

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
1 CONGRESS STREET - SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023**

FACT SHEET

**DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES**

NPDES PERMIT NO: **MA0004405**

PUBLIC NOTICE DATE:

NAME AND ADDRESS OF APPLICANT:

**Coastal Oil New England, Incorporated
900 East First Street
South Boston, Massachusetts 02127**

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

**Coastal Oil New England - South Boston Terminal
900 East First Street
South Boston, Massachusetts 02127**

RECEIVING WATER: **Reserved Channel to Boston Inner Harbor
(Boston Harbor Basin, MA70-02)**

CLASSIFICATION: SB

I. PROPOSED ACTION

The above named applicant has applied to the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for the re-issuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge treated storm water and ground water into the designated receiving water. The permit, which was issued to Coastal Oil New England, Incorporated (Coastal) on May 4, 1998 (the Current Permit), became effective on June 4, 1998, was modified on January 30, 2001, and expired on June 4, 2002. EPA received a permit renewal application dated April 25, 2002 from Coastal. Since the permit renewal application was deemed complete by EPA, the permit has been administratively continued.

II. TYPE OF FACILITY

The Coastal facility was a former petroleum bulk station and terminal engaged in the receipt, storage, and distribution of petroleum products. The product spectrum previously handled at this facility consists of gasoline constituents, distillate products (i.e. kerosene, No. 2 fuel oil, No. 4 fuel oil, diesel, and jet fuel) and residual products (No. 6 oil and asphalt) (USEPA, 1997). Since the last permit re-issuance, the terminal closed and the tank farm was dismantled with the exception of Tank 18.

The discharges subject to NPDES requirement consists of: 1) treated storm water runoff from the facility and 2) treated ground water from the multi-phase vacuum extraction process. The treated storm water discharges from Outfall 001 to the Reserved Channel. The treated ground water discharges from Outfall 002 through the City of Boston Water and Sewer Commission's (BWSC) combined sewer overflow system (CSO) and ultimately to the Reserved Channel. A map of the facility discharge locations is provided in Attachment A to this Fact Sheet.

III. NPDES PERMIT HISTORY

- July 30, 1974 – Permit issued.
- February 20, 1996 – Permit Exclusion for operation of ground water recovery and treatment system issued – valid 6 months. Ground water remediation system not yet constructed.
- August 1996 – Verbal extension of Permit Exclusion for operation of ground water recovery and treatment system. Groundwater remediation system not yet constructed.
- February 20, 1997 – Permit Exclusion expired. No discharge from ground water remediation system occurred since ground water remediation system still not constructed.
- May 4, 1998 – Current Permit issued.
- June 4, 1998 – Current Permit became effective. Authorized discharge of treated storm water through Outfall 001 and Outfall 002.
- July 1998 – Minor modification to allow removal of Outfall 002 from Current Permit. All storm water directed to treatment and discharge through Outfall 001.
- November 5, 1998 – All storm water redirected to storage in Tank 18.
- January 30, 2001 – Modification to allow reinstatement of Outfall 002 as a permitted outfall for discharge of treated groundwater previously discharged under the February 20, 1996 Permit Exclusion.
- April 25, 2002 – Application for Permit renewal submitted to EPA.
- June 4, 2002 – Current Permit expired, administratively continued.
- February 27, 2006 – Authorization to discharge excavation dewatering waste water through Outfall 001 under the Remediation General Permit (RGP Authorization # MAG910193).

IV. SUMMARY OF MONITORING DATA

A quantitative description of the discharges in terms of significant effluent parameters based on discharge monitoring reports (DMRs) submitted for the Coastal South Boston terminal during

the time period of 1998 through December 2005 was reviewed and used in the development of the draft National Pollutant Discharge Elimination System (NPDES) permit (Draft Permit). Since the issuance of the Current Permit until November 1998, storm water was treated by a back-up unit consisting of a series of frac tanks. Beginning on November 5, 1998, all storm water collected at the facility was directed to Tank 18 (Glezen and Marchesi, December 1998). A summary of this data is provided in Attachment B to this Fact Sheet.

V. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMITATION DERIVATION

The effluent limitations, monitoring requirements, and any implementation schedule, if required, may be found in Part 1 (Effluent Limitations and Monitoring Requirements) of the Draft Permit. The permit re-application is part of the administrative file (Permit No. MA0004405).

A. General Requirements

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a NPDES permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. The Draft Permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. During development, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in the current/existing permit. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136. The general conditions of the Draft Permit are based on 40 CFR §122.41 and consist primarily of management requirements common to all permits. The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308(a) of the CWA in accordance with 40 CFR §122.41(j), §122.44(i), and §122.48.

Section 402(p) of the CWA requires that EPA issue NPDES permits for storm water discharges which were permitted prior to February 4, 1987 [See 40 CFR §122.26(a)(1)(i)]. Since the facility had a permitted storm water discharge prior to February 4, 1987, the facility must be permitted through an individual facility NPDES permit. Furthermore, due to an occurrence of elevated PAH levels measured at Outfall 001 in June 2004 and the possibility of residual contamination during the transitional period of the facility from bulk petroleum terminal to some future unknown use, the facility must continue to be permitted through an individual facility NPDES permit.

Storm water discharges from activities associated with petroleum bulk stations and terminal operations must satisfy best conventional technology (BCT) and best available technology (BAT) requirements and must comply with more stringent water quality standards if BCT and BAT requirements are not adequate. On September 25, 1992, EPA promulgated through its General Permit for Storm Water Discharge Associated with Industrial Activity, that the minimum BAT/BCT requirement for storm water discharges associated with industrial activity is a Storm Water Pollution Prevention Plan (SWPPP) [57 FR, 44438]. In addition to including

SWPPP requirements in the Draft Permit, EPA has decided to include effluent limitations (e.g., technology-based and water quality-based limits) to ensure that petroleum constituents do not contribute to violations of the State's water quality standards.

1. Technology-Based Requirements

Subpart A of 40 CFR §125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 301(b) of the CWA, including the application of EPA promulgated effluent limitations and case-by-case determinations of effluent limitations under Section 402(a)(1) of the CWA.

Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 CFR §125 Subpart A) 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. In general, technology-based effluent guidelines 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.

EPA has not promulgated technology-based National Effluent Guidelines for storm water discharges from petroleum bulk stations and terminals (Standard Industrial Code 5171). In the absence of technology-based effluent guidelines, the permit writer is authorized under Section 402(a)(1)(B) of the CWA to establish effluent limitations on a case-by-case basis using Best Professional Judgement (BPJ).

2. Water Quality-Based Requirements

Water quality-based criteria are required in NPDES permits when EPA and the State determine that effluent limits more stringent than technology-based limits are necessary to maintain or achieve state or federal water-quality standards (See Section 301(b) (1)(C) of the CWA). Water quality-based criteria consist of three (3) parts: 1) beneficial designated uses for a water body or a segment of a water body; 2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s) of the water body; and 3) anti-degradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts State Water Quality Standards, found at 314 CMR 4.00, include these elements. The State Water Quality Regulations limit or prohibit discharges of pollutants to surface waters and thereby assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, be used unless a site-specific criteria is established. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR §122.44(d).

Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts. The Commonwealth of Massachusetts (State) has a similar narrative criterion in their water quality regulations that prohibits such discharges [See Massachusetts Title 314 CMR 4.05(5)(e)]. The effluent limits established in the Draft Permit assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained.

