

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I - NEW ENGLAND
OFFICE OF ECOSYSTEM PROTECTION
ONE CONGRESS STREET
BOSTON, MASSACHUSETTS 02114-2023**

FACT SHEET

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

DATE OF PUBLIC NOTICE: December 30, 2004

NPDES PERMIT NO.: MA0000272

NAME AND ADDRESS OF APPLICANT:

Boston and Maine Corporation
Iron Horse Park
North Billerica, MA 01862

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Boston and Maine East Deerfield Rail Yard
39 Railroad Yard Road
East Deerfield, MA 01342

RECEIVING WATERS: Connecticut River Basin (Segment MA34-04)

CLASSIFICATION: Class B, Warm Water Fishery

I. Proposed Action

The Boston and Maine Corporation (B&M) has applied to the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MA DEP) for the re-issuance of their National Pollutant Discharge System (NPDES) permit. With limitations the permit allows B&M to discharge treated process waste water and storm water to the Connecticut River (see Figure 1 - Locus Map). The current permit was signed on November 19, 1975, and became effective 45 days later. The permit expired on January 3, 1981. The permit was administratively continued as allowed according to 40 C.F.R. § 122.6. B&M submitted applications on March 12, 1981, January 15, 1988, March 28, 1994, and July 6, 2000. On June

21, 2004, EPA required B&M to submit a permit application for the five storm water outfalls that were previously covered under the Multi-Sector General Permit (see 65 FR 64,745 (2000)). B&M submitted an application for the five outfalls on September 20, 2004. This permit, once finalized, will expire five years from the effective date of issuance.

II. Type of Facility and Discharge Description

Currently, B&M services locomotives, fuels and sands locomotives, and operates a rail switching yard and layover facility for its freight train operation, at the B&M East Deerfield Rail Yard (E. Deerfield facility). Some of the maintenance activities that produce process waste water include changing oil in locomotives, cleaning the locomotives, and fueling the locomotives (see Figure 2 - Flow Diagram).

This proposed draft permit covers six outfalls that are numbered sequentially from the west-side of the facility to the east-side as Outfalls 001, 002, 003, 004¹, 005 and 006 (see Figure 1 - Locus Map). The permit issued in 1975 only covered Outfall 004. At that time, the facility used an oil/water separator to treat the process waste water from the Engine House before being discharged at Outfall 004. In the 1990s, B&M applied for a permit for the five storm water outfalls under the Multi-Sector Storm Water General Permit. The first three storm water outfalls drain the western section of the overall 129-acre property and the remaining two storm water outfalls drain the eastern section of the facility. Each of these outfalls discharge along the northern side of the rail facility into a wetland or stream that leads to the Connecticut River.

A. Process Waste Water Outfall 004

The original permit issued by EPA in 1975 covered one discharge that gathered and conveyed cooling water, surface drainage, boiler blow down, and wash waters from and around the Repair Shop, Engine House, Turntable, and the Fuel & Sand Facility. Sometime in the late 1970s, B&M discontinued discharging the boiler blowdown.

B&M continuously failed to meet the oil and grease (O&G) permit limitation of 15 milligrams per liter (mg/l) between February 1979 to May 1990. B&M only met the O&G limitation during two quarters and exceeded the limitation 31 reported quarters. The average during that period was 54.4 mg/l with a high of 247.3 mg/l reported during the spring of 1985. As a result of exceeding the O&G permit limitation, the Massachusetts Department of Environmental Quality Engineering (currently known as the Department of Environmental Protection) required B&M to install and operate a

¹ When the original permit was issued in 1975, Outfall 004 was then referred to as Outfall 001. This was because it was the only outfall that required a permit at that time. The original permit only covered the old Outfall 001 that received process waste water and storm water and was treated by an oil/water separator. When the storm water discharges were required to be permitted, the facility renumbered the outfalls sequentially from west to east. This caused the old Outfall 001 to be renumbered as Outfall 004.

waste water treatment plant (WWTP). Under a Consent Order B&M constructed a WWTP that uses chemically-assisted dissolved-air floatation (DAF) technology. B&M began operating the plant on or about June 13, 1990.

Outfall 004 is located about a quarter of a mile in an easterly direction from Outfall 003 on the northern side of McClellan Farm Road. The facility samples the discharge on a monthly basis for Oil & Grease, Surfactants, and pH. Additionally, the facility tracks daily flow rates of the discharge and reports an average daily flow rate for a quarter of the year. Tables containing a summary of the reported flow rates and sampling results from February 1998 to October 2003 can be found as Attachments A and B to this Fact Sheet.

Outfall 004 currently discharges treated process waste water and storm water as described below. Process waste water is generated at the Engine House where locomotives are maintained. The process waste exits and mixes with storm water. The storm water is generated during storm events in the area near the Engine House, Turntable and Repair Shop. Process waste water is also generated at the Fuel & Sand Facility during the fueling of the locomotives. An underground pad captures any spilled diesel fuel during fueling. The fuel mixes with precipitation during a storm event. This process waste water is conveyed and treated at an oil/water separator (O/W separator).

The process waste water from the Fuel & Sand Facility mixes with the process waste water and storm water from the Engine House. This mixture is then conveyed to two surge tanks. The WWTP operator then manually adjusts a valve to meter the flow to two O/W separators in series. The waste water from the O/W separators is pumped from a 2000 gallon pumping station into the WWTP.

The process waste water then enters the WWTP that uses DAF technology to remove pollutants. The process waste water is first neutralized in a Chemical Reaction Tank. Chemicals are added (Alum and a polymer) to help separate the oil & grease and suspended solids for the next process. The process waste water from the Chemical Reaction Tank then enters the DAF process. Small air bubbles attach to pollutant particles that float to the surface and are skimmed off. The treated water enters the Clear Water Chamber of the DAF process before discharging into a pipe that conveys the water to Outfall 004.

