Outfall) associated with a wetland swale area and provided treatment through a Vortex separator. This area is downgradient from the Facility's tank farm and intersects the BELD system that is a groundwater remediation system for a historical oil release permitted under EPA's Remediation General Permit. The Permittee has asserted that this area of the Facility is not associated with industrial activity and only discharges "non-contact storm water runoff."[59] However, given the surrounding activities, the historical release, and a visual observation of iron staining around the outfall during a June 10, 2014, site visit, EPA has not been able to confirm that the stormwater discharge is not associated with industrial activity as defined in 40 CFR § 122.26(b)(14).

[58] See Section 9.1.1 Additional Monitoring and Special Studies in EPA's *NPDES Permit Writer's Manual*. September, 2010.
[59] Email correspondence between Donald Griffen (Permittee) and Shauna Little (EPA) dated August 17, 2016.

In a letter dated April 12, 2017, EPA requested additional information about this new outfall, including chemical monitoring data. In a letter dated May 24, 2017, a consultant representing the Facility,[60] partially responded to EPA's request, but did not include the requested chemical monitoring data. Until the requested chemical monitoring data are provided to EPA, EPA is unable to determine whether the permit should include limits, monitoring, or other conditions for this outfall.

Therefore, the outstanding items from the request, specifically the chemical monitoring data for discharge characterization, are included in the Draft Permit as a Special Condition. The additional monitoring requirement aims to characterize the discharge from the Unpermitted Stormwater Outfall based on sampling and analysis using a sufficiently sensitive test method in accordance with 40 CFR Part 136 (see Appendix C). The special condition requires that the Permittee collect two (2) grab samples prior to treatment through the Vortex separator and analyze them for a list of parameters EPA reasonably believes may be present, given existing data for the Facility, current and historic activities at the Facility, and impairments in the receiving water.

The proposed monitoring requirements of the special condition are necessary and appropriate to carry out the provisions of the CWA and ensure compliance with State WQSs. *See* CWA §§ 402(a)(2), 308(a), 33 U.S.C. §§ 1342(a)(2), 1318(a). EPA finds that requiring the Permittee to collect monitoring data and submit these data in a summary report is reasonable and sufficiently stringent to carry out the provisions of the CWA and ensure compliance with applicable WQSs. *See also* 40 CFR § 122.4(d). These requirements are within EPA's authority to condition a permit to carry out the objectives and satisfy the requirements of the CWA. *See* CWA §§ 402(a)(2) and 301(b)(1)(C); 40 CFR §§ 122.4(a) and (d), 122.43, and 122.44(d). A condition on the discharge designed to quantify pollutants discharged to Waters of the U.S. is encompassed by the references to "condition" and "limitations" in CWA §§ 402 and 301 and the implementing regulations, as monitoring requirements are designed to assure compliance with applicable water quality regulations, including antidegradation requirements. Assessing the quantity of pollutants in the discharge through the monitoring of effluent is consistent with the CWA.

6.0 Federal Permitting Requirements

6.1 Endangered Species Act

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA), grants authority to and imposes requirements on Federal agencies regarding endangered or threatened species of fish, wildlife, or plants (listed species) and any habitat of such species that has been designated as critical under the ESA (i.e., "critical habitat").

Section 7(a)(2) of the ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of the Interior, to ensure that any action it authorizes, funds or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The

[60] Douglas Heely with Environmental Strategies & Management, Inc.

United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) administers Section 7 consultations for marine and anadromous species.

The Federal action being considered in this case is EPA's proposed NPDES permit for the Citgo Braintree Terminal Facility's discharge of stormwater runoff, hydrostatic test water and remediated groundwater to the Weymouth Fore River. The Draft Permit is intended to replace the 2008 Permit in regulating the Facility's discharge. As the federal agency charged with authorizing the discharge from the Facility, EPA determines potential impacts to federally listed species and initiates consultation with the Services when required under § 7(a)(2) of the ESA.

EPA has reviewed the federal endangered or threatened species of fish, wildlife and plants in the expected action area of the outfall to determine if EPA's proposed NPDES permit could potentially impact any such listed species. For protected species under the jurisdiction of the USFWS, one listed threatened species, the northern long-eared bat (*Myotis septentrionalis*), was identified as occurring "statewide", which overlaps with the action area of the Weymouth Fore River.[61]

According to the USFWS, the threatened northern long-eared bat is found in the following habitats based on seasons, "winter – mines and caves; summer – wide variety of forested habitats." This species is not considered aquatic. However, because the Facility's projected action area in the Weymouth Fore River overlaps with the general statewide range of the northern long-eared bat, EPA prepared an Effects Determination Letter for the Citgo Braintree Terminal NPDES Permit Reissuance and submitted it to USFWS. Based on the information submitted by EPA, the USFWS notified EPA by letter (September 15, 2020) that the permit reissuance is consistent with activities analyzed in the USFWS January 5, 2016, Programmatic Biological Opinion (PBO)[62]. The PBO outlines activities that are excepted from "take" prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.). The USFWS consistency letter concluded EPA's consultation responsibilities for the Citgo Facility NPDES permitting action under ESA Section 7(a)(2) with respect to the northern long-eared bat. No further ESA section 7 consultation is required with USFWS.

Regarding protected species under the jurisdiction of NOAA Fisheries, a number of anadromous and marine species and life stages likely overlap the action area of the Facility. Subadult and adult life stages of Atlantic sturgeon (*Acipenser oxyrinchus*), adult shortnose sturgeon (*Acipenser brevirostrom*) and adult and juvenile life stages of the following sea turtles - leatherback sea turtles (*Dermochelys coriacea*), loggerhead sea turtles (*Caretta caretta*), Kemp's ridley sea turtles (*Lepidochelys kempii*), green sea turtles (*Chelonia mydas*) are all expected to be present in in the vicinity of Hingham Bay and the Weymouth Fore River and may overlap the action area of

[61] See §7 resources for USFWS at https://ecos.fws.gov/ipac/.
[62] USFWS Event Code: 05E1NE00-2020-E-12390, September 15, 2020.

the discharge in the Weymouth Fore River.[63] These protected species life stages are likely influenced by the discharge from this Facility.

In addition, EPA has made the determination that the proposed action is in proximity to, but does not overlap with, designated North Atlantic right whale critical habitat (Northeastern U.S Foraging Area Unit 1) and will have no effect on the critical habitat.