3. Anti-Backsliding

EPA's anti-backsliding provision as identified in Section 402(o) of the Clean Water Act and at 40 CFR §122.44(l) prohibits the relaxation of permit limits, standards, and conditions unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued. Anti-backsliding provisions apply to effluent limits based on technology, water quality, BPJ and State Certification requirements. Relief from anti-backsliding provisions can only be granted under one of the defined exceptions [See 40 CFR §122.44(l)(i)]. Since none of these exceptions apply to this facility, as it is in a transitional period with residual contamination from former facility operations, the effluent limits in the Draft Permit must be as stringent as those in the Current Permit.

4. Anti-Degradation

The Massachusetts Anti-Degradation Policy is found at Title 314 CMR 4.04. All existing uses of the Reserved Channel must be protected. The Reserved Channel is classified as a Class SB water body by the State of Massachusetts and as such, is designated as a habitat for fish, other aquatic life and wildlife and for primary (e.g., wading and swimming) and secondary (e.g., fishing and boating) contact recreation. A Class SB water body may also be suitable for shellfish harvesting but there are no areas within the Reserved Channel currently approved by the State for such use. This Draft Permit is being reissued with allowable effluent limits as stringent as or more stringent than the Current Permit and accordingly will continue to protect the existing uses of the Reserved Channel.

B. Description of the Facility

Coastal Oil's (previously Belcher of South Boston) petroleum bulk station and terminal was first constructed in 1931 by White Fuel. Three series of product storage tanks were later added to the tank farm, as needed. Recent owners of the terminal include Texaco (approximately 1970 through 1985) and Coastal (1985 through the present).

Previously a bulk petroleum storage facility, the Coastal Oil site consists of 33.5 acres of land in South Boston, Massachusetts on the south shore of the Reserved Channel in Boston Inner Harbor. Previous activities at the facility consisted of the receipt, storage, and distribution of petroleum products. Product has not been stored on-site since winter 2002.

Coastal is located at 900 East First Street and is faced by a garage property, which is no longer in use, on the opposite side of the street. A molasses plant owned by Conroy Development, which is no longer in use, is contained between the former area containing the teen series of tanks and

that containing the twenty series of tanks (See Attachment C to this Fact Sheet). A decommissioned power plant and MASSPORT property flank the site.

All of the petroleum storage tanks have been dismantled and removed, with the exception of Tank 18. The former tank farm areas, two of which are referred to above, consist of the teens, the 20's, the 30's and the 40's. See Attachment C to this Fact Sheet for a site map of the former facility to illustrate the locations of the tank areas. The four areas have repressed soil foundations, with the exception of part of the 20's area, which still contains the residual concrete base from Tank 25. All tank areas are at least 3-4 feet below grade, with the teen's and the 20's areas 8-10 feet below grade.

The following structures remain onsite: 1) A boiler building near Tank 18; 2) trailers which house the vacuum extraction process; 3) an office building located at the front of the property; 4) an empty 5,000 gallon above-ground diesel storage tank; and, 5) a foam house (a foam fire protection system).

Historically, the oil/water (O/W) separator that acts as a lift station adjacent to Tank 18 connected to another O/W separator for the treatment of the storm water prior to its discharge. As of November 5, 1998, all storm water collected at the facility was redirected to Tank 18 (Glezen and Marchesi, December 1998). The O/W separator that previously provided treatment was removed and the remaining O/W separator adjacent to Tank 18 became a lift station for storm water to Tank 18 through use of two internal pumps. The capacity of Tank 18 is 2.27 million gallons.

During previous plant operation, Coastal operated four (4) boilers which were used to facilitate the transfer of No. 6 Fuel Oil stored at the facility. A small volume of water was withdrawn from the boilers on a daily basis as part of the required operation and maintenance. This "boiler blow-down" was needed to prevent the potential build-up of naturally occurring mineral salts which can interfere with the operation of the boilers. When the terminal was active, Coastal discharged approximately 244 gallons per day of boiler blow-down into the on-site storm water conveyance system for treatment and discharge through Outfall 001. The boilers were used most recently in the winters of 2003 and 2004 to heat Tank 18 to prevent freezing. Coastal does not anticipate future operation of the boilers.

Coastal stopped dispensing product in the spring 2002 and the removal of the tank farm commenced. The petroleum storage tanks were removed by January 2004, with removal of piping closely following. Nearly all of the components of the active terminal were removed including the product tanks, dikes, and the steel tank bottoms. The site was re-graded and grass was planted. Impervious areas now account for about 15-20% of the site. All tank-bottom water was consolidated and hauled off-site by a licensed waste hauler for treatment and disposal elsewhere (USEPA, 1997).

The Current Permit was modified in January 30, 2001 to allow discharge of treated ground water through Outfall 002. Coastal completed construction in fall 2003 of a vacuum extraction process to treat the contaminated groundwater and began discharge in spring 2004.

The last storm water discharge from Outfall 001 occurred on May 5-6, 2005. On May 26-27, 2005, Tank 18 was cleaned and all residual water, rust, and accumulated soils were removed from inside the tank. The O/W separator used as a lift station was also cleaned at this time. This was in preparation for use of Tank 18 as part of treatment for excavation dewatering waste.

On February 27, 2006, Coastal was granted an authorization to discharge under the Remediation General Permit (RGP) for excavation dewatering waste water discharge through Outfall 001. The previously cleaned Tank 18 was used in the treatment train for the excavation dewatering process (Brennan, April 18 2006).

C. Description of Discharge

This Draft Permit authorizes the discharge of treated storm water runoff from one outfall (Outfall 001) at the facility. The Draft Permit also authorizes the discharge of treated ground water from one outfall (Outfall 002) to BWSC's collection system, through CSO 080 to the Reserved Channel.

1. Outfall 001

In July 1998, Coastal modified the terminal drainage system to redirect storm water flow to Outfall 001. At this time storm water still flowed through the O/W separator adjacent to Tank 18 (used as a lift station) to another O/W separator for treatment before discharge through Outfall 001. On November 5, 1998, the treatment of storm water was reconfigured. Tank 18 (which once stored diesel fuel) was converted to substitute for storm water treatment, rather than an approved O/W separator. The underground O/W separator adjacent to Tank 18 functions as a lift station to convey storm water into Tank 18.

Storm water collects within the tank areas of the facility and evaporates, infiltrates into the ground, and drains into the facility's underground storm water drainage system. Manually operated sump pumps in each tank area, except for the 40's, control the storm water flow to the lift station adjacent to Tank 18. The storm water catch basins in the 40's area are blocked off to prevent the previously gravity driven storm water flow to Tank 18. (The 40's area consists of biopiles¹ for the treatment of soil from excavation of the 20's area.) An underground O/W separator at the front of the property operates as a lift station for the storm water runoff from the paved areas, pumping it to the teen's and 20's areas for subsequent pumping to the lift station adjacent to Tank 18. The storm water is then discharged from Tank 18 through Outfall 001, which is located adjacent to the terminal's former vessel dock. A line drawing of the flow through Outfall 001 is included in Attachment D to this Fact Sheet.