B. Storm Water Outfalls 001, 002, 003, 005 and 006

EPA required B&M to include the five storm water outfalls in this individual NPDES permit because of recent and historical releases of pollutants in the rail yard. These releases pose a potential for storm water to carry pollutants to the Connecticut River. None of these outfalls have any quantitative sampling results for pollutants except at Outfall 003. A physical description and a summary of analytical test results at Outfall 3 follows:

1. Outfall 001

Outfall 001 is located on the most western section of the facility adjacent to McClellan Farm Road. This outfall discharges storm water from catch basins located on the most western section of the rail yard. The outfall pipe is located on the northern side of McClellan Farm Road down an embankment. The discharge flows into a trench that quickly becomes undefinable and disappears into a wetland. The outfall discharges at a point in the wetland that is approximately 200 yards south of the Connecticut River and approximately 150 yards east of the Deerfield River.

2. Outfall 002

Outfall 002 is located approximately 100 yards in an easterly direction from Outfall 001 on the northern side of McClellan Farm Road down an embankment. This outfall discharges storm water from catch basins located on the western section of the rail yard. The discharge from the pipe drops five feet into a trench that quickly becomes undefinable and disappears into a wetland. The outfall discharges at a point in the wetland that is approximately 200 yards south of the Connecticut River and approximately 250 yards east of the Deerfield River.

3. Outfall 003

Outfall 003 is located approximately 50 yards east of Outfall 002 on the northern side of McClellan Farm Road and approximately 15 feet down an embankment. This outfall discharges storm water from catch basins located in the western section of the rail yard. The discharge from the pipe flows into a weaving trench that continues for approximately 50 feet before disappearing into the wetland with no discernable pathway. The outfall discharges at a point in the wetland that is approximately 200 yards south of the Connecticut River and approximately 300 yards east of the Deerfield River. The only known quantitative test results at this outfall were after a release of an oil sheen was reported at the point of discharge.

The samples taken on April 23, 2001, showed that nothing was detected above methodology detection limits for Total Petroleum Hydrocarbons, EPA Method 8100.

4. Outfall 005

Outfall 005 is located approximately 400 yards further east from Outfall 004 on the northern side of McClellan Farm Road. Storm water discharges through a pipe into a fire pond. The fire pond was made by B&M in the late 1980s to make water available in case of a fire emergency. The pond is approximately 75 feet in diameter. Two vertical open pipes discharge the water from the fire pond as the pond level rises. The point of discharge for Outlet 005 is the outfall from the fire pond discharges to a trench. The trench leads to another pipe that discharges to the Connecticut River.

5. Outfall 006

Outfall 006 is located approximately a quarter of a mile from Outfall 005 in an easterly direction and close to the eastern boundary of the rail yard. The outfall pipe is on the northern side of Railroad Avenue. The discharge forms a stream that flows northeasterly into the Connecticut River.

III. Limitations and Conditions

The effluent limitations and the monitoring requirements may be found in the draft NPDES permit. The development of effluent limitations for Outfall 004 are explained in Section IV, below. Furthermore, the draft permit requires B&M to sample and analyze the storm water outfalls (001, 002, 003, 005, and 006) for conventional and priority pollutants once per year during wet weather conditions. Additionally, this draft permit requires B&M to maintain a Storm Water Pollution Prevention Plan (SWPPP) as detailed in the proposed draft permit and Sections IV.F.4 below.

IV. Permit Basis and Explanation of Effluent Limitation Derivation

A. General Requirements

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a National Pollutant Discharge Elimination System (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 NPDES permit was developed in accordance with various statutory and regulatory requirements pursuant to the CWA and applicable State regulations. The regulations governing the EPA NPDES

permit program are generally found at 40 C.F.R. Parts 122, 124, 125, and 136. In this permit EPA considered (a) technology-based requirements, (b) water quality-based requirements, and (c) all limitations and requirements in the current/existing permit, when developing the permit limits.

B. Water Quality-Based Requirements

Under Section 301(b)(1)(C) of the CWA and EPA regulations, NPDES permits must contain effluent limits more stringent than technology-based limits where more stringent limits are necessary to maintain or achieve state or federal water quality standards.

Water quality standards consist of three 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); and (3) anti-degradation requirements to ensure that once the use is attained it will not be degraded. The Massachusetts Surface Water Quality Standards, found at 314 CMR 4.00, include these elements. The state will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained 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, shall be used unless a site specific criteria is established.

The draft permit must limit any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) that is or may be discharged at a level that causes or has the "reasonable potential" to cause or contribute to an excursion above any water quality standard (40 C.F.R. §122.44(d)). An excursion occurs if the projected or actual in-stream concentration exceeds an applicable water quality criterion. In determining "reasonable potential," EPA considers: (1) existing controls on point and non-point sources of pollution; (2) pollutant concentration and variability in the effluent and receiving water as determined from the permit's re-issuance application, monthly discharge monitoring reports (DMRs), and State and Federal Water Quality Reports; (3) sensitivity of the indicator species used in toxicity testing; (4) known water quality impacts of processes on waste waters; and (5) where appropriate, dilution of the effluent in the receiving water.

The Connecticut River, which is the receiving water for the facility's discharge, has been designated as a Class B water in the Massachusetts Surface Water Quality Standards found at Title 314 Code of Massachusetts Regulations ("CMR") 4.05(3)(b). The technology-based pollutant limits set by this permit either meet or are below the concentration for water quality standards in the receiving water.