Because these species may be affected by the discharge authorized in the Draft Permit, EPA has evaluated the potential impacts of the permit action on these anadromous and marine species. On the basis of the evaluation, EPA's preliminary determination is that this action may affect, but is not likely to adversely affect, the relevant life stages of the NOAA Fisheries listed species above that are expected to inhabit the receiving water near the Facility in the vicinity of the action area of the discharge. Therefore, EPA has judged that a formal consultation pursuant to Section 7 of the ESA is not required. EPA is seeking concurrence from NOAA Fisheries regarding this determination through the information in the Draft Permit, this Fact Sheet, as well as a letter that will be sent to NOAA Fisheries Protected Resources Division under separate cover.

Re-initiation of consultation will take place: (a) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the consultation; or (c) if a new species is listed or critical habitat is designated that may be affected by the identified action.

6.2 Essential Fish Habitat

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (*see* 16 U.S.C. § 1801 *et seq*., 1998), EPA is required to consult with NOAA Fisheries if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat". 16 U.S.C. § 1855(b).

The Amendments broadly define "essential fish habitat" (EFH) as: "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". 16 U.S.C. § 1802(10). "Adverse impact" means any impact that reduces the quality and/or quantity of EFH. 50 CFR § 600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), or site specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

EFH is only designated for fish species for which federal Fisheries Management Plans exist. *See* U.S.C. § 1855(b)(1)(A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

[63] See §7 resources for NMFS at https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=1bc332edc5204e03b250ac11f9914a27

The Federal action being considered in this case is EPA's proposed NPDES permit for the Citgo Braintree Terminal Facility, which discharges stormwater runoff, hydrostatic test water and remediated groundwater through Outfall 001 to the Weymouth Fore River. The Draft Permit is intended to replace the 2008 Permit in governing the Facility.

A review of the relevant essential fish habitat information provided by NOAA Fisheries[64] indicates that the outfall exists within designated EFH for 24 federally managed species and one Habitat Area of Particular Concern (HAPC). The EFH species and life stages are listed in Table 3.

Table 3: EFH Species, Life Stages and Habitat Area of Particular Concern (HAPC) in the Vicinity of the Citgo Terminal Outfall at Latitude 42° 14' 9.6", Longitude -70° 58' 13.6".

EFH Species	Lifestage(s) Found at Location
Atlantic Wolffish	ALL
Winter Flounder	Eggs, Juvenile, Larvae/Adult
Little Skate	Juvenile, Adult
Ocean Pout	Adult, Eggs, Juvenile
Atlantic Herring	Juvenile, Adult, Larvae
Atlantic Cod	Larvae, Adult, Juvenile, Eggs
Pollock	Juvenile, Eggs, Larvae
Red Hake	Adult, Eggs/Larvae/Juvenile
Silver Hake	Eggs/Larvae, Adult
Yellowtail Flounder	Adult, Juvenile, Larvae, Eggs
White Hake	Larvae, Adult, Eggs, Juvenile
Windowpane Flounder	Adult, Larvae, Eggs, Juvenile
Winter Skate	Adult, Juvenile
American Plaice	Adult, Juvenile, Larvae, Eggs
Thorny Skate	Juvenile
Northern Shortfin Squid	Adult
Longfin Inshore Squid	Juvenile, Adult
Atlantic Mackerel	Eggs, Larvae, Juvenile, Adult
Bluefish	Adult, Juvenile
Atlantic Butterfish	Eggs, Larvae, Adult
Spiny Dogfish	Sub-Adult Female, Adult Male, Adult Female
Atlantic Surfclam	Juvenile, Adult
Scup	Juvenile, Adult
Black Sea Bass	Juvenile, Adult

[64] NOAA EFH Mapper available at http://www.habitat.noaa.gov/protection/efh/efhmapper/

EFH Species	Lifestage(s) Found at Location
HAPC Name	
Inshore 20m Juvenile Cod	

EPA's Finding of all Potential Impacts to EFH Species

- This Draft Permit action does not constitute a new source of pollutants because it is the reissuance of an existing NPDES permit;
- The Facility withdraws no water from the Weymouth Fore River, so no life stages of EFH species are vulnerable to impingement or entrainment;
- The effluent discharged consists of *treated* site-wide stormwater runoff, including stormwater that collects in secondary containment areas and off-site groundwater seepage, minimizing the likelihood of any toxic pollutants in the discharge;
- Acute toxicity tests will be conducted twice a year to ensure that the discharge does not present toxicity problems;
- Discharge limits have been proposed for flow, total suspended solids, oil and grease, pH, *Enterococcus,* benzo(a)pyrene, benzene, total BTEX and total petroleum hydrocarbons in order to meet federal effluent limitations guidelines and state water quality standards;
- The Draft Permit prohibits the discharge of pollutants or combination of pollutants in toxic amounts;
- The effluent limitations and conditions in the Draft Permit were developed to be protective of all aquatic life; and
- The Draft Permit prohibits violations of the state water quality standards.

EPA believes that the conditions and limitations contained within the Draft Permit adequately protect all aquatic life, including those species with designated EFH in the receiving water, as well as the Habitat Area of Particular Concern. Further mitigation is not warranted. Should adverse impacts to EFH be detected as a result of this permit action, or if new information is received that changes the basis for EPA's conclusions, NOAA Fisheries Habitat and Ecosystem Services Division will be contacted and an EFH consultation will be re-initiated.

In addition to this Fact Sheet and the Draft Permit, information to support EPA's finding is included in a letter under separate cover that will be sent to the NOAA Fisheries Habitat and Ecosystem Services Division after the public comment period has begun.

7.0 Public Comments, Hearing Requests, and Permit Appeals

All persons, including applicants, who believe any condition of the Draft Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to:

Nathan Chien

EPA Region 1
5 Post Office Square, Suite 100 (06-1)
Boston, MA 02109-3912
Telephone: (617) 918-1649
Email: Chien.Nathan@epa.gov

Prior to the close of the public comment period, any person may submit a written request to EPA for a public hearing to consider the Draft Permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held if the criteria stated in 40 CFR § 124.12 are satisfied. In reaching a final decision on the Draft Permit, EPA will respond to all significant comments in a Response to Comments document attached to the Final Permit and make these responses available to the public at EPA's Boston office and on EPA's website.