Tank 18 is surrounded by a containment wall with a coffer dam between the tank wall and the containment wall. There is a small observance window on the side of the containment wall

1. Biopiles are used to reduce concentrations of petroleum constituents in excavated soils through the use of biodegradation. This technology involves heaping contaminated soils into piles and stimulating aerobic microbial activity within the soils through the aeration and/or addition of minerals, nutrients, and moisture. The enhanced microbial activity results in degradation of adsorbed petroleum-product constituents through microbial respiration (USEPA, 2004).

adjacent to the coffer dam to observe the treated water for sheen prior to discharge. A valve between Tank 18 and the coffer dam controls flow into the coffer dam. Another valve leading from the coffer dam controls the gravitational flow of treated water from Tank 18 through Outfall 001 to the Reserved Channel. Discharge from Tank 18 is a batch discharge and is manually initiated. There is a tap on the outfall pipe which is used to take samples of the effluent.

Coastal does not anticipate future boiler operation or boiler blow-down discharge through Outfall 001. The last time the boilers were operated was April 2004. This Draft Permit prohibits the discharge of boiler blow-down.

Since June 2005, Coastal has treated storm water by retention within the tank areas and infiltration and evaporation, not through Tank 18, and therefore has not discharged through Outfall 001. Coastal plans to continue treatment in this manner as storm water flow allows. Additional details regarding the monitoring requirements for Outfall 001 are provided in Section V.E.1 of this Fact Sheet.

2. Outfall 002

Due to historical releases of petroleum products at this facility, MassDEP has required the facility to design and operate a ground water treatment system (pursuant to the Massachusetts Contingency Plan (310 CMR 40)). In October 2003, Coastal installed a multi-phase vacuum extraction (MPE) process to treat the contaminated groundwater and recover an unknown quantity of product. This process consists of a vacuum enhanced recovery system, an equalization tank, pH adjustment, a high efficiency coalescing O/W separator, pH adjustment, a polymer enhanced settling system, clarification, pH adjustment, micro filtration, an air stripper, bag filtration, and a liquid phase granulated activated carbon polishing unit for further reduction of VOCs. The average flow rate is 22 gallons per minute (gpm) and the maximum design flow rate is 25 gpm. A diagram of the MPE treatment system layout is included in Attachment E to this Fact Sheet.

Prior to the July 1998 request from Coastal to remove Outfall 002 from the NPDES permit, some storm water from the facility was treated by an additional O/W separator and discharged through Outfall 002. Since 1998, all storm water is routed to the main treatment system and discharged through Outfall 001. Therefore, for this draft permit, only treated ground water can be discharged through Outfall 002.

The treated groundwater from the remediation system that previously operated under the Permit Exclusion of February 20, 1996 now discharges through Outfall 002 to the BWSC's collection system, and eventually to the Reserved Channel by means of Combined Sewer Overflow 080. Additional details regarding the monitoring requirements for Outfall 002 are provided in Section V.E.2 of this Fact Sheet.

D. Discharge Location

The receiving water, Reserved Channel to Boston Inner Harbor (Boston Harbor Basin MA70-02), is designated as a Class SB (CSO) under the Massachusetts Surface Water Quality Standards. The CSO designation identifies the waters as impacted by the discharge of combined sewer overflows (CSO). Title 314 Code of Massachusetts Regulations (CMR 4.05(4)(b)) states that Class SB waters have the following designated uses: "These waters are designated as habitat for fish, other aquatic wildlife and wildlife and for primary and secondary contact recreation. In approved areas they shall be suitable for shellfish harvesting with depuration (Restricted Shellfish Areas). These waters shall have consistently good aesthetic value."

Section 303(d) of the Federal Clean Water Act (CWA) requires states to identify those water-bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and, as such require the development of total maximum daily loads (TMDL). According to the *Massachusetts Year 2004 Integrated List of Waters* (MassDEP, 2004) and in the *Boston Harbor Watershed 1999 Water Quality Assessment Report* (MassDEP, 2002), the Boston Inner Harbor (including the Reserved Channel) is on the 1998 CWA 303(d) list for priority organics and pathogens.

MassDEP is required under the CWA to develop a Total Maximum Daily Load (TMDL) for a water body once it is identified as impaired. A TMDL is essentially a pollution budget designed to restore the health of a water body. A TMDL first identifies the source(s) of the pollutant from direct and indirect discharges in order to next determine the maximum amount of pollutant (including a margin of safety) that can be discharged to a specific water body while maintaining water quality standards for designated uses. It then outlines a plan to meet the goal.

A TMDL has not yet been developed for the Boston Inner Harbor (Segment 70-02). In the interim, EPA is developing the conditions for this permit based on a combination of water quality standards and BPJ. If a TMDL developed in the future identifies that the discharge from the facility is causing or contributing to the non-attainment of surface water quality criteria, the permit may be re-opened.

E. Proposed Permit Effluent Limitations and Conditions

The Draft Permit for Coastal Oil, authorizing the discharge of storm water and ground water, includes effluent limits and requires the development, implementation, and annual review of the SWPPP prepared for the facility. The effluent parameters in the Draft Permit are discussed in more detail below according to the effluent characteristic(s) being regulated.

1. Treated Storm Water (Outfall 001)

The current permit authorizes treatment of treated storm water through Outfall 001. The effluent characteristics identified in Section I.A.1 of the Draft Permit are discussed in more detail below.

a. Flow

The typical treatment technology employed by petroleum bulk storage terminals for storm water runoff is an O/W separator. This device uses gravity to separate the lower-density oils from

water, resulting in an oil phase above the O/W interface and a heavier particulate phase (sludge) on the bottom of the separator. Accordingly, the sizing of O/W separators is based on the following design parameters: water-flow rate; density of oil to be separated; desired percentage removal of oil; and the operating temperature range.

To ensure proper operation of installed O/W separators such that the oil and/or particulate phase are not entrained in the waterway, it is important that the flow through the separator be maintained at or below the maximum design flow rate of the separator. In order to ensure that this criterion is met, EPA and the MassDEP required that the facility install a continuous flow-rate recorder for each outfall within 120 days of the effective date of the Current Permit. The Current Permit allows the permittee, however, to request the Regional Administrator to accept an alternate method for controlling the maximum flow rate through the separator as follows:

1. By installing a flow constrictor or reduction device to prevent the flow through the separator from ever exceeding the maximum design flow rate or,
2. By demonstrating to EPA and the MassDEP that the terminal's "operational procedures" are sufficiently detailed, clear, and rigid that the operators will not exceed the maximum design flow rate, by concurrently draining more undiked and diked areas than prescribed in the procedures or,
3. By any other means of control that prevents flow from exceeding the maximum design flow rate.

At the time of the Current Permit issuance, Coastal was treating storm water with a back-up unit (consisting of a series of frac tanks) instead of using the O/W separator and evaluating the options regarding the specific unit to be used in the future (Brennan, April 28 2006). Therefore, the Current Permit required Coastal to determine and report to the EPA and the State numeric values of the of the maximum design flow rates for the terminal's O/W separators within 120 days of the effective date of the permit. Upon review and approval, the maximum design flow rates would become the maximum daily effluent flow limits.

On October 1, 1998, on behalf of Coastal Oil, Triton Environmental requested an additional 60 days to comply with the above requirement. Triton believed that the physical flow restrictions of the two (2) existing O/W separators would cause potential flooding within the terminal. An evaluation of the storm water management at the facility convinced Triton to discontinue use of the existing "Rain-for-Rent" oil/water separators and re-direct storm water from the entire terminal into a single bulk above ground storage tank (Tank 18). The additional 60 days were needed to allow time to configure the inlet and outlet piping for Tank 18 for adequate oil/water separation and maximum possible retention time (Glezen and Marchesi, October 1998).