C. Water Quality Standards and Designated Uses

The Connecticut River, from the Massachusetts State line to Holyoke, has been classified as Class B, Warm Water Fishery, under the Massachusetts Surface Water Quality Standards. 314 CMR § 4.05(3)(b) states that Class B waters must have the following designated uses: *These waters are designated as habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. Where designated they shall be suitable as a source of public water supply with appropriate treatment. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. 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). The 2002, 303(d) report (impaired waters list) states that the Connecticut River, from the confluence with the Deerfield River to Holyoke Dam, Holyoke (Connecticut River Basin MA34-04), is not attaining water quality standards due to Priority Organics and Pathogens.

D. Technology-Based Requirements

Technology-based requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 C.F.R. §125 Subpart A). For existing sources, technology-based requirements according to best practicable control technology currently available (BPT) are applied for conventional, non-conventional, and toxic pollutants. Sections 301 (b)(2)(A) and (E) of the CWA require industrial dischargers to meet limitations based on Best Available Technology Economically Achievable (BAT) for toxic pollutants and Best Conventional Pollutant Control Technology (BCT) for Conventional Pollutants by July 1, 1984. The authority for BPJ is contained in Section 402(a)(1) of the CWA, which authorizes the EPA Administrator to issue a permit containing “such conditions as the Administrator determines are necessary to carry out the provisions of the Act.” The NPDES regulations in 40 C.F.R. §125.3 state that permits developed on a case-by-case basis under Section 402(a)(1) of the CWA 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.

For certain industrial sectors, Effluent Guidelines have been promulgated by EPA. However, as in this case when guidelines have not been promulgated for a specific sector, the permit writer is authorized to use his/her best professional judgement (BPJ) in developing technology based limitations. The permit writer can use many resources to develop limitations based on BPJ. For this permit the permit writer developed limitations by:

- (1) reviewing Effluent Guidelines for sectors with similar pollutants,
- (2) reviewing limitations developed at similar facilities,
- (3) developing limitations based on the technology's ability to treat specific pollutants by using statistical methods, and
- (4) reviewing the benchmark levels established in the Storm Water Multi-Sector General Permit.

1. Existing Effluent Guideline

For the E. Deerfield facility the permit writer reviewed the effluent guideline for Petroleum Refining Point Source Category, 40 C.F.R. Part 419. This guideline focuses on facilities that produces petroleum products at refining plants. The permit writer reviewed this guideline because it has similar pollutants and sets standards for oil and grease and pH, which are Conventional Pollutants discharged at the E. Deerfield facility. The effluent limitations are expressed in total mass per waste water flow rate. However, the standard does not require treatment of the waste water, if it does not exceed the following levels:

Pollutant	Never Exceeds
Oil & Grease	15 mg/l
pH	6-9

2. Other Rail Yard Facilities

Three permits were reviewed by the permit writer to support the limits developed for the E. Deerfield facility. The first permit was for the North Station Railroad Terminal. The permit for this Region I facility was recently issued and it has similar pollutants of concern in the discharge. The second permit was from a rail yard that performs similar engine maintenance in Waterville, Maine, which is operated by Maine Central Railroad. The permit was issued in January 2001 and the facility uses a DAF system to treat similar waste waters as the E. Deerfield facility. The third and final permit reviewed was for a rail yard in Selkirk,

New York, which is operated by CSX Transportation. The permit was issued in April 2000 and the facility uses a DAF system and biological treatment before discharging its waste water.

a. North Station Railroad Terminal

Other facilities in the railroad transportation industry were reviewed. Region I issued a permit to the North Station Railroad Terminal on January 23, 2004. The following effluent limits were established:

Pollutant/Parameter	Maximum Daily	Frequency of Monitoring
Oil & Grease	15 mg/l	Grab sample once per month
pH	6.5 - 8.3	Not to exceed

b. Maine Central Railroad, Waterville, Maine

The Maine Central Railroad Company (MCR) rail yard facility in Waterville, Maine had a permit issued in January 2001. The facility operates a similar treatment system as the E. Deerfield facility. The MCR facility uses a DAF system to treat oil and diesel fuel-containing process waste water mixed with storm water. Some of the effluent limits for their DAF system discharges are listed below:

Pollutant/Parameter	Maximum Daily
Oil & Grease	15 mg/l
pH	6.0 to 8.5
Total Suspended Solids (TSS)	50 mg/l

c. CSX Transportation, Selkirk, New York

The NY Department of Environmental Conservation issued a permit in April 2000 to CSX Transportation at the Selkirk Yard in Selkirk, New York. Some of the effluent limits for their DAF system that treats oil/diesel process waste water mixed with storm water discharges are listed below:

Pollutant/Parameter	Maximum Daily	Average Monthly
Oil & Grease	15 mg/l	-
pH	6.0 - 9.0	Not to Exceed
TSS	45	30

3. Dissolved Air Floatation Technology

B&M uses a DAF system to treat process waste water mixed with storm water from the facility. The DAF system removes suspended solids and diesel constituents from the water. To date the DAF technology has effectively removed Oil & Grease to below the discharge limit of 15 mg/l. Additionally, B&M has consistently been below the surfactant limit of 0.5 mg/l. The technology removes fats, oil & grease, suspended solids, hydrocarbon oils/emulsions and some other pollutants. The clarification rates can be as high as 97%. Chemically-assisted pretreatment, such as the pH adjustment and mixing with a coagulant agent such as Alum, improves the performance.

DAF is capable of treating the process waste water for O&G to below the current limit of 15 mg/l based on information from vendors and the past performance of the treatment system. Additionally, this technology is capable of treating the process waste water for Total Suspended Solids to 50 mg/l according to vendor supplied information on clarification rates.