Following the close of the comment period, and after any public hearings, if such hearings are held, EPA will issue a Final Permit decision, forward a copy of the final decision to the applicant, and provide a copy or notice of availability of the final decision to each person who submitted written comments or requested notice. Within 30 days after EPA serves notice of the issuance of the Final Permit decision, an appeal of the federal NPDES permit may be commenced by filing a petition for review of the permit with the Clerk of EPA's Environmental Appeals Board in accordance with the procedures at 40 CFR § 124.19.

8.0 Administrative Record

The administrative record on which this Draft Permit is based may be accessed at EPA's Boston office by appointment, Monday through Friday, excluding holidays from Nathan Chien, EPA Region 1, 5 Post Office Square, Suite-100 (06-1), Boston, MA 02109-3912, or via email to Chien.Nathan@epa.gov.

10/26/2020

Ken Moraff, Director
Water Division
U.S. Environmental Protection Agency

Figures

Figure 1: Location Map

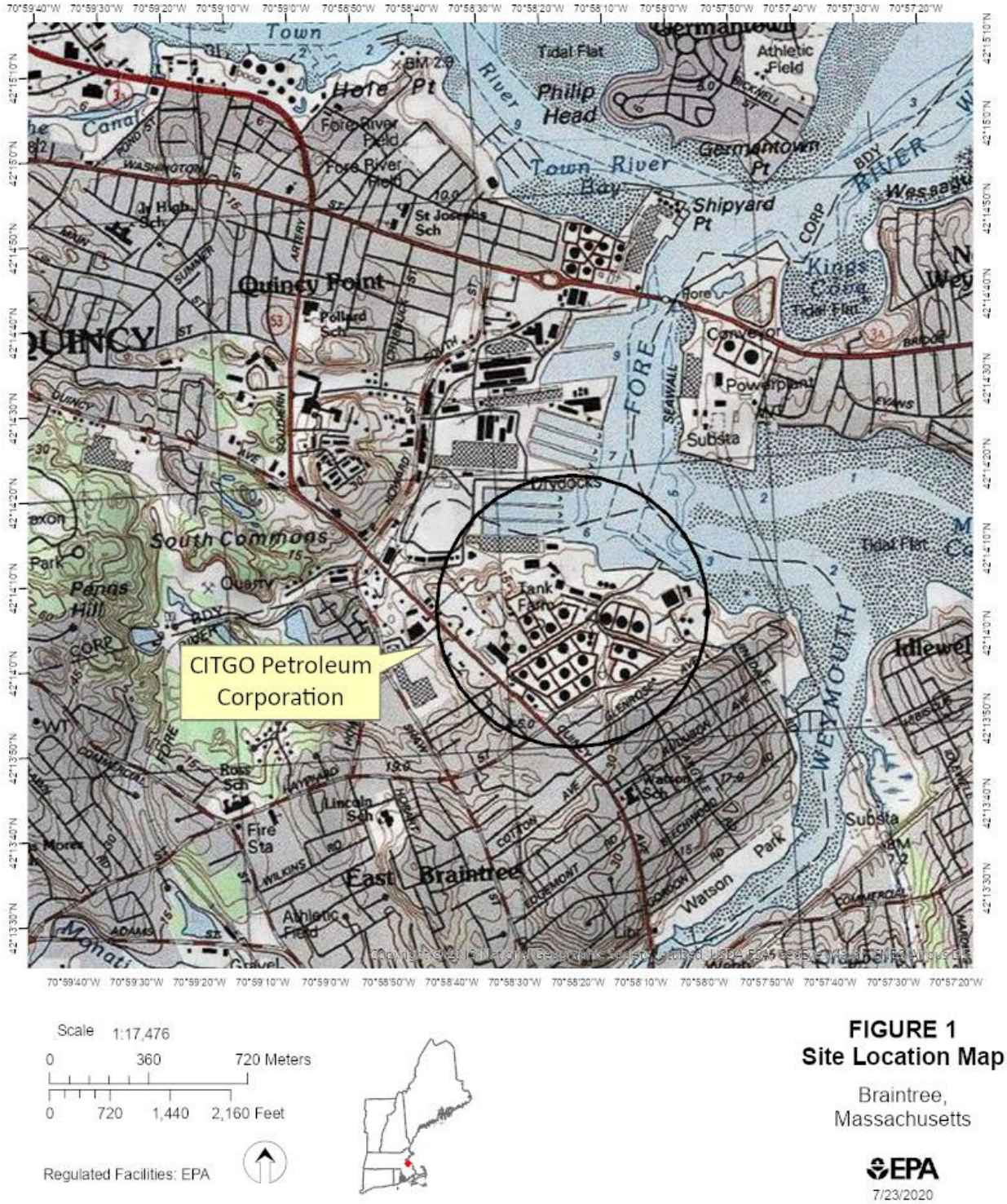


Figure 2: Site Plan

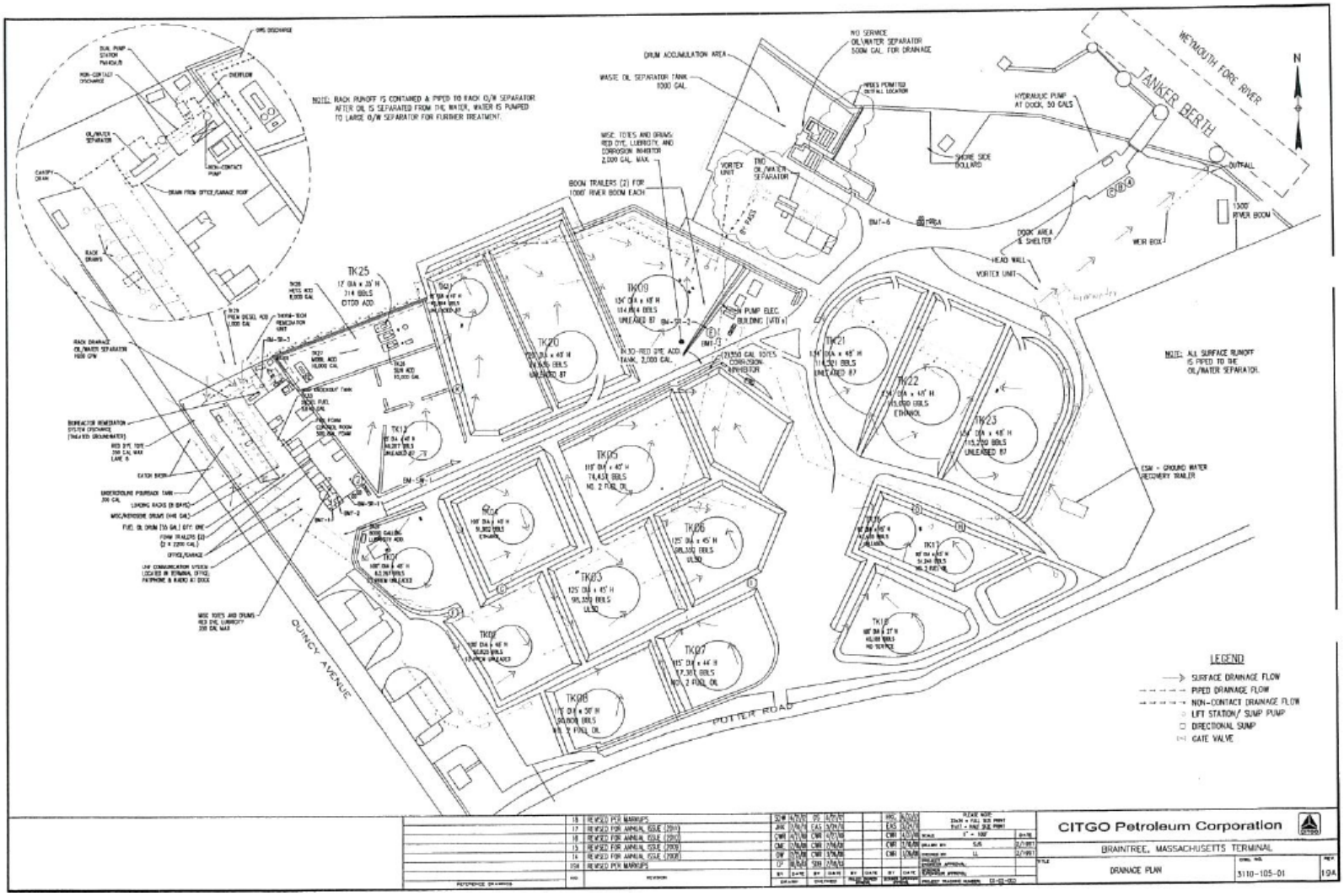
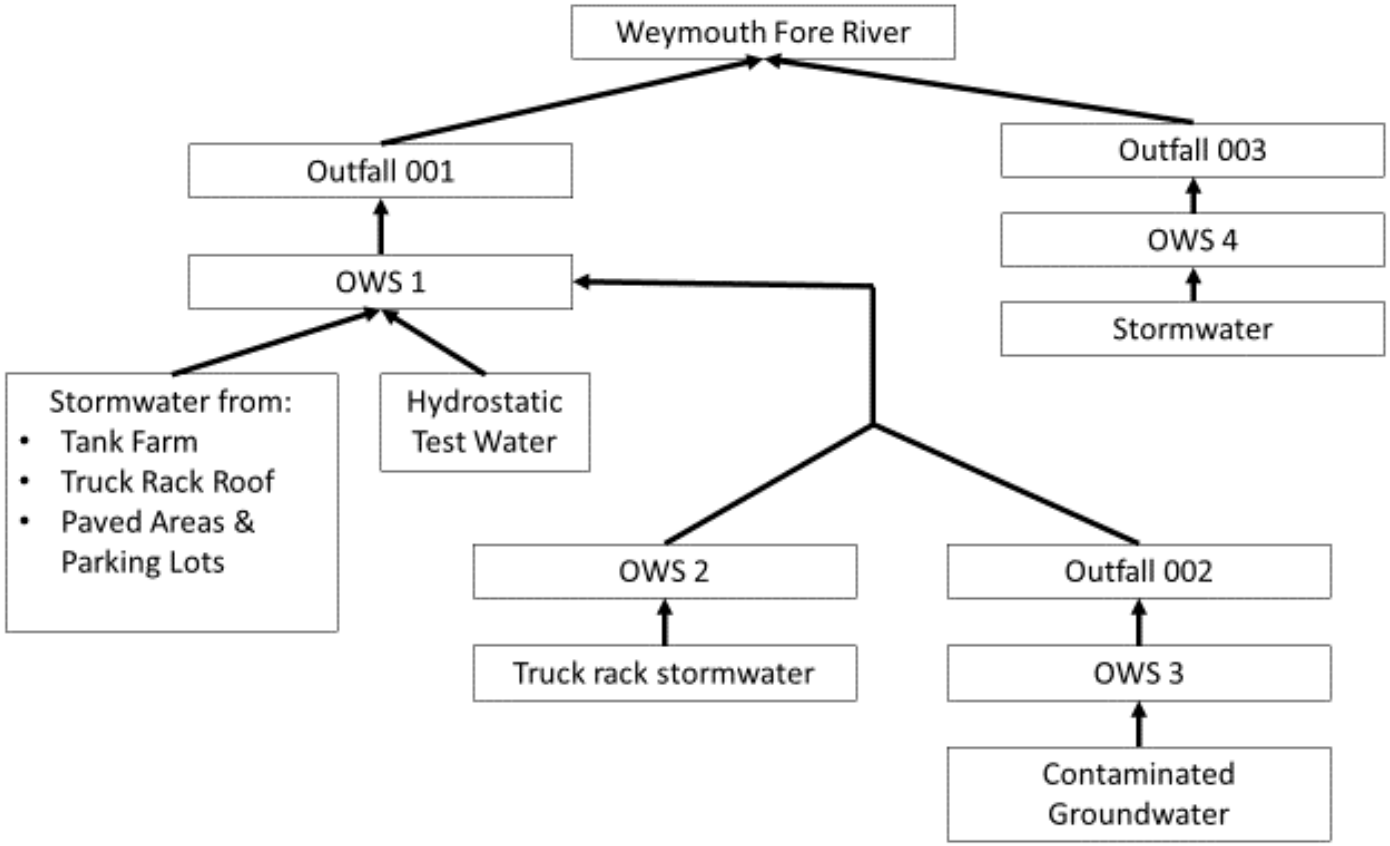