Since November 5, 1998, Coastal has used Tank 18 (with a retention time of 8.5 hours) as a substitute for treatment in an approved O/W separator (Glezen and Marchesi, December 1998). When a discharge event is scheduled, a valve in the discharge pipe is manually operated and water leaves the tank through a coffer dam. The discharge volume is manually logged from a

gage fixed to the exterior wall of Tank 18, along with the time that the valve was open. The valve is closed before the water level reaches the discharge pipe at the bottom of the tank.

The DMR flow values are determined by dividing the total discharge volume by the time elapsed during discharge. EPA reviewed the DMR data beginning in spring 2002, when the facility stopped storing product, and noticed the trend that Coastal consistently discharged at a rate of 700 GPM between April 2002 and April 2004. A similar trend was noticed beginning in summer 2004 when Coastal began to retain storm water in Tank 18 until discharge of the treated storm water from Outfall 001 was necessary. Since then, only four discharge events at a rate of 140 GPM have occurred from August 2004 to December 2005.

To be consistent with typical treatment of storm water and ensure adequate separation of oil, water, and particulate, an approved O/W separator must be used to treat any storm water discharge. In order to ensure that this criterion is met, EPA requires that prior to any storm water discharge the facility must install an approved O/W separator for treatment of this storm water and discharge at a flow no greater than the maximum design flow rate of the O/W separator. Installation of a flow control device or system as described above, along with the maximum design flow rate as a permit limit, measured when discharging, should ensure compliance with “proper operation” as described in 40 CFR §122.41(e).

Use of Tank 18 as a substitute for treatment in an approved O/W separator is prohibited in the Draft Permit. Furthermore, operation of the boilers and discharge of boiler blow-down through Outfall 001 is prohibited.

b. Total Suspended Solids (TSS)

The Draft Permit technology based limit for TSS remains unchanged at 30 mg/l and 100 mg/l for the average monthly and maximum daily values, respectively, at a monitoring frequency of twice per month.

The TSS limits in the Draft Permit are based upon the limits established in the Current Permit in accordance with the anti-backsliding requirements found in 40 CFR §122.44(l). Heavy metals and polynuclear aromatic hydrocarbons are readily adsorbed onto particulate matter and the release of these compounds can be controlled, to an extent, by regulating the amount of suspended solids released into the environment.

TSS limits were exceeded during discharge under the Current Permit on two occasions, once during use of Tank 18 as substitution of treatment in an approved O/W separator. These exceedences were for the monthly average TSS effluent limit.

c. Oil and Grease (O&G)

The Draft Permit limit for Oil and Grease (O&G) remains unchanged at 15 mg/L for the maximum daily value, monitored twice per month. O&G shall be measured using EPA method 1664. Originally this effluent limit was established by EPA-Headquarters as guidance to, and as a means of establishing a categorization within, the petroleum marketing terminals and oil

production-facilities categories. However, performance data from terminals in Massachusetts and Maine continue to support that this effluent limit can be achieved through the proper operation of a correctly-sized O/W separator and implementation of best management practices. EPA has made a BPJ determination based upon the technology-based and performance information to continue with an O&G maximum daily limit of 15 mg/L in the Draft Permit.

O&G limits were exceeded during discharge under the Current Permit on one occasion during use of Tank 18 as substitution of treatment in an approved O/W separator. This exceedence was for the monthly average O&G effluent limit.

EPA believes that the controls in place at Coastal Oil's South Boston facility (i.e., Draft Permit limit for O&G of 15 mg/L and implementation of best management practices) will ensure that the storm water discharge from the facility does not contribute to the further impairment of the Reserved Channel and Boston Inner Harbor. An effluent limit for O&G of 15 mg/L should ensure that the discharge from the facility will be free from oil, grease, and petrochemicals that might produce a visible film on the surface of the water. Best Management Practices being implemented by the facility, which includes a Storm Water Pollution Prevention Plan, ensures that there is a program in place at the facility to limit the amount of pollutants being discharged with storm water runoff. Best Management Practices are fully enforceable permit conditions that serve to prevent pollution, rather than simply treat it.

d. pH

Numerical limits for pH have been included in this Draft Permit. Massachusetts State Surface Water Quality Standards require the pH of Class SB waters to be within the range of 6.5 to 8.5 standard units (S.U.). The pH limit range of 6.5 to 8.5 as identified in the Draft Permit, which is to be monitored monthly, has been established in accordance with the State Surface Water Quality Standards. The discharge shall not exceed this pH range unless due to natural causes. In addition, there shall be no change from background conditions that would impair any uses assigned to the receiving water class.

A summary of the discharge monitoring data submitted by the facility during the time period of 1998 to 2005 is included as Attachment B to this Fact Sheet. While there are no numerical limits in the Current Permit, there were several occurrences during discharge under the Current Permit when the pH results were outside of the 6.5 to 8.5 S.U. range proposed in this Draft Permit. It should be noted that of the 12 discharges with pH values outlying the proposed limit range, 11 occurred during use of Tank 18 as substitution of treatment in an approved O/W separator. These were not considered a violation previously, as the Current Permit did not contain a pH effluent limit.

e. Polynuclear Aromatic Hydrocarbons (PAHs)

Polynuclear Aromatic Hydrocarbons (PAHs) are a group of organic compounds found throughout the environment. PAHs are primarily introduced into the environment through the incomplete combustion of organic compounds. PAHs are also present in crude oil and some of the heavier petroleum derivatives and residuals (e.g., fuel oil and asphalt). Spillage or discharge

of these products can serve to introduce PAHs into the environment. PAHs will strongly adsorb to suspended particulates and biota and can also bio-accumulate in fish and shellfish.

There are sixteen (16) PAH compounds identified as priority pollutants under the CWA (See 40 CFR §423 Appendix A). Several of these PAHs are well known animal carcinogens; others are not considered carcinogenic alone but can enhance or inhibit the response of the carcinogenic PAHs. Typically, exposure would be to a mixture of PAHs rather than to an individual PAH.

The Current Permit requires quarterly monitoring without limits for the following seven (7) Group I PAH compounds identified as probable human carcinogens:

Benzo(a)anthracene	Benzo(a)pyrene
Benzo(b)fluoranthene	Benzo(k)fluoranthene
Chrysene	Dibenzo(a,h)anthracene
Indeno(1,2,3-cd)pyrene	

The seven (7) Group I PAH compounds identified above for monitoring were selected primarily based on their toxicity and presence in petroleum products. EPA proposed as part of the Current Permit to evaluate the monitoring results from these facilities and to determine whether there was a need to establish PAH limits.

EPA has reviewed the discharge monitoring data for PAHs submitted by Coastal Oil since the issuance of the Current Permit in 1998. Six (6) of the seven (7) PAHs analyzed for were detected once in June 2004 during use of Tank 18 as substitution of treatment in an approved O/W separator. Otherwise, all of the seven (7) Group I PAHs identified above were reported as non-detect since 1998. A summary of the discharge monitoring data submitted by the facility during the time period of 1998 to 2005 is included as Attachment B to this Fact Sheet.