EPA has reviewed B&M's WWTP performance data from the Discharge Monitoring Reports for O&G and Surfactant between the spring of 1998 and the summer of 2003. EPA has determine that the existing limits are too lenient for the DAF technology being used at the WWTP. EPA used the actual performance data and applied the statistical methodology described in Appendix E of EPA's "Technical Support Document for Water Quality-Based Toxics Control," (March 1991). From this methodology, EPA determined that the O&G daily concentration limit can be lowered to 3 mg/l from 15 mg/l and the Surfactant concentration limit can be lowered to 0.3 mg/l from 0.5 mg/l. A copy the spreadsheet used to calculate the lower limits can found as Attachment C to this Fact Sheet.

4. Benchmark Levels in the Storm Water Multi-Sector General Permit

In developing the Storm Water Multi-Sector General Permit, EPA established benchmark levels to compare each industry averages to determine which industries would be required to monitor its storm water. The general permit states, "The benchmark are the pollutant concentrations above which EPA determined represents a level of concern. The level of concern is a concentration at which a storm water discharge could potentially impair, or contribute to impairing, water quality or affect human health from ingestion of water or fish. The benchmarks are also viewed by EPA as a level that, if below, a facility presents little potential for water quality concerns." These water quality based levels represent the maximum concentration to be discharged.

Pollutant/Parameter	Benchmark levels
Oil & Grease	15 mg/l
pH	6.0 - 9.0
TSS	100

E. Effluent Limitations and Restrictions - Outfall 004

EPA has established effluent limitations for Outfall 004 that discharges treated process waste water and storm water. This proposed draft permit either restricts or establishes effluent limitations for flow, temperature, oil & grease, surfactant, pH, and total suspended solids. Additionally, B&M is required to monitor the discharge once per year for Priority Pollutants and Whole Effluent Toxicity Testing. Finally, B&M is required to amend its SWPPP to include the monitoring of Outfall 004.

1. Flow

The previous 1975 permit contained a monthly average flow that was restricted to 2,500 gallons per day (gpd). The discharge flow increased after the construction of WWTP. When the WWTP was built, B&M tied in the process waste water generated from the Fuel & Sand Facility and some storm water catch basins in the area of the Engine House. B&M requested an increase to 7,500 gpd. However, B&M discovered that during storm events the average daily flow increased above the 7,500 gpd.

In a July 6, 2000 letter, B&M requested that the flow limits be changed to 30,000 gpd monthly average and 72,000 gpd daily maximum. B&M bases this request on the capacity of the WWTP. The latest permit application submitted by B&M indicated that the process waste water flow from the Engine House and the Fuel & Sand Facility is estimated to be a consistent 7,500 gpd. It further stated that the

storm water component was unpredictable. For example, in May and June of 2002, discharge flows increased to an average of 13,000 gpd due to the 9.4 inches of rain it received.

This draft permit limits the monthly average flow to 15,000 gpd and a maximum daily flow of 45,000 gpd. These limits are based on historical data, which is summarized in Attachment A of this Fact Sheet. The historical data has never exceeded these limits. EPA believes that any higher limits are not necessary with the current operating conditions at the facility. If B&M changes the operation that would produce an increase in flow, B&M would be required to submit a request to amend the permit or reapply for a new permit. This allows EPA and the MA DEP the opportunity to assess any water quality implications of a process change including, but limited to, an increase in the number of locomotives maintained or directing remediation waste water to the treatment plant.

Although the amount of treated waste water that is being discharged at Outlet 004 has increased, EPA and the MA DEP has determined that the water quality will not degrade and there will be no loss of existing water uses. A more detailed discussion can be found below in the Anti-degradation, Section VIII.

As previously stated, B&M is only able to estimate the quantity of process waste water from the Engine House and the Fuel & Sand Facility because the flows mix with storm water. This makes it difficult to accurately measure the process waste water flowing to the treatment plant. Therefore, B&M shall install continuous flow measuring equipment to record the amount of process waste water coming from the Engine House and similar equipment to measure the flow from the Fuel & Sand Facility. This will allow the facility to accurately record the amount of process waste water, versus storm water, that is treated by the DAF treatment plant.

Consequently, on a monthly basis B&M shall report on DMRs the maximum daily and calculated monthly average flow rates at each location reported in gallons per day: 1) the process waste water from the Engine House, 2) the process waste water from the Fuel & Sand Facility and 3) the treated waste water at the point of discharge.

2. Temperature

The previous 1975 permit required a daily maximum temperature to not exceed 83°F. This requirement is based on state certification requirements and Massachusetts Surface Water Quality Standards for Class B warm water fisheries. The original purpose of the temperature restriction was to assure the boiler blowdown did not negatively impact the discharge. Sometime in the late 1970s, B&M stopped discharging the boiler blowdown to Outfall 004. However, B&M uses steam to clean the locomotives in the Engine House. Between two to four engines are cleaned per week and the condensate drains into floor grates. The

flow mixes with storm water drainage and the process waste water from the Fuel & Sand Facility. The combined flow drains to two surge tanks. Then the combined flows are metered through two oil/water separators and pumped to the waste treatment facility in 750 gallon batches. Because the discharge has condensed steam as a component, B&M shall assure the temperature of the discharge does not exceed 83°F as a daily maximum. B&M shall continuously monitor and record the temperature at the point of discharge from the DAF system when discharging treated waste water for compliance with the 83°F daily maximum temperature. On a monthly basis B&M shall report on DMRs the maximum monthly and calculated daily average temperature from the readings measured at a representative location for Outfall 004.

3. Oil and Grease

The Oil and Grease (O&G) maximum daily limit of 15 mg/l was incorporated in the previous 1975 permit. This draft permit lowers the O&G maximum daily limit to 3 mg/l based on performance data from the WWTP. An average and the standard deviation were calculated from O&G sampling data from the Discharge Monitoring Reports from 1998 to 2003. Then a 99% confidence level was applied to calculate a value of 2.878 mg/l. Rounding up to the nearest whole number EPA has set the performance based maximum daily limit for O&G at 3 mg/l. The chemically-assisted DAF treatment system can attain this limit according to four years of demonstrated performance data (see Attachment C).