Figure 3: Schematic of Water Flow



Appendices

Appendix A: Discharge Monitoring Data

CITGO Petroleum Corp. Outfall Serial Number 001 Monthly Effluent Monitoring									
Parameter	**Total Flow**	**Flow rate**	**Flow rate**	**Flow**	**TSS**	**TSS**	**pH**	**pH**	**Oil & grease**
	MO TOTAL	**Monthly Avg**	**Daily Max**	**TOTAL**	**Monthly Avg**	**Daily Max**	**Minimum**	**Maximum**	**Daily Max**
Units	**Mgal/mo**	**gal/min**	**gal/min**	**occur/mo**	**mg/L**	**mg/L**	**SU**	**SU**	**mg/L**
Effluent Limit	**Report**	**Report**	**7500**	**Report**	**30**	**100**	**6.5**	**8.5**	**15**
Minimum	**0.229**	**5.31**	**433**	**27**	**0**	**0**	**6.8**	**6.8**	**0**
Maximum	**9.844**	**228**	**3604.1**	**31**	**29**	**32.5**	**8**	**8**	**0**
Median	**2.685**	**60.64**	**1973**	**31**	**6**	**6**	**7.5**	**7.5**	**Non-Detect**
No. of Violations	**N/A**	**N/A**	**0**	**N/A**	**0**	**0**	**0**	**0**	**0**
Monitoring Period End Date									
7/31/2015	2.21	49.61	2937	31	9	9	7.5	7.5	0
8/31/2015	0.65	14.64	1422	31	0	0	6.8	6.8	0
9/30/2015	1.3	30.2	1987	30	6	6	6.9	6.9	0
10/31/2015	1.8	40.23	3456	31	17	17	7.4	7.4	0
11/30/2015	2.6	60.28	1829	30	0	0	7.7	7.7	0
12/31/2015	3.3	73.9	1914	31	10	10	7	7	0
1/31/2016	0.91	20.36	2085	31	6	6	6.9	6.9	0
2/29/2016	3.52	84.32	3200	29	0	0	7.5	7.5	0
3/31/2016	2.49	55.73	1562	31	0	0	7.3	7.3	0
4/30/2016	2.67	61.83	2015	30	0	0	7.4	7.4	0
5/31/2016	1.15	25.8	970	31	11	11	7.1	7.1	0

6/30/2016	1.24	28.66	1722	30	6	6	7.1	7.1	0
7/31/2016	0.25	5.65	433	31	6	6	6.9	6.9	0
8/31/2016	0.35	7.88	2611.3	31	0	0	7.5	7.5	0
9/30/2016	0.229	5.31	585.3	30	0	0	7.9	7.9	0
10/31/2016	3.624	81.2	2060.3	31	< 5	< 5	7.3	7.3	< 5
11/30/2016	1.635	37.8	1574.2	30	10	10	7.3	7.3	< 5
12/31/2016	2.42	54.2	1734	31	10	10	7.4	7.4	< 5
1/31/2017	4.574	103	2424	31	7	7	7.9	7.9	< 5
2/28/2017	3.052	75.7	1959	28	< 5	< 5	7.2	7.2	< 5
3/31/2017	2.827	63.3	1377	31	5	5	7.9	7.9	< 5
4/30/2017	6.317	146	2016	30	13	13	7.4	7.4	< 5
5/31/2017	3.502	78.4	3604.1	31	8	8	7.6	7.6	< 5
6/30/2017	3.685	85.3	2247.4	30	5	5	7.6	7.6	< 5
7/31/2017	2.322	52	2070	31	< 4	< 4	6.9	6.9	< 5
8/31/2017	0.59	13.2	1747	31	4.3	4.3	7	7	< 5.2
9/30/2017	0.584	13.5	987	30	< 4	< 4	7.7	7.7	< 5.1
10/31/2017	2.7	61	3135	31	14.2	14.2	7.7	7.7	< 5.7
11/30/2017	1.449	34	902	30	8.6	8.6	7.6	7.6	< 5.7
12/31/2017	1.54	34.5	1104	31	9	9	7.6	7.6	< 5.3
1/31/2018	4.66	104	2251	27	29	29	8	8	< 5
2/28/2018	3.51	87.1	1353	28	9	9	7.5	7.5	< 5
3/31/2018	7.665	172	2581	31	5.8	5.8	7.7	7.7	< 5
4/30/2018	3.738	87	1957	30	6.4	6.4	7.8	7.8	< 5
5/31/2018	1.657	37.2	1513	31	6.2	6.2	7.8	7.8	< 5.4
6/30/2018	1.578	37	2260	30	9.8	9.8	7.1	7.1	< 5.7
7/31/2018	1.316	29.5	1528	31	7.2	7.2	7.5	7.5	< 5
8/31/2018	1.578	35.4	2200	31	7.8	7.8	7.1	7.1	< 4.9
9/30/2018	5.105	118	3404	30	< 4	< 4	7.1	7.1	< 5.2
10/31/2018	4.312	97	2107	31	6.4	6.4	7.3	7.3	< 5.2
11/30/2018	9.844	228	3234	30	5.9	5.9	7.7	7.7	< 5
12/31/2018	3.162	71	1465	31	4.6	4.6	7.7	7.7	< 5

1/31/2019	5.207	117	3425	31	4.9	4.9	7.7	7.7	< 5
2/28/2019	3.018	75	1278	28	8.1	8.1	7.8	7.8	< 5.1
3/31/2019	2.935	65.8	1711	31	6.7	6.7	7.6	7.6	< 5
4/30/2019	5.121	119	3116	30	7.3	7.3	7.84	7.84	< 5
5/31/2019	2.475	56	2240	31	7.3	7.3	7.5	7.5	< 5
6/30/2019	1.591	37	2283	30	4.8	4.8	7.2	7.2	< 5
7/31/2019	2.522	57	1952	31	19	32.5	7.4	7.4	< 5
8/31/2019	0.754	17	1643	31	< 4	< 4	7	7	< 5
9/30/2019	0.396	9.2	967	30	< 4	< 4	7.4	7.4	< 5
10/31/2019	4.129	93	3465	31	< 4	< 4	7.5	7.5	< 5
11/30/2019	4.006	93	2918	30	5.5	5.5	7.8	7.8	< 5
12/31/2019	7.442	167	2330	31	5.1	5.1	7.6	7.6	< 5
1/31/2020	2.558	57	1958	31	4	4	7.9	7.9	< 5
2/29/2020	2.927	70	1537	29	6	6	7.68	7.68	< 5
3/31/2020	3.883	87	2168	31	7.3	9	7.6	7.6	< 5
4/30/2020	7.668	177.5	3414.5	30	5	5	7.4	7.4	< 5
5/31/2020	3.215	72.01	1768.8	31	4	4	7.29	7.29	< 5
6/30/2020	1.613	37.4	1839.1	30	< 4	< 4	7.6	7.6	< 5