Based on EPA's review of the data from this facility as well as the other facilities for which PAH data was collected, and the fact the this facility is no longer storing product, EPA has concluded that permit limits for PAH compounds are not required at this time. However, given the potential health concerns related to PAHs, the type of petroleum products previously stored at the facility, the historical levels of PAHs which have been documented in the sediment of the Reserved Channel and Boston Harbor, and the fact that priority organics were one of the "pollutants" identified by MassDEP contributing to the impairment of the Boston Inner Harbor, EPA will require the facility to continue to monitor for PAHs without limits on a quarterly basis from Outfall 001. Monitoring will be required to achieve the following Minimum Level (ML) of reporting for each of the PAH compounds identified below:

Benzo(a)anthracene	<0.05 µg/L	Benzo(a)pyrene	<2.0 µg/L
Benzo(b)fluoranthene	<0.1 µg/L	Benzo(k)fluoranthene	<2.0 µg/L
Chrysene	<5.0 µg/L	Dibenzo(a,h)anthracene	<0.1 µg/L
Indeno(1,2,3-cd)pyrene	<0.15 µg/L		

The ML is defined as the level at which the entire analytical system gives recognizable mass spectra and acceptable calibration points. This level corresponds to the lower points at which the calibration curve is determined based on the analysis of the pollutant of concern in reagent water.

The toxicity/carcinogenicity of the Group II PAH compounds is considerably less than the Group I PAH compounds. However, based on the detection of three (3) of the nine (9) Group II PAH compounds in June 2004 during use of Tank 18 as substitution of treatment in an approved O/W separator (See Attachment B to this Fact Sheet) and also since priority organics were one of the “pollutants identified by MassDEP contributing to the impairment of Boston Harbor, EPA will require the facility to monitor quarterly for Group II PAHs in the Draft Permit. The nine (9) Group II PAH compounds and their respective MLs are:

Acenaphthene	<0.5 µg/L	Acenaphthylene	<0.2 µg/L
Anthracene	<2.0 µg/L	Benzo(ghi)perylene	<0.1 µg/L
Fluoranthene	<0.5 µg/L	Fluorene	<0.1 µg/L
Naphthalene	<0.2 µg/L	Phenanthrene	<0.05 µg/L
Pyrene	<0.05 µg/L		

Monitoring will be required to achieve these MLs. Any value of a Group I or Group II PAH compound detected below its ML shall be considered as non-detect.

f. Polychlorinated Biphenyls (PCBs)

As noted in Section V.D. of this Fact Sheet, “priority organics” were one of the pollutants identified by the State of Massachusetts as having contributed to the impairment of Boston Inner Harbor. The *Boston Harbor Watershed 1999 Water Quality Assessment Report* notes that a health advisory was issued by Massachusetts in 1988 for Boston Harbor based primarily on the presence of elevated levels of PCBs. PCBs are not typically associated with petroleum products and as such there are no limits or monitoring requirements for these compounds in the Current or the Draft Permit.

g. Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)

Refined petroleum products contain numerous types of hydrocarbons. Individual components partition to environmental media on the basis of their physical/chemical properties (e.g., solubility, vapor pressure). Rather than attempt to establish effluent limits for every compound found in a petroleum release, limits are typically established for the compounds that would be most difficult to remove as well as demonstrate the greatest degree of toxicity. Generally, the higher the solubility of a volatile organic compound (VOC) in water, the more difficult it is to remove.

VOCs such as benzene, toluene, ethylbenzene, and the three xylene compounds (BTEX) are normally found at relatively high concentrations in gasoline and light distillate products (e.g., diesel fuel), which were historically stored at this facility. BTEX concentrations typically decrease in the heavier grades of petroleum distillate products (e.g., fuel oils). The traditional approach for limiting effluents contaminated with gasoline or other light distillates is to place

limits on the individual BTEX compounds and/or the sum of total BTEX compounds. This approach stems from the petroleum-industry practice of determining the quality of fuels by measuring BTEX, which are highly variable among gasoline products. Another reason for limiting BTEX is that EPA and the State have promulgated water quality criteria for BTEX.

Of these four compounds, benzene has one of the highest solubilities, it is one of the most toxic constituents, it is found at relatively high concentrations in gasoline and diesel fuel, and it also has the most stringent water quality criteria for human health. The concentration of benzene in gasoline is approximately 20,000 parts per million (Potter and Simmons, 1998). Because of the reasons mentioned above, benzene can be considered one of the most important limiting pollutant parameters found in gasoline or diesel fuel. Building on this premise, benzene can be used as an indicator-parameter for regulatory as well as characterization purposes of storm water which comes in contact with gasoline and diesel fuel. The primary advantage of using an indicator-parameter is that it can streamline monitoring efforts while simultaneously maintaining an effective level of environmental protection.

To better regulate the “potential” for gasoline and/or light distillates to come in contact with storm water via ancillary operations at this facility (i.e., such as product spills during loading and unloading operations), EPA included a maximum daily benzene effluent limit of 500 µg/L and a quarterly monitoring requirement for the remaining BTEX compounds (ethylbenzene, toluene, and total xylenes) in the Current Permit for Outfall 001. The benzene effluent limit of 500 µg/L established in the Current Permit was based on Best Professional Judgement and was derived from the demonstrated level of performance of O/W separators at a dozen oil terminals located along the East Coast and Southern States.

In establishing the effluent limit for VOCs in the Draft Permit, EPA reviewed all appropriate criteria including the most recent Federal Water Quality Criteria and the discharge monitoring data results for benzene and BTEX. During the monitoring period since the issuance of the Current Permit, no quantifiable discharge has been recorded for benzene or for the other VOCs.

Although Coastal has discontinued product storage onsite, EPA believes quarterly BTEX monitoring and an effluent limit for benzene are appropriate due to the possibility of residual contamination. EPA continues to believe that this approach taken in the Current Permit is an effective way of monitoring and controlling the quality of the storm water discharge at the facility and as such has incorporated similar requirements into the Draft Permit. However, EPA has chosen to change the maximum daily effluent limit for benzene in the Draft Permit from 500 µg/L to 51 µg/L for Outfall 001. The benzene limit of 51 µg/L represents the current Federal Water Quality Criteria for benzene which has been adopted by the State of Massachusetts (See 314 CMR 4.05(5)(e)). The new limit is based on the human health criteria associated with the consumption of aquatic organisms (USEPA, 2002). EPA believes that this more stringent limit is necessary for the protection of human health and the maintenance of the water quality standards established under Section 303 of the CWA.

h. Methyl Tertiary-Butyl Ether (MTBE)

Another potential contaminant of concern found in gasoline is methyl tertiary-butyl ether (MTBE). MTBE is a synthetic compound used as a blending component in gasoline (e.g., oxygenated fuels, reformulated gasoline, and conventional gasoline). Since 1979 it has been used at low levels in gasoline (e.g., concentrations of 2-4 percent by volume) as a lead replacement to enhance octane levels. MTBE has been used at higher concentrations (e.g., concentrations of 11-15 percent by volume) in some gasoline since 1992 to fulfill the oxygenate requirements established in the 1990 Clean Air Act Amendments. Due to its small molecular size and solubility in water, MTBE moves more rapidly than other gasoline constituents into ground water and has been detected in ground water in a growing number of studies conducted throughout the country. In some instances, these contaminated waters are a source of drinking water.

Most of the research conducted on MTBE to date has focused on human-health, specifically the health effects associated with the inhalation of the chemical. Independent expert review by MTBE inhalation health risks assessment groups have not concluded that the use of MTBE in gasoline poses an imminent threat to public health. However, limited data exists on the health effects for the most likely potential route of exposure – MTBE ingestion. As a result, EPA has not set a national drinking water standard for MTBE. However, some states have established their own limits for drinking water. Within the New England area, the states of New Hampshire and Massachusetts have established a drinking water standard for MTBE of 13 µg/L and 70 µg/L, respectively.