EPA and the MA DEP have determined that technology-based effluent limit of 3.0 mg/l is sufficient to meet the water quality standard established for Oil and Grease by Massachusetts Surface Water Quality Standard at 314 CMR § 4.00(3)(b)7. The narrative water quality standard for Oil and Grease (O&G) in a Class B Inland Water in Massachusetts states, "(t)hese waters shall be free from oil, grease and petrochemical 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." Although no specific numerical water quality standard exists for Oil and Grease in the Massachusetts regulations at 314 CMR § 4.00, the MA DEP is expected to approve this permit and certify that the maximum daily limit of 3 mg/l is protective of the water quality standards.

The original permit established a sampling frequency of once per month for O&G. This draft permit continues the same sampling frequency. A grab sample shall be taken once per month at the point of discharge during normal operating conditions. On a monthly basis B&M shall report on DMRs the maximum daily value of the O&G testing results.

4. Surfactant

Surfactants are compounds that reduce the surface tension when dissolved in water. Three categories of surfactant compounds include detergents, wetting agents, and emulsifiers. Currently, the E. Deerfield facility uses Trans-Tex 100 as a detergent which has approximately 7.5 % sodium hydroxide. Sodium hydroxide is a surfactant that is used in many detergents. Therefore, B&M will continue to monitor for surfactants.

The surfactant maximum daily limit of 0.5 mg/l was incorporated in the previous 1975 permit. This draft permit lowers the surfactant maximum daily limit to 0.3 mg/l based on performance data from the WWTP. An average and the standard deviation were calculated from surfactant sampling data from the Discharge Monitoring Reports from 1998 to 2003. Then a 99% confidence level was applied to calculate a value of 0.268 mg/l. Rounding up to the nearest tenth number EPA has set the performance based maximum daily limit for surfactant at 0.3 mg/l. The chemically-assisted DAF treatment system can attain this limit according to four years of demonstrated performance data (see Attachment C). Although no water quality standard exists for surfactants in the Massachusetts regulations at 314 CMR § 4.00, the MA DEP is expected to approve this permit and certify that the maximum daily limit of 0.3 mg/l is protective of the water quality standards.

This draft permit requires B&M to continue to sample the effluent and analyze for surfactants to show how it meets the new daily limit of 0.3 mg/l. A grab sample shall be taken once per month at the point of discharge during normal operating conditions. On a monthly basis B&M shall report on DMRs the maximum daily value of the surfactant testing results.

5. pH Limit

The pH requirements in the 1975 permit (not less than 6.0 or greater than 8.5 standard units) were based on the Massachusetts Surface Water Quality Standards that were enforceable in 1975. The pH requirements in this draft (not less than 6.5 or greater than 8.3 standard units) reflect changes in the water quality standards regulations found at 314 CMR § 4.05(3)(b)3 for Class B waters in Massachusetts. B&M currently treats the influent to the treatment plant in the Chemical Reaction Tank by adjusting the pH by adding acid or caustics. B&M shall continuously monitor the pH at the discharge from the DAF system when discharging treated water. On a monthly basis B&M shall report on DMRs the minimum and maximum daily pH values.

6. Total Suspended Solids

Since the original permit was issued to B&M in 1975, B&M installed the DAF treatment plant. DAF treatment technology is based on the ability for small air particles to attract and float suspended solids to the surface which are then skimmed off. In this case the particles are oils and grease, and emulsified hydrocarbons and oils. Therefore, testing for total suspended solids (TSS) shall be a good indicator in determining that the DAF treatment system is properly operating and thereby removing these pollutants. DAF technology is capable of removing TSS to at least a level of 50 mg/l. The same level of treatment is required at another facility in Region I (Maine Central Railroad, Waterville Rail Yard in Waterville, Maine). The Waterville facility, which has a similar process waste water stream and uses a DAF system, is limited to 50 mg/l for TSS.

Additionally, the NPDES permit applications received from B&M over the years reported the TSS concentration at 86 mg/l in 1981, 48 mg/l in 1988, <1 mg/l in 1994, and no new data since 1994. With this minimal amount of data it is difficult to make a conclusive remark about trends. However, the TSS was above or near the proposed TSS level of 50 mg/l before the DAF system was built. After the DAF system was installed the one time the discharge was sampled, B&M reported a level of <1 mg/l. Therefore, the DAF system should be able to meet the 50 mg/l limit.

The effluent limit for TSS shall be 50 mg/l based on BPJ. Massachusetts has a narrative water quality standard for solids that state, "[t]hese waters shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom." EPA expects the MA DEP to approve this draft permit and certify that the maximum daily limit of 50 mg/l is protective of water quality standards.

This draft permit requires sampling of the effluent for TSS. A grab sample shall be taken once per month at the point of discharge during normal operating conditions. On a monthly basis B&M shall report on DMRs the maximum daily value of TSS testing results.

7. Monitoring

EPA requires B&M to monitor Outfall 004 for Priority Pollutants, to perform Whole Effluent Toxicity Testing, and to amend the SWPPP to include Outfall 004.

a. Priority Pollutants

B&M shall monitor the effluent from the DAF system for Priority Pollutants (PPs) as listed at 40 C.F.R. 423, Appendix A. B&M has recently and historically released pollutants at the rail yard. Since 1998, six hazardous release sites (RTN 1-12219, RTN 1-12430, RTN 1-12501, RTN 1-13006, and RTN 1-13894) have been identified in accordance with the Massachusetts Contingency Plan (310 CMR 40) at the B&M E.Deerfield Rail Yard. Often, after a spill at the site and during the cleanup of the spill, B&M has been required to install wells to determine the extent of contamination. At times, these wells have detected pollutants not related to the spill and it was determined the pollutants were from other historical activities or old spills at the site (referred to as "historical pollutants").