CITGO Petroleum Corp. Outfall Serial Number 001 Quarterly Effluent Monitoring						
Parameter	**Benzene**	**Enterococci**	**Ethylbenzene**	**Methyl tert-butyl ether**	**Toluene**	**Xylene**
	Daily Max	**Daily Max**	**Daily Max**	**Daily Max**	**Daily Max**	**Daily Max**
Units	**ug/L**	**CFU/100mL**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Effluent Limit	**51**	**Report**	**Report**	**Report**	**Report**	**Report**
Minimum	**0**	**0**	**0**	**0**	**0**	**0**
Maximum	**13.3**	**6000**	**0.22**	**0.92**	**0.8**	**1.1**

Median	**5.915**	**10**	**0**	**0**	**0**	**0**
No. of Violations	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Monitoring Period End Date						
9/30/2015	7.01	60	0	0	0	0
12/31/2015	0	0	0	0	0	0
3/31/2016	6.23	10	0	0	0	0
6/30/2016	13.3	0	0	0	0	0
9/30/2016	2.07	18	0	0	0	0
12/31/2016	< 2	< 10	< 2	< 2	< 2	< 2
3/31/2017	8.99	< 10	< 2	< 2	< 2	< 2
6/30/2017	9.7	< 10	< 2	< 2	< 2	< 2
9/30/2017	6.9	10	< 2.5	< 2.5	< 2.5	< 2.5
12/31/2017	1.7	< 10	< 2.5	0.6	< 2.5	< 2.5
3/31/2018	9.1	10	0.22	0	0.73	0.93
6/30/2018	11.3	320	0	0.92	0.8	0.88
9/30/2018	5.2	70	0	0.91	0.46	1.1
12/31/2018	4.6	10	0	0.68	0.45	0.8
3/31/2019	7.4	< 10	0	0.82	0.75	1.1
6/30/2019	6.5	10	< .3	< .87	0.5	0.8
9/30/2019	1.3	6000	< .28	< .19	0.31	< .3
12/31/2019	< .38	20	< .28	0.34	< .31	< .3
3/31/2020	5.6	< 10	< .3	< .87	0.54	< .35
6/30/2020	5.6	< 10	< 0.3	< .87	0.51	< 0.35

CITGO Petroleum Corp.
Outfall Serial Number 001
Yearly Effluent Monitoring

Parameter	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	Naphthalene
	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max	Daily Max
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Effluent Limit	Report	Report	Report	Report	Report	Report	Report	Report
Minimum	0	0	0	0	0	0	0	0
Maximum	0	0	0	0	0	0	0	0.03
Median	Non-Detect	Non-Detect	Non-Detect	Non-Detect	Non-Detect	Non-Detect	Non-Detect	0
No. of Violations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Monitoring Period End Date								
8/31/2015	0	0	0	0	0	0	0	0
8/31/2016	0	0	0	0	0	0	0	0
8/31/2017	< .05	< .05	< .05	< .05	< .05	< .05	< .05	< .05
8/31/2018	< .05	< .05	< .1	< .1	< .1	< .1	< .1	< .1
8/31/2019	< .05	< .05	< .1	< .1	< .1	< .1	< .1	0.03

CITGO Petroleum Corp. Outfall Serial Number 002 Monthly Effluent Monitoring					
Parameter	Flow rate	Benzene	Flow rate	Hydrocarbons, petroleum	Methyl tert-butyl ether
	Monthly Avg	Daily Max	Daily Max	Daily Max	Daily Max
Units	gal/min	ug/L	gal/min	mg/L	ug/L
Effluent Limit	Report	5	25	5	70
Minimum	1	0	0	0	0
Maximum	6	0	24	0	58

Median	**2**	**Non-Detect**	**21**	**Non-Detect**	**0**
No. of Violations	**N/A**	**0**	**0**	**0**	**0**
Monitoring Period End Date					
7/31/2015	4.3	0	21	0	53
8/31/2015	4.2	0	21	0	0
9/30/2015	1	0	21	0	3
10/31/2015	1.2	0	21	0	10
11/30/2015	3.5	0	21	0	58
12/31/2015	4.6	0	21	0	0
1/31/2016	3.7	0	21	0	0
2/29/2016	6	0	21	0	2
3/31/2016	4.7	0	21	0	0
4/30/2016	3.2	0	21	0	0
5/31/2016	3	0	2.1	0	0
6/30/2016	3.1	0	21	0	49
7/31/2016	1.5	0	21	0	0
8/31/2016	2	0	21	0	0
9/30/2016	1.9	0	21	0	9
10/31/2016	1.8	< 2	21	< 5	10
11/30/2016	2	< 2	21	< 5	29
12/31/2016	1.89	< 2	21	< 5	< 2
1/31/2017	2.4	< 2	21	< 5	35
2/28/2017	2.3	< 2	21	< 5	< 2
3/31/2017	2.2	< 2	20	< 5	12
4/30/2017	2.7	< 2	20	< 5	< 2
5/31/2017	2	< 2	20	< 5	< 2
6/30/2017	1.9	< 2	20	< 5	< 2
7/31/2017	2.12	< 2	20	< 5	< 2

8/31/2017	1.68	< 2	20	< 5	10
9/30/2017	1.71	< 2	21	< 5	36
10/31/2017	1.84	< 2	22	< 5	< 2
11/30/2017	2.14	< 2	24	< 5	< 2
12/31/2017	2	< 2	22	< 5	< 2
1/31/2018	1.21	< 2	22	< 5	4
2/28/2018	2.1	< 2	22	< 5	4
3/31/2018	3.6	< 2	22	< 5	< 2
4/30/2018	2.74	< 2	20	< 5	< 2
5/31/2018	2.1	< 2	19	< 5	28
6/30/2018	1.23	< 2	18	< 5	< 2
7/31/2018	1.5	< 2	17	< 4	< 2
8/31/2018	1.42	< 2	17	< 5	< 2
9/30/2018	2	< 2	21	< 5	< 2
10/31/2018	2	< 2	21	< 5	< 2
11/30/2018	2.3	< 2	23	< 5	< 2
12/31/2018	1.76	< 2	11	< 5	7
1/31/2019	1.7	< 2	21	< 5	49
2/28/2019	2.1	< 2	13	< 5	< 2
3/31/2019	2.4	< 2	15	< 5	< 2
4/30/2019	2.4	< 2	24	< 5	3
5/31/2019	2.2	< 2	22	< 5	10
6/30/2019	2.4	< 2	22	< 5	< 2
7/31/2019	2.2	< 2	20	< 5	< 2
8/31/2019	1.9	< 2	20	< 5	8
9/30/2019	1	< 2	18.6	< 5	21
10/31/2019	1	< 2	16	< 5	< 2
11/30/2019	1.1	< 2	13	< 5	< 2
12/31/2019	1.6	< 2	12.5	< 5	< 2
1/31/2020	1.6	< 2	12	< 5	4
2/29/2020	2	< 2	12	< 5	10