An even smaller amount of information is available regarding the aquatic toxicity of MTBE. A public/private partnership was established in 1997 to help review the available information and to develop aquatic toxicity data in order to calculate ambient water quality criteria for MTBE. The public/private partnership consisted of representatives from private companies, trade associations, and EPA. Existing aquatic toxicity data was evaluated for acceptability, consistent with EPA guidance, and additional freshwater and marine tests were conducted to satisfy the federal criteria database requirements. Through their efforts, the public/private partnership was able to develop proposed freshwater and marine water quality criteria for MTBE (ES&T, 2002). The preliminary freshwater criteria for acute and chronic exposure effects developed through this workgroup are 151 and 51 milligrams MTBE/Liter of water (or 151,000 µg/L and 51,000 µg/L), respectively. The preliminary marine criteria for acute and chronic exposure effects are 53 and 18 milligrams MTBE/Liter of water (or 53,000 µg/L and 18,000 µg/L), respectively.

Spillage and leaks from above-ground gasoline storage tanks and/or truck loading rack areas can transport quantities of MTBE to surface waters via the storm water drainage system. Discharges of MTBE via the storm water system have the potential to impact the water quality of the Reserved Channel. Thus, EPA included discharge monitoring requirements without limits for MTBE as part of Current Permit issued to this facility in 1998. EPA required this monitoring in order to determine if any limitations on MTBE discharges from the terminal are warranted.

EPA has reviewed the discharge monitoring data submitted by the facility for MTBE and compared the results with available benchmarks. In identifying the most appropriate benchmark for petroleum bulk stations and terminals, EPA considered the type of discharge (e.g., intermittent) and location of the discharge. Therefore, EPA used the preliminary marine water

quality criteria for acute toxicity of MTBE (e.g., 53,000 µg/L) as its benchmark. As can be seen from a review of the discharge monitoring data submitted by the facility, (See Attachment B to this Fact Sheet), MTBE was not detected in any discharge since 1998 and therefore does not exceed the water quality criteria benchmark of 53,000 µg/L.

Based on EPA's review of the data from this facility as well as the other petroleum bulk stations and terminals which collected MTBE data, EPA has concluded that permit limits for MTBE are not required at this time for Outfall 001. However, given the potential health concerns, the type of petroleum products previously stored at the facility, and the physical properties of this compound, EPA will require the facility to continue to monitor for MTBE on a quarterly basis from Outfall 001 due to the possibility of residual contamination.

i. Tank-Bottom and Bilge Water

Since the tank farm has been removed, there is no reason for tank-bottom or bilge water discharge to the receiving water. Therefore, the discharge of tank-bottom and bilge water is prohibited in the Draft Permit.

j. Hydrostatic Test Water Discharges

Since the tank farm has been removed, there is no reason to conduct hydrostatic testing at this facility. Therefore, the discharge of hydrostatic test water is prohibited in this Draft Permit.

2. Treated Ground Water (Outfall 002)

When the Current Permit became effective May 4, 1998, it authorized the discharge of treated storm water through Outfall 002. In July 1998, Coastal was granted a minor modification to remove Outfall 002 from the Current Permit and to redirect all storm water for ultimate discharge through Outfall 001. On January 30, 2001, the Current Permit was modified to allow reinstatement of Outfall 002 as a permitted outfall for discharge of treated ground water.

The Draft Permit continues to authorize the discharge of treated ground water through Outfall 002 into the City of Boston's combined storm water collection system, as authorized in the 2001 modification of the Current Permit. Samples taken in compliance with the monitoring requirements specified in the Draft Permit shall be taken at the outlet of the ground water remediation system, prior to discharge through Outfall 002. All discharges recorded in the DMR data pertain to discharges of treated ground water since operation began in October 2003 under the Current Permit.

Groundwater in contact with spilled petroleum product for an extended period of time has the potential to be contaminated with compounds found in that product. As a result, compounds, such as BTEX and PAHs, may partition and dissolve into the ground water and potentially reach toxic levels. Accordingly, stringent and extensive effluent limits are required for the ground water treatment system before it can discharge wastewater from the facility. The lower limits established for this waste stream also reflect that it is a continuous discharge rather than

intermittent discharge (i.e., like storm water). The effluent characteristics identified in Section I.A.2 of the Draft Permit are discussed in more detail below.

a. Flow

The Current Permit, as modified, established an average monthly flow rate of 30 gpm based on the planned maximum design flow rate for the ground water treatment system. The Draft Permit establishes a lower average monthly flow rate limit of 25 gpm for discharge through Outfall 002, based on the maximum design flow rate of the ground water treatment system. In addition, the Draft Permit establishes a maximum daily flow rate limit of 25 gpm for Outfall 002 based on the maximum design flow rate of the ground water treatment system. To be consistent with other oil terminals, the Draft Permit also requires the facility to report total flow, which is the value that represents the total monthly flow in millions of gallons for that month. The maximum daily flow rate and average monthly flow rates as well as the total flow shall be monitored during discharge and shall be based upon the flow meter results or another approved equivalent flow measuring device.

b. Total Suspended Solids (TSS)

The Draft Permit technology based limit for TSS remains unchanged at 30 mg/l and 100 mg/l for the average monthly and maximum daily values, respectively.

The TSS limits in the Draft Permit are based upon the limits established in the Current Permit, as modified, in accordance with the anti-backsliding requirements found in 40 CFR §122.44(i). The limits in the Current Permit were developed based upon a BPJ determination developed from the technology guidelines promulgated at 40 CFR Part 423 for the Steam Electric Power Point Source Category. Given the similarities between the storage of petroleum products at bulk stations and terminals and the storage of fuel oil at steam electric facilities, EPA is using the same TSS limits established for steam electric facilities for bulk petroleum storage facilities.

TSS limits were exceeded during discharge under the Current Permit on one occasion. This exceedence was for a monthly average TSS effluent limit. Since Coastal has demonstrated its ability to meet the TSS permit condition in the Current Permit as shown in the summary of the discharge monitoring data submitted during operation of the system between 2003 and 2005 (See Attachment B to this Fact Sheet), EPA has decided to reduce monitoring for TSS to quarterly.

c. pH

Numerical limits for pH have been included in this Draft Permit. Massachusetts State Surface Water Quality Standards require the pH of Class SB waters to be within the range of 6.5 to 8.5 standard units (S.U.). The pH permit range of 6.5 to 8.5 as identified in the Draft Permit, which is to be monitored monthly, has been established in accordance with the State Surface Water Quality Standards. The discharge shall not exceed this pH range unless due to natural causes. In addition, there shall be no change from background conditions that would impair any uses assigned to the receiving water class.