These releases pose a potential for pollutants to migrate in storm water. The storm water then could carry the pollutants from the point of discharge and continue to migrate or flow to the Connecticut River. Since storm water is treated by the WWTP, B&M shall sample Outfall 004 once per year for PPs.

A grab sample shall be taken at the point of discharge during normal operating conditions once per year during the second week in the month of September. September has been chosen to coordinate with the other annual sampling at the facility and September is a month that EPA and the MA DEP have agreed to require toxic sampling events in the Connecticut River Watershed for administrative convenience purposes. B&M shall report the analytical results for PPs in a report to be submitted with the September DMRs due before October 30th. B&M may request a reduction in the number of individual pollutants to be sampled after two consecutive years of not detecting the presence of the pollutants.

b. Whole Effluent Toxicity Testing

Under Section 301(b)(1) of the CWA, discharges are subject to effluent limitations based on water quality standards. Section 304(a)(1) of the CWA requires EPA to establish criteria in accordance with state surface water quality standards. Therefore, EPA must use the following Massachusetts narrative statement as guidance for establishing discharge criteria, "All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife." 314 CMR 4.05(5)(e).

At this time there are no known specific pollutants in the process waste water at concentrations or combinations that may have a toxic effect on humans, aquatic life or wildlife. However, no toxicity testing has been performed on the discharge from Outlet 004. Therefore, EPA is requiring B&M to monitor the discharge for toxic effects by performing Whole Effluent Toxicity (WET) testing once per year. B&M shall conduct acceptable chronic and modified acute toxicity tests of the effluent. Acute and chronic endpoints are to be determined since the dilution factor of the discharge to the unnamed brook is less than 10 as required by the "Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters," February 23, 1990. B&M shall conduct the tests in accordance with Permit Attachment A to determine the no observed effect concentration (NOEC) and to calculate the concentration that is lethal to 50% of the test organisms (LC_{50}).

Once a year during the second week in the month of September, B&M shall collect samples as required by Attachment A at the point of discharge during normal operating conditions. B&M shall report the NOEC and the LC_{50} from the results of WET testing using The Toxicity Test Summary Sheet (Attachment F of the EPA-Region I NPDES Permit Program Instructions for the Discharge Monitoring Report Forms). The report and summary sheet shall be submitted with the September DMRs due before October 30th. B&M may request to end the WET testing after two consecutive years of not detecting an acute toxic effect (an $LC_{50} \geq 100\%$).

c. Storm Water Pollution Prevention Plan (SWPPP)

B&M shall amend its existing SWPPP to include Outfall 004. The requirements for the SWPPP can be found in Section F.4 below.

F. Storm Water Monitoring - Outfalls 001, 002, 003, 005, 006

This section sets out the monitoring that EPA has determined shall be performed by B&M at the five storm water outfalls. B&M is being required to monitor for Priority Pollutants and Conventional Pollutants at each outfall. Sampling shall occur once per year in September during wet weather conditions. Additionally, B&M shall review and amend its existing SWPPP, and provide an annual report that certifies compliance with the SWPPP as required in Part 4 of this Section, below.

1. Priority Pollutants

The five storm water outfalls (001, 002, 003, 005, and 006) shall be monitored for Priority Pollutants (PPs) once per year. B&M is being required to monitor for PPs

based on the same rationale that was used for requiring PPs monitoring for Outfall 004 except the storm water is not treated before being discharged (see Priority Pollutants, Section IV.E.7.a for Outfall 004, above).

Each outfall shall be sampled and analyzed for PPs in the month of September. September has been chosen because it is a month with likely wet weather conditions and September is a month that EPA and the MA DEP have agreed to require toxic sampling events in the Connecticut River Watershed for administrative convenience purposes. A grab sample shall be taken at the point of discharge during wet weather conditions in September or the first storm event in October through November if no storm event occurs in September. Wet weather conditions mean that the samples must be collected from the discharge resulting from a storm event greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rain fall) storm event. Grab samples must be taken in the first 30 minutes of the discharge. If collection of the grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of the discharge, provided B&M submits with the DMR a description of why a grab sample during the first 30 minutes was impracticable. Analytical results for PP sampling shall be reported as an attachment to (1) the September DMRs if sampled in September due before October 30th, (2) the October DMRs if sampled in October due before November 30th, or (3) the November DMRs if sampled in November due before December 30th. B&M may request a reduction in the number of individual pollutants to be sampled after two consecutive years of not detecting the presence of the pollutants.

2. Conventional Pollutants

In addition to testing for PPs at the five storm water outfalls, B&M shall test for Conventional Pollutants (CPs) in the month of October. EPA is requiring B&M to test for CPs once per year because there is very little analytical data for the storm water discharges. CPs are good indicators whether there are pollutants being discharged that could cause a negative effect to the water quality of the receiving waters.

Grab samples shall be taken at the five storm water outfalls to test for Oil & Grease, BOD, TSS and pH once a year in September during wet weather conditions or the first storm event in October through November if no storm event occurs in September. B&M shall analyze the samples for CPs using the analytical methods approved under 40 C.F.R. Part 136 or other EPA approved method. B&M shall report the analytical results for CPs (1) on the September DMRs if sampled in September due before October 30th, (2) on the October DMRs if sampled in October due before November 30th, or (3) on the November DMRs if sampled in November due before December 30th.