3/31/2020	1.6	< 2	15.4	< 5	< 2
4/30/2020	2.26	< 2	15.2	< 5	< 2
5/31/2020	2	< 2	16.3	< 5	< 2
6/30/2020	1.41	< 2	< 15.5	< 5	< 2

CITGO Petroleum Corp. Outfall Serial Number 002 Quarterly Effluent Monitoring				
Parameter	**Total BTEX**	**Ethylbenzene**	**Toluene**	**Xylene**
	Daily Max	**Daily Max**	**Daily Max**	**Daily Max**
Units	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Effluent Limit	**100**	**Report**	**Report**	**Report**
Minimum	**0**	**0**	**0**	**0**
Maximum	**0**	**0**	**0**	**0**
Median	**Non-Detect**	**Non-Detect**	**Non-Detect**	**Non-Detect**
No. of Violations	**0**	**N/A**	**N/A**	**N/A**
Monitoring Period End Date				
9/30/2015	0	0	0	0
12/31/2015	0	0	0	0
3/31/2016	0	0	0	0
6/30/2016	0	0	0	0
9/30/2016	0	0	0	0
12/31/2016	< 2	< 2	< 2	< 2
3/31/2017	< 2	< 2	< 2	< 2
6/30/2017	< 2	< 2	< 2	< 2
9/30/2017	< 2	< 2	< 2	< 2

12/31/2017	< 2	< 2	< 2	< 2
3/31/2018	< 2	< 2	< 2	< 2
6/30/2018	< 2	< 2	< 2	< 2
9/30/2018	< 2	< 2	< 2	< 2
12/31/2018	< 2	< 2	< 2	< 2
3/31/2019	< 2	< 2	< 2	< 2
6/30/2019	< 2	< 2	< 2	< 2
9/30/2019	< 2	< 2	< 2	< 2
12/31/2019	< 2	< 2	< 2	< 2
3/31/2020	< 2	< 2	< 2	< 2
6/30/2020	< 2	< 2	< 2	< 2

Notes:

Mgal/mo = million gallons per month
gal/min = gallons per minute
occur/mo = occurences per month
mg/L = milligrams per liter
SU = Standard Units
0 = parameter not detected
NA = not applicable
µg/L = micrograms per liter
CFU/100mL = colony forming units per 100 milliliters

Appendix B: Reasonable Potential Analysis

Methodology

A reasonable potential analysis is completed using a single set of critical conditions for flow and pollutant concentration that will ensure the protection of water quality standards. To determine the critical condition of the effluent, EPA projects an upper bound of the effluent concentration based on the observed monitoring data and a selected probability basis. EPA generally applies the quantitative approach found in Appendix E of the *Technical Support Document for Water Quality-based Toxics Control* (TSD) to determine the upper bound of the effluent data. This methodology accounts for effluent variability based on the size of the dataset and the occurrence of non-detects (i.e., samples results in which a parameter is not detected above laboratory minimum levels). For datasets of 10 or more samples, EPA used the upper bound effluent concentration at the 95th percentile of the dataset. For datasets of less than 10 samples, EPA used a lognormal distribution and conservative coefficient of variation of 0.6 to calculate the 95th percentile. For datasets that include one or more non-detect results, EPA used a delta-lognormal distribution to calculate the 95th percentile.

EPA uses the calculated upper bound of the effluent data and a concentration representative of the parameter in the receiving water outside of the zone of influence of the discharge to project the downstream concentration after complete mixing using the following simple mass-balance equation:

$$(DF - 1) + C_e = C_d(DF)$$

Where:

C_d = downstream concentration
C_e = effluent concentration (95th percentile of effluent concentrations)
DF = dilution factor (See Available Dilution section of the Fact Sheet)

Where there is no available dilution (i.e., DF = 1), the receiving water concentration downstream of the discharge (C_d) is equal to the effluent concentration.

When the downstream concentration exceeds the applicable criterion, there is reasonable potential for the discharge to cause, or contribute to an excursion above WQSs. *See* 40 CFR § 122.44(d). When EPA determines that a discharge causes, has the reasonable potential to cause, or contribute to such an excursion, the permit must contain WQBELs for the parameter. The limitation is calculated by rearranging the above mass balance equation to solve for the effluent concentration (C_e) using the applicable criterion as the downstream concentration (C_d). *See* 40 CFR § 122.44(d)(1)(iii).

Determination of Applicable Criteria

State water quality criteria are derived from EPA's *National Recommended Water Quality Criteria: 2002*, which are incorporated into the state WQSs by reference at 315 CMR 4.05(5). The criteria are presented in the following table:

Parameter	Acute Criteria (CMC)
Units	µg/L
Methyl tert-Butyl Ether	20

Calculation of Reasonable Potential

EPA first calculated the upper bound of expected effluent concentrations for each parameter. EPA then used the calculated upper bound of expected effluent concentrations, the permitted daily maximum effluent flow and the dilution factor to project the in-stream concentration downstream from the discharge. When this resultant in-stream concentration exceeds the applicable criterion, there is reasonable potential for the discharge to cause, or contribute to an excursion above water quality standards. The results are summarized in the table below.

Summary of Reasonable Potential Results

Parameter	Effluent Concentration[1]	Downstream Concentration[2]	Applicable Criterion	Acute Reasonable Potential[3]
Units	µg/L	µg/L	µg/L	—
Methyl tert-Butyl Ether	0.97	0.97	20	N

[1] Values represent the 95th percentile concentration calculated using the monitoring data reported by the Facility (*See* Appendix A).
[2] Values represent the 95th percentile concentration divided by the dilution factor 1:1.
[3] "Y" is indicated if downstream concentration exceeds the acute criterion.

Methyl tert-butyl ether does not have a reasonable potential to cause or contribute to an excursion above water quality standards.