A summary of the discharge monitoring data submitted by the facility during the time period of 2003 to 2005 is included as Attachment B to this Fact Sheet. While there are no numerical limits in the Current Permit, there were seven (7) occurrences during discharge under the Current Permit when the pH results were outside of the 6.5 to 8.5 S.U. range proposed in the Draft Permit. These were not considered a violation previously, as the Current Permit did not contain a pH effluent limit.

d. Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)

Historic information indicates that the spill impacting the ground water at the facility may have involved a fuel oil product. As discussed previously in Section V.E.1.e. and V.E.1.g of this Fact Sheet, effluent limits are not typically established for every compound found in a petroleum release. Instead, limits are established for the compounds that would be the most challenging to remove as well as demonstrate the greatest degree of toxicity. Based on this, Outfall 002 includes a maximum daily limit for benzene as well as the aggregate sum of the BTEX compounds. In accordance with the anti-backsliding requirements found in 40 CFR §122.44(l) the effluent limits for benzene and BTEX of 5 µg/L and 100 µg/L, respectively, will remain unchanged from the limits in the Current Permit, as modified on January 30, 2001. These limits were determined previously in the Current Permit, as modified, due to BPJ based upon technology criteria. The frequency of sampling for both benzene and BTEX has been reduced from monthly to quarterly in the Draft Permit based on the performance of the remediation system since it began operating in October 2003 (See Attachment B to this Fact Sheet). The Draft Permit also requires that individual toluene, ethylbenzene, and total xylene concentrations be monitored and reported on a quarterly basis.

e. Total Petroleum Hydrocarbons (TPH)

The effluent limits for the Draft Permit include a maximum daily limit of 5 mg/L for Total Petroleum Hydrocarbons (TPH), which is consistent with the Current Permit, as modified on January 30, 2001. However, monitoring requirements for the Draft Permit are quarterly, which differs from the Current Permit monthly monitoring frequency. EPA determined this monitoring frequency based upon review of DMR data verifying no detection of TPH in discharges through Outfall 002 since October 2003 (See Attachment B to this Fact Sheet).

TPH measures the total concentration of all petroleum related hydrocarbon compounds within a specified carbon range (Weisman, 1998). The petroleum related compounds included within this analysis range from compounds with 6 carbon (C₆) atoms to compounds with 25 carbon atoms (C₂₅). The use of TPH concentrations to establish target cleanup levels for soil or water is a common approach implemented by regulatory agencies in the United States (Weisman, 1998). EPA has made a BPJ determination based upon the technology-based and performance information to limit TPH in the Draft Permit.

f. MTBE

EPA has established a maximum daily limit requirement for MTBE of 70.0 µg/L in the Draft Permit. This differs from the 100 µg/L maximum daily limit established in the Current Permit as

modified on January 30, 2001. This new limit is consistent with the current Massachusetts State standard of 70.0 µg/L for MTBE in groundwater (and discharges to state waters).

EPA has decided to reduce the Current Permit monthly monitoring frequency to quarterly monitoring in the Draft Permit. EPA determined this monitoring frequency through review of DMR data verifying no detection of MTBE since discharge of treated ground water began in October 2003.

g. Polynuclear Aromatic Hydrocarbons (PAHs)

Monitoring requirements for PAH compounds are also required for Outfall 002. There are sixteen (16) PAH compounds identified as priority pollutants under the CWA. These sixteen PAHs have been divided into two groups in the Draft Permit based upon differences in toxicity/carcinogenicity.

The seven (7) Group I PAH compounds are believed to be probable human carcinogens. EPA has retained the quarterly monitoring requirements for each Group I PAH compound in the Draft Permit which is consistent with the Current Permit as modified in January 30, 2001. Reportable concentrations will be based on the Minimum Level (ML) of reporting. The ML for each individual Group I PAH compound in an aqueous solution is identified below:

Benzo(a)anthracene	<0.05 µg/L	Benzo(a)pyrene	<2.0 µg/L
Benzo(b)fluoranthene	<0.1 µg/L	Benzo(k)fluoranthene	<2.0 µg/L
Chrysene	<5.0 µg/L	Dibenzo(a,h)anthracene	<0.1 µg/L
Indeno(1,2,3-cd)pyrene	<0.15 µg/L		

The toxicity/carcinogenicity of the Group II PAH compounds is considerably less than the Group I PAH compounds. However, since priority organics were one of the “pollutants identified by MassDEP contributing to the impairment of Boston Harbor, EPA will require the facility to monitor quarterly for Group II PAHs in the Draft Permit. The nine (9) Group II PAH compounds and their respective MLs are:

Acenaphthene	<0.5 µg/L	Acenaphthylene	<0.2 µg/L
Anthracene	<2.0 µg/L	Benzo(ghi)perylene	<0.1 µg/L
Fluoranthene	<0.5 µg/L	Fluorene	<0.1 µg/L
Naphthalene	<0.2 µg/L	Phenanthrene	<0.05 µg/L
Pyrene	<0.05 µg/L		

Future monitoring will be required to achieve these MLs. Any value of a Group I or Group II PAH compound detected below its ML shall be considered as non-detect.

3. Prohibition of Non-Storm Water Discharges and Commingling

Non-storm water discharges are excluded from coverage under the Draft Permit with the exception of Outfall 002, which permits discharge of treated ground water. EPA believes that there is a significant potential for these discharges to be contaminated. Thus, the permittee is

required to obtain a separate NPDES permit for these non-storm water discharges prior to any such discharge or seek the necessary approval(s) from the appropriate local pretreatment authority to discharge to the sanitary sewer system.

Commingling of storm water and excavation dewatering waste water prior to final treatment and monitoring is prohibited in the Draft Permit. Equipment or tanks used as either part of storm water treatment or excavation dewatering treatment shall be drained and cleaned prior to use in the opposing treatment train in order to remove possible residual contaminants. Discharge of any water associated with the excavation dewatering activities, such as excavation dewatering waste water and any water coming in contact with the biopiles such as water collected in the under drain of the biopile will be prohibited in the Draft Permit (although this discharge is allowed under RGP Authorization # MAG910193). In addition, this Draft Permit prohibits operation of the boilers and discharge of boiler blow-down through Outfall 001.

4. Storm Water Pollution Prevention Plan

Pursuant to Section 304(e) of the CWA and 40 CFR §125.103(b), best management practices (BMP) may be expressly incorporated into a permit on a case-by-case basis where necessary to carry out Section 402(a)(1) of the CWA. This facility previously stored and handled pollutants listed as toxic under Section 307(a)(1) of the CWA or pollutants listed as hazardous under Section 311 of the CWA and has ancillary operations which could result in significant amounts of these pollutants reaching the Reserved Channel and Boston Harbor.

To control the activities/operations, which could contribute pollutants to waters of the United States via storm water discharges at this facility, the Current Permit required the facility to develop a Storm Water Pollution Prevention Plan (SWPPP) with site-specific BMPs. The SWPPP requirements and the BMPs identified therein are intended to facilitate a process whereby the permittee thoroughly evaluates potential pollution sources at the terminal and selects and implements appropriate measures to prevent or control the discharge of pollutants in storm water runoff. The SWPPP, upon implementation, becomes a supporting element to any numerical effluent limitations in the Draft Permit. Consequently, the SWPPP is as equally enforceable as the numerical limits.

The permittee has certified to EPA that a SWPPP was developed and implemented for this facility in accordance with the schedule and requirements identified in the Current Permit. The Draft Permit continues to ensure that the SWPPP is kept current and adhered to, by requiring the permittee to maintain and update the SWPPP as changes occur at the facility. In addition, the Draft Permit requires the permittee to provide annual certification to EPA and the MassDEP, documenting that the previous year's inspections and maintenance activities were conducted, results recorded, records maintained, and that the facility is in compliance with its SWPPP. A signed copy of the certification will be sent each year to EPA and MassDEP as well as appended to the SWPPP within thirty (30) days of the annual anniversary of the effective date of the Draft Permit. This certification will be signed in accordance with the requirements identified in 40 CFR §122.22. A copy of the most recent SWPPP shall be kept at the facility and be available for inspection by EPA and MassDEP.

5. Additional Requirements and Conditions

These effluent monitoring requirements have been established to yield data representative of the discharge under the authority of Section 308(a) of the CWA in accordance with 40 CFR §122.41(j), §122.44(i) and §122.48.

The remaining conditions of the Draft Permit are based on the NPDES regulations, Part 122 through 125 and consist primarily of management requirements common to all permits.

VI. ENDANGERED SPECIES ACT

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants (“listed species”) and habitat of such species that has been designated as critical (a “critical habitat”). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure 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 United States Fish and Wildlife Service (USFWS) typically administer Section 7 consultations for bird, terrestrial, and freshwater aquatic species. The National Marine Fisheries Service (NMFS) typically administers Section 7 consultations for marine species and anadromous fish.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, or plants to see if any such listed species might potentially be impacted by the re-issuance of this NPDES permit. The review has focused primarily on marine species and anadromous fish since the discharge is into the Reserved Channel (Boston Harbor Watershed) which ultimately flows into Boston Inner Harbor. Given the urban nature of the Boston Inner Harbor, EPA believes that it is unlikely that there would be any listed marine species (see Attachment F to this Fact Sheet) or critical habitat present. Furthermore, effluent limitations and other permit conditions which are in place in this Draft Permit should preclude any adverse effects should there be any incidental contact with listed species either in the Reserved Channel and/or Boston Inner Harbor. During the public comment period, EPA has provided a copy of the Draft Permit and Fact Sheet to both NMFS and USFWS.

VII. ESSENTIAL FISH HABITAT

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with NMFS if EPA’s action or proposed actions that it funds, permits, or undertakes, “may adversely impact any essential fish habitat” (EFH). The Amendments define 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 which reduces the quality and/or quantity of EFH (50 C.F.R. 600.910 (a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species’ fecundity), site-specific or

habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.
Id.

Essential fish habitat is only designated for species for which federal fisheries management plans exist (16 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.

A review of the relevant essential fish habitat information provided by NMFS indicates that essential fish habitat has been designated for 16 managed species within the NMFS boundaries encompassing the outfall location. A copy of the managed species within the EFH is included in Attachment G to this Fact Sheet. EPA has concluded that adverse effects to EFH from this permitted discharge have been minimized. This conclusion is based on the amount and frequency of the discharge, as well as effluent limitations and other permit requirements that are identified in this Fact Sheet. These factors are designated to be protective of all aquatic species, including those with EFH designations.

EPA has determined that no EFH consultation with NMFS is required at this time. If adverse effects are detected as a result of this permit action, NMFS will be notified and an EFH consultation will promptly be initiated. During the public comment period, EPA has provided a copy of the Draft Permit and Fact Sheet to NMFS.

VIII. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless the MassDEP 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 State Surface Water Quality Standards or unless state certification is waived. The staff of the MassDEP has reviewed the Draft Permit and advised EPA that the limitations are adequate to protect water quality. EPA has requested permit certification by the State pursuant to 40 CFR §124.53 and expects that the Draft Permit will be certified.

IX. ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION

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 the U.S. EPA, Office of Ecosystem Protection Attn: Nicole Kowalski, 1 Congress Street, Suite 1100 (CIP), Boston, Massachusetts 02114-2023 or via email to kowalski.nicole@epa.gov. The comments should reference the name and permit number of the facility for which they are being provided.

Any person, prior to such date, may submit a request in writing to EPA and the State Agency 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 after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the Draft Permit, the Regional

Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston Office.

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 forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of final permit decision, permits may be appealed to the Environmental Appeals Board in the manner described at 40 CFR § 124.19.

X. EPA & MassDEP CONTACTS

Additional information concerning the Draft Permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from the EPA and MassDEP contacts below:

Nicole Kowalski, EPA New England – Region 1
1 Congress Street, Suit 1100 (CIP)
Boston, Massachusetts 02114-2023
Telephone: (617) 918-1746 FAX: (617) 918-0746
email: kowalski.nicole@epa.gov

Paul Hogan, Massachusetts Department of Environmental Protection
Division of Watershed Management, Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608
Telephone: (508) 767-2796 FAX: (508) 791-4131
email: paul.hogan@state.ma.us

Date

Linda M. Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

REFERENCES

Brennan, Mark (Mark.Brennan@ElPaso.com). "Questions on Coastal Oil – South Boston." E-mail to Nicole Kowalski (Kowalski.Nicole@epa.gov). April 18, 2006.

Brennan, Mark (Mark.Brennan@ElPaso.com). "Questions on Coastal Oil – South Boston." E-mail to Nicole Kowalski (Kowalski.Nicole@epa.gov). April 28, 2006.

ES&T. 2002. *MTBE Ambient Water Quality Criteria Development: A Public/Private Partnership*. Mancini, E.R., et al., Environmental Science & Technology, Vol. 36, No. 2. 2002.

Glezen, Carver and Marchesi, Christopher E. October 1998. *RE: Coastal Oil of New England, South Boston, MA Terminal NPDES Permit (Permit No. MA0004405)*. Letter to George Harding (EPA) dated October 1, 1998.

Glezen, Carver and Marchesi, Christopher E. December 1998. *RE: Coastal Oil of New England, South Boston, MA Terminal NPDES Permit (Permit No. MA0004405)*. Letter to George Harding (EPA) dated December 2, 1998.

MassDEP. 2002. *Boston Harbor 1999 Water Quality Assessment Report*. Massachusetts Department of Environmental Protection, Division of Watershed Management, Worcester, MA. October 2002 (70-AC-1)

MassDEP. 2004. *Massachusetts Year 2004 Integrated List of Waters - Proposed listing of the condition of Massachusetts' waters pursuant to Sections 303(d) and 305(b) of the Clean Water Act*. Commonwealth of Massachusetts Executive Office of Environmental Affairs. April 2004 (CN:175.0), page 78.

Potter, Thomas L. and Kathleen E. Simmons, 1998. *Composition of Petroleum Mixtures, Volume 2*. Total Petroleum Hydrocarbon Criteria Working Group Series, May 1998.

Triton, Inc. 2002. *NPDES Permit Renewal - Wastewater Permit Application Package Application, Coastal Oil New England, Inc. - 900 East First Street, South Boston, MA, NPDES Permit No. MA 0003280*. Triton Environmental, Inc., New Haven, CT. April 30, 2002.

USEPA. 1982. *Development Document for Effluent Limitations Guidelines and Standards and Pretreatment Standards for the Steam Electric Point Source Category*. United States Environmental Protection Agency, Office of Water and Waste Management, Washington, D.C. EPA-440/1-82/029, November 1982.

USEPA. 1997. *Coastal Oil New England, Inc.* NPDES Permit Fact Sheet dated October 22, 1997.

USEPA. 2002. *National Recommended Water Quality Criteria: 2002*. United States

Environmental Protection Agency, Office of Water, Washington, D.C. EPA-822-R-02-047, November 2002.

USEPA. 2004. *How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites: A Guide for Corrective Action Plan Reviewers*. United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, D.C. EPA 510-R-04-002, May 2004.

Weisman, Wade. 1998. *Analysis of Petroleum Hydrocarbons in Environmental Media, Volume 1*. Total Petroleum Hydrocarbon Criteria Working Group Series, March 1998.