3. Estimated Flow Rate

B&M shall estimate the flow rate once a year at each of the five storm water outfall. Estimates of the flow rates at the outfalls shall be taken at the point of discharge during wet weather conditions in September or the first storm event in October through November if no storm event occurs in September. All estimates shall be taken using standard engineering techniques to measure flow. Estimates of the flow shall be taken during the first 30 minutes of the start of the storm event. B&M shall report on DMRs the maximum daily value of the estimated flow rate in gpm for each of the five storm water outfalls (001, 002, 003, 005, 006). Analytical results shall be reported (1) on the September DMRs if sampled in September due before October 30th, (2) on the October DMRs if sampled in October due before November 30th, or (3) on the November DMRs if sampled in November due before December 30th.

4. Storm Water Pollution Prevention Plan

B&M is required to review and amend its Storm Water Pollution Prevention Plan (SWPPP) within 90 days after the effective date of this permit. The SWPPP shall refer to all of the outfalls including Outfall 004, and the PPs and CPs monitoring requirements at each outfall. Additionally, the SWPPP shall include the best management practices (BMPs) appropriate for this specific facility to control storm water discharges from activities that could contribute pollutants to waters of the United States through storm water.

B&M shall assure that the SWPPP is consistent with the requirements outlined in Part II of this Fact Sheet and Part 4 of EPA's NPDES Storm Water Multi-Sector General Permit for Industrial Activities. See 65 FR 64,745 (2000). The SWPPP shall include, at a minimum, the elements identified in the Permit under Section B. Finally, B&M is required to fully implement the SWPPP for all outfalls. The original SWPPP and the amended SWPPP become enforceable elements on and after the effective date of the permit. Consequently, the SWPPP is as enforceable as any effluent limit.

The SWPPP for the discharge should address all potential sources of pollutants in the rail yard including, but not limited to, the chemicals stored in rail cars, fuels and oils stored in above ground storage tanks, and materials stored in the rail yard including scrap metal piles, the storage of new railroad ties, chemicals in rail cars, and all other materials stored outside that have the potential to spill or could contribute to the discharges.

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 B&M to provide an annual report that certifies to EPA and the MADEP 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 report with the proper certification will be sent each year to EPA and MADEP within thirty (30) days of the annual anniversary of the effective date of the draft permit. This report with the proper certification shall 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 MADEP.

V. 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 the National Marine Fisheries Service (NMFS) 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). Adversely 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 fish 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.

Based on the permit requirements and limitations identified in the draft permit and fact sheet, EPA believes that the discharge allowed by this permit is designed to be protective of aquatic species because the discharge meets Gold Book Criteria and State Water Quality Standards. However, EPA is consulting with NMFS to determine whether this permit may adversely impact any essential fish habitat.

VI. Endangered Species Act Consultation

Section 7(a) of the Endangered Species Act of 1973, as amended ("Act") 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 Act requires every Federal agency, in consultation with and with the assistance of the Secretary of the 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 results in the destruction or adverse modification of critical habitat. The National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species.

The Department of the Interior has listed the Shortnosed Sturgeon (Acipenser brevirostrum) and the Dwarf Wedge Muscle (Alasmidonta heterodon) as endangered for portions of the Connecticut River. Therefore, EPA has entered into consultation with NMFS and USFWS regarding the re-issuance of the NPDES permits in the Connecticut River Watershed.

VII. Anti-backsliding

Anti-backsliding as defined at 40 C.F.R. §122.44(l)(1) requires reissued permits to contain limitations as stringent or more stringent than those of the previous permit unless one of the regulatory exceptions apply. This draft permit proposes more stringent effluent limitations for O&G (15 mg/l to 3mg/l), Surfactant (0.5 mg/l to 0.3 mg/l) and pH range (6.0 - 8.5 to 6.5 - 8.3).

Additionally, an effluent limitation has been established for TSS (50 mg/l) where no standard previously existed. However, the flow at the discharge has been increased (2,500 gpd to 15,000 gpd).

At first glance, the increase in the flow rate in this draft permit appears to be less stringent than original permit. However, the increase in flow is from treating additional waste waters. After construction of the WWTP, B&M added flows from potentially contaminated storm water near the Engine House and the process waste water from the Fuel and Sand Facility. Now the WWTP treats these previously untreated contaminated flow streams. Therefore, this permit is considered more stringent and more protective.

The increase in flow rate also meets an exception to the requirement that a reissued permit be as stringent or more stringent. The exception states, "[m]aterial and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation." 40 C.F.R. § 122.44(l)(2)(i)(A). In this case a WWTP was constructed in compliance with a Consent Order signed with the State of Massachusetts. Therefore, the substantial alteration is the construction of the WWTP which justifies an increase in the flow rate.

Additionally, the increase in flow rate is more stringent because B&M treats more water on site yet the average amount of a pollutant being discharged during a day actually decreases. See Section VIII Anti-Degradation below for more details. Therefore, this draft permit is as stringent or more stringent as the previous permit and meets an exception to the general rule.

VIII. Anti-degradation

The Massachusetts Anti-degradation Policy states that "[i]n all cases existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." 314 CMR 4.04. In this case, all existing uses of the Connecticut River must be protected. EPA expects the MA DEP to approve this draft permit and certify that the effluent limits being proposed are protective of water quality standards.

This draft permit is being reissued with discharge limits that are as or more stringent than the current permit with the exception of the flow rate of treated process waste water and storm water being discharged at Outfall 004. Again, the increase in the flow rate is from additional storm water from around the Engine House and process waste water from the Fuel & Sand Facility. These flows were added after the WWTP was constructed.

Although the flow rate has increased, the overall amount (mass) of pollutants being discharge has decreased. For example, the overall mass being discharged at Outfall 004 of O&G is decreasing. The previous permit allowed B&M to discharge 0.4 pound of O&G per day based on a concentration of 15 mg/l of O&G at a flow rate of 2,500 gallons per day. B&M only met the O&G limitation during two quarters and exceeded the limitation 31 reported quarters before the WWTP was constructed. The average during that period was 54.4 mg/l with a high of 247.3 mg/l reported during the spring of 1985.

This draft permit will discharge an average of 0.2 pounds of O&G per day based on an actual average concentration of 1.6 mg/l from 1998 to 2003 and the permitted average monthly flow rate of 15,000 gallons per day. Therefore, this represents a decrease in the overall pollutants being discharged although the flow rate has increased.

Anti-degradation requirements for this permit are preserved because (1) the existing water quality of the receiving water will be maintained or improved and (2) the increased flow is a result of more storm water and an additional process waste water stream is treated, and (3) the overall mass of pollutants being discharged is decreasing.

IX. State Certification Requirements

EPA may not issue a permit in the Commonwealth of Massachusetts unless the Massachusetts Department of Environmental Protection (MA DEP) 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 Water Quality Standards. The staff of the MA DEP has reviewed the draft permit. EPA has requested state certification for this permit pursuant to 40 C.F.R.

§ 124.53 and expects that the draft permit will be certified.

X. Comment Period, Hearing Requests, and Procedures for Final Decisions

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 Mr. Steven J. Calder, U.S. EPA,

One Congress Street, Suite 1100 (CIP), Boston, Massachusetts 02114-2023. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and the State Agency. 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 of EPA and the Director of MA DEP/DWM 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.

XI. EPA Contact

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:

Steven J. Calder
US Environmental Protection Agency
One Congress Street
Suite 1100 (CIP)
Boston, Massachusetts 02114-2023
Telephone: 617-918-1744
Fax: 617-918-0744
E-mail: calder.steve@epa.gov

and

Paul Hogan
Massachusetts Department of Environmental Protection
627 Main Street
Worcester, MA 01618
Telephone: 508-767-2796
Fax: 508-791-4131
E-mail: paul.hogan@state.ma.us

Date

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

ATTACHMENT A
BOSTON & MAINE CORPORATION (MA0000272)
DISCHARGE FLOW DATA FROM DISSOLVED AIR FLOTATION SYSTEM
FEBRUARY 1, 1998 THROUGH OCTOBER 31, 2003

Current Flow limits	2,500 gpd Quarterly Average	No limit for Daily Maximum
---------------------	-----------------------------	----------------------------

Quarter	Daily Average Flow (gpd)	Daily Maximum Flow (gpd)
02/01/98 - 04/30/98	13,042	34,630
05/01/98 - 07/31/98	8,510	26,960
08/01/98 - 10/31/98	4,497	11,620
11/01/98 - 01/31/99	7,259	21,510
02/01/99 - 04/30/99	12,484	34,370
05/01/99 - 07/31/99	5,819	18,330
11/01/99 - 01/31/00	8,112	17,580
02/01/00 - 04/30/00	10,387	24,860
05/01/00 - 07/31/00	10,930	28,570
08/01/00 - 10/31/00	9,574	25,290
11/01/00 - 01/31/01	9,254.5	37,210
02/01/01 - 04/31/01	11,757	40,610
05/01/01 - 07/31/01	8,974	17,760
08/01/01 - 10/31/01	5,198	20,980
11/01/01-01/31/02	3,437	8,670
02/01/02 - 04/30/02	7,791	20,270
05/01/02 - 07/31/02	11,224	34,600
08/01/02 - 10/31/02	6,534	27,620
11/01/02-01/31/03	8,413	43,170
02/01/03 - 04/30/03	13,400	28,220
05/01/03 - 07/31/03	8,522	24,150
08/01/03 - 10/31/03	11,882	38,190

Proposed Limits	15,000 gpd	45,000 gpd
------------------------	-------------------	-------------------

ATTACHMENT B
BOSTON & MAINE CORPORATION (MA0000272)

**pH DISCHARGE SAMPLING RESULTS FROM DISSOLVED AIR FLOTATION SYSTEM
FEBRUARY 1, 1998 THROUGH OCTOBER 31, 2003**

**pH
(Standard Units)**

	Minimum	Average	Maximum
Current Permit Limits	6.0	-	8.5

Date	Minimum	Average	Maximum
02/01/98 - 04/30/98	6.7	6.9	7.0
05/01/98 - 07/31/98	6.8	6.9	7.0
08/01/98 - 10/31/98	6.9	7.1	7.2
11/01/98 - 01/31/99	7.1	7.3	7.4
02/01/99 - 04/30/99	7.0	7.0	7.0
05/01/99 - 07/31/99	6.6	7.0	7.3
11/01/99 - 01/31/00	6.9	7.2	7.7
02/01/00 - 04/30/00	7.1	7.3	7.5
05/01/00 - 07/31/00	7.1	7.2	7.3
08/01/00 - 10/31/00	7.3	7.5	7.6
11/01/00 - 01/31/01	7.0	7.2	7.5
02/01/01 - 04/31/01	6.7	6.8	6.9
05/01/01 - 07/31/01	6.9	7.1	7.2
08/01/01 - 10/31/01	7.1	7.2	7.5
11/01/01-01/31/02	6.6	6.9	7.4
02/01/02 - 04/30/02	6.5	6.8	6.9
05/01/02 - 07/31/02	6.9	7.0	7.2
08/01/02 - 10/31/02	6.9	6.9	7.0
11/01/02-01/31/03	6.7	6.9	7.1
02/01/03 - 04/30/03	6.1	6.4	6.7
05/01/03 - 07/31/03	6.9	7.0	7.2
08/01/03 - 10/31/03	7.0	7.3	7.6

	Minimum	Average	Maximum
Proposed Limits	6.5	-	8.3