Appendix C: Additional Monitoring Requirement Minimum Levels

Parameter	Recommended Test Method(s)	Minimum Level Required
Total Recoverable Antimony	200.7, 200.8, or 200.9	≤ 640 µg/L
Total Recoverable Arsenic	200.7, 200.8, or 200.9	≤ 1.4 µg/L
Total Recoverable Cadmium	200.8, or 200.9	≤ 8.9 µg/L
Total Recoverable Chromium	200.7, 200.8, or 200.9	≤ 50 µg/L
Total Recoverable Copper	200.8, or 200.9	≤ 3.7 µg/L
Total Recoverable Iron	200.7, or 200.8	≤ 300 µg/L
Total Recoverable Lead	200.8, or 200.9	≤ 1.0 µg/L
Total Recoverable Mercury	245.1 or 245.2	≤ 0.6 µg/L
Total Recoverable Nickel	200.8, or 200.9	≤ 8.3 µg/L
Total Recoverable Selenium	200.7, 200.8, or 200.9	≤ 71 µg/L
Total Recoverable Silver	200.8	≤ 2.2 µg/L
Total Recoverable Zinc	200.7, or 200.8	≤ 86 µg/L
Total Flow	Meter	---
Total Suspended Solids (TSS)	SM 2540D	30 mg/L
pH	SM 4500B	---
Oil & Grease	SM 5520B, or 1664A or B	15 mg/L
Total Petroleum Hydrocarbons (TPH)	1664A	5 mg/L
Total Group I Polycyclic Aromatic Hydrocarbons (PAHs)	625 with Selected Ion Monitoring (SIM)	0.1 µg/L for each individual PAH
Total Group II Polycyclic Aromatic Hydrocarbons (PAHs)	625	2 µg/L for each individual PAH
Total BTEX	624	2 µg/L for each individual compound
Total Nitrogen	SM 4500NH_3 B	---
Ammonia	SM 4500NH_3 B	0.1 µg/L
Total Phosphorus	SM 4500-P B, E, F, G, or H	5 µg/L
Total Cyanide	SM 4500CN	5 µg/L

Notes:

Total Group I PAHs is the sum of: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene.

Total Group II PAHs is the sum of: acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, fluoranthene, fluorene, naphthalene, phenanthrene, pyrene.

Total BTEX is the sum of: benzene, toluene, ethylbenzene, and (m,p,o) xylenes.

Total nitrogen is equal to the total Kjeldahl nitrogen minus total ammonia nitrogen.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 1 (EPA)
WATER DIVISION
5 POST OFFICE SQUARE
BOSTON, MASSACHUSETTS 02109

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (MASSDEP)
COMMONWEALTH OF MASSACHUSETTS
1 WINTER STREET
BOSTON, MASSACHUSETTS 02108

EPA PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO WATERS OF THE UNITED STATES UNDER SECTION 402 OF THE CLEAN WATER ACT (CWA), AS AMENDED, AND MASSDEP PUBLIC NOTICE OF EPA REQUEST FOR STATE CERTIFICATION UNDER SECTION 401 OF THE CWA.

PUBLIC NOTICE PERIOD: **10/26/2020 – 11/24/2020**

PERMIT NUMBER: **MA0004782**

PUBLIC NOTICE NUMBER: **MA-003-21**

NAME AND MAILING ADDRESS OF APPLICANT:

CITGO Petroleum Corporation
P.O. Box 655
Pennsauken, NJ 08110

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

CITGO Braintree Terminal
385 Quincy Avenue
East Braintree, MA 02184

RECEIVING WATER AND CLASSIFICATION:

Weymouth Fore River (Class SB)

PREPARATION OF THE DRAFT PERMIT AND EPA REQUEST FOR CWA § 401 CERTIFICATION:

EPA is issuing for public notice and comment the Draft NPDES Permit for the CITGO Braintree Terminal, which discharges treated stormwater, hydrostatic test water, and groundwater. The effluent limits and permit conditions imposed have been drafted pursuant to, and assure compliance with, the CWA, including EPA-approved State Surface Water Quality Standards at 314 CMR 4.00. MassDEP cooperated with EPA in the development of the Draft NPDES Permit. MassDEP retains independent authority under State law to issue a separate Surface Water Discharge Permit for the discharge, not the subject of this notice, under the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53.

In addition, EPA has requested that MassDEP grant or deny certification of this Draft Permit pursuant to Section 401 of the CWA and implementing regulations. Under federal regulations governing the NPDES program at 40 Code of Federal Regulations (CFR) § 124.53(e), state certification shall contain conditions that are necessary to assure compliance with the applicable provisions of CWA sections 208(e), 301, 302, 303, 306, and 307 and with appropriate requirements of State law, including any conditions more stringent than those in the Draft Permit that MassDEP finds necessary to meet these requirements. In addition, MassDEP may provide a statement of the extent to which each condition of the Draft Permit can be made less stringent without violating the requirements of State law.

INFORMATION ABOUT THE DRAFT PERMIT:

The Draft Permit and explanatory Fact Sheet may be obtained at no cost at https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits or by contacting:

Nathan Chien
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (06-1)
Boston, MA 02109-3912
Telephone: (617) 918-1649
Chien.Nathan@epa.gov

Following U.S. Centers for Disease Control and Prevention (CDC) and U.S. Office of Personnel Management (OPM) guidance and specific state guidelines impacting our regional offices, EPA's workforce has been directed to telework to help prevent transmission of the coronavirus. While in this workforce telework status, there are practical limitations on the ability of Agency personnel to allow the public to review the administrative record in person at the EPA Boston office. However, any electronically available documents that are part of the administrative record can be requested from the EPA contact above.

PUBLIC COMMENT AND REQUESTS FOR PUBLIC HEARINGS:

All persons, including applicants, who believe any condition of this Draft Permit is inappropriate must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by November 24, 2020**,** which is the close of the public comment period. Comments, including those pertaining to EPA's request for CWA § 401 certification, should be submitted to the EPA contact at the address or email listed above. Upon the close of the public comment period, EPA will make all comments available to MassDEP.

Any person, prior to the close of the public comment period, may submit a request in writing to EPA for a public hearing on the Draft Permit under 40 CFR § 124.10. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice if the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on this Draft Permit, the Regional Administrator will respond to all significant comments and make the responses available to the public.

Due to the COVID-19 National Emergency, if comments are submitted in hard copy form, please also email a copy to the EPA contact above.

FINAL PERMIT DECISION:

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and notify the applicant and each person who has submitted written comments or requested notice.

KEN MORAFF, DIRECTOR
WATER DIVISION
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY – REGION 1

LEALDON LANGLEY, DIRECTOR
DIVISION OF WATERSHED MGMT
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION