

## **Boston & Maine East Deerfield Rail Yard Response to Comments on Draft National Pollutant Discharge Elimination System (NPDES) Permit No. MA0000272**

### **INTRODUCTION**

In accordance with the provisions of 40 C.F.R. §124.17, this document presents EPA's responses to comments (RTC) received on the Draft NPDES Permit (MA0000272). The RTC explains and supports EPA's determinations that form the basis of the final Permit. The first Boston & Maine East Deerfield Rail Yard draft permit public comment period began December 28, 2004 and ended on January 28, 2005. Comments were received from:

1. John P. Paciorek, Chair, Board of Selectmen, Town of Deerfield, (referencing and attaching O'Reilly Talbot & Okum letter);
2. Cindy Delpapa, Stream Ecologist, MA Riverways Programs;
3. Andrea F. Donlon, River Steward, Connecticut River Watershed Council (with an attached letter from consultant, James D. Okum, LSP, O'Reilly, Talbot & Okum);
4. Deerfield Economic Development Ad Hoc Committee (referencing and attaching O'Reilly, Talbot & Okum letter);
5. Michael T. McDonough, Staff Design Engineer, Boston & Maine Corporation;  
and
6. M.A. Swedlund, a nearby resident.

EPA received requests for a Public Hearing from the Board of Selectmen, the Connecticut River Watershed Council, the Deerfield Economic Development Ad Hoc Committee, and M.A. Swedlund. However, after discussions with the parties requesting the Public Hearing, EPA agreed to have an informational meeting in lieu of a formal Public Hearing. As a result, EPA held a Public Meeting on Wednesday, April 13, 2005. EPA then reopened the Public Comment period from April 13, 2005 to May 13, 2005. A second set of comments were received from the following parties:

7. Jamison E. Colburn, Associate Professor of Law, Western New England College, School of Law;
8. John D. Collins, Environmental Manager, Boston & Maine Corporation;
9. Andrea Donlon, River Steward, Connecticut River Watershed Council, Inc. (with an attached letter from a consultant, Kevin D. Trainer, Senior Geologist, GeoInsight, Inc.);
10. Bill Labich, Land Use Program Manager, Franklin Regional Council of Governments (referencing the GeoInsight Inc. letter);
11. Cindy Delpapa, Stream Ecologist, MA Riverways Programs; and
12. The Deerfield Sustainable Development Committee (commenting and referencing the letter from GeoInsight) with a petition signed by 13 residents attached.

This document refers to the above Commenters by designated numbers. The same letter from a consulting company named O'Reilly Talbot & Okum was attached to three comment letters during the first comment period. The responses to the consultant's comments are referred to as number three, above, along with the Connecticut River Watershed Council's comments. A second letter from a consultant named GeoInsight, Inc. was attached to the letter received by the Connecticut River Watershed Council, Inc. The responses to these comments are referred to as number nine.

The final Permit has changed from the Draft Permit based on comments received and by the changes outlined in the Fact Sheet Addendum that was available for public comment. EPA's decision-making process has benefitted from the various comments and the additional information submitted. The information and arguments did not result in any substantial new changes to the permit. However, a few improvements and changes are detailed in this document and reflected in the final Permit. A summary of the changes made in the final Permit is listed below. The analyses underlying these changes are explained in the responses to individual comments. Each change is followed by a number that correlates to a specific response. Attachment A provides a list of the acronyms and abbreviations used throughout this document.

1. Facility address changed from 39 Railroad Yard Road to 38 Railroad Yard as requested by B&M (Comment letter 5, above).
2. B&M shall estimate the flow rates at each storm water outfall on a monthly basis as part of the Storm Water Pollution Prevention Plan (SWPPP). Weather conditions at the time of the inspections shall also be recorded (Response to Comment 9).
3. The Outfall 004 annual sampling for Whole Effluent Toxicity (WET) and Priority Pollutants (PP) will occur in March. Storm water outfall sampling for PP will also occur in March with some flexibility for a storm event to occur (15).
4. The storm water outfalls will be sampled quarterly for 14 toxic metals from the PP list (12).
5. The storm water outfalls will be monitored annually for fecal coliform at the same time as the other conventional pollutants are monitored (39).
6. Language has been added to the final Permit in Footnotes 6, 7, 10 and 11 that requires EPA to approve, in writing, any reduction in monitoring (7).
7. Monthly sampling of benzene has been added as proposed in the Fact Sheet Addendum dated March 28, 2005 (32).
8. No combining of storm water samples is allowed. Each storm water outfall shall be sampled and analyzed separately (17).
9. In Section I.B.5.b.v of the final Permit, Spill Prevention and Response Procedure, B&M is required at any "nearby storm water discharges" to test "for pollutants contained in the material spilled within 24 hours from the spill and as directed by the EPA or the MA DEP during the clean up" (10).
10. B&M shall no longer be required to continuously monitor the flow rate from the Engine House. B&M shall be given 90 days from the effective date of the final Permit to purchase and install monitoring equipment for measuring the flow rate from the Fuel and Sand Facility (28).
11. B&M will no longer be required to meet the temperature of 83 degrees Fahrenheit at Outfall 004 as a numeric effluent limit. However, B&M shall still be required to continuously monitor and report the temperature at the outfall (33).

## **RESPONSE TO COMMENTS ON THE DRAFT NPDES PERMIT**

Many comments were similar in nature. This Section has been divided for organizational purposes into five sections: Enforcement Issues, Facility Operations, Storm Water Outfalls, Waste Water Treatment Plant (WWTP)/Outfall 004 and Other. For administrative convenience, similar comments are paraphrased below and EPA provides the following responses.

### **A. Enforcement Issues**

**Comment 1:** a. A number of commenters (1, 2, 3, 11, 12) asked why it took EPA over 24 years to reissue the permit. b. Additionally, Commenters asked why EPA or MA DEP did not perform more enforcement or oversight of B&M's discharges at the E. Deerfield Rail Yard despite exceeding the permit limits for flow, oil & grease and surfactant. Furthermore, Commenters wanted to know what enforcement actions are possible. c. A commenter (1) asked whether regulatory agencies have conducted site inspections and confirmed the services activities and the hazardous materials used.

**Response to Comment 1.a:** As stated in the Fact Sheet, the previous permit was signed on November 19, 1975, and became effective 45 days later. That permit expired 5 years later on January 3, 1981. However, EPA's regulations state, “[w]hen EPA is the permit-issuing authority, the conditions of an expired permit continue in force under 5 U.S.C. 558(c) until the effective date of the new permit ...” according to 40 C.F.R. §122.6(a). Therefore, the original permit remained and still remains in force until the final Permit becomes effective.

To effectively implement the NPDES program, EPA prioritizes the reissuing of permits based on many factors and the resources available. This facility has only recently been prioritized based in part on the length of time since the permit expired. Other facilities are in a similar situation and EPA is diligently trying to reissue these permits with the resources available.

**Response to Comment 1.b:** Back in the mid-1980s the State of Massachusetts Department of Environmental Quality Engineering (currently known as the Department of Environmental Protection) contacted B&M because they were failing to meet the Oil & Grease (O&G) and surfactant limit. Additionally, the Department was concerned that additional capacity was needed for a large storm event. A Consent Order was issued to B&M on September 4, 1986, to design and install a new WWTP to be operated by a Massachusetts licensed waste water treatment operator. B&M received approval from the MA DEP to began operating the plant with a design capacity of 72,000 gallons per day on June 13, 1990. Since the installation of the new WWTP, B&M has been meeting the permit limitations for O&G and surfactants.

Both EPA and MA DEP are able to enforce the NPDES permit. According to the file review that the permit writer performed on May 26, 2004, the MA DEP has performed inspections at the B&M East Deerfield Rail Yard on May 15, 2002, November 28, 2001, January 21, 2000, November 10, 1999, March 10, 1999, and April 16, 1997, as well as other dates previous to 1997. Additionally, EPA's Echo data base shows the most recent inspection occurred on June 30, 2004.

B&M was responsible for submitting a permit application every 5 years even if EPA did not renew the previous application. B&M was late in submitting some of its applications since receiving the original permit in 1975. However, EPA and the MA DEP use enforcement discretion in deciding which violations to pursue.

EPA and the MA DEP have many enforcement options when violations of the Clean Water Act are discovered. EPA can order a facility to comply, take an administrative penalty action or refer the case to the Department of Justice for a civil action seeking a penalty and/or injunctive relief. Finally, if the facility or its employees willfully acted in violation of the Clean Water Act, EPA could seek a criminal action in federal court.

**Response to Comment 1.c:** The current EPA permit writer visited the facility on May 27, 2004, and another permit writer from EPA had visited the site on August 22, 2001. A water quality expert from EPA with a MA DEP senior water quality employee visited the site on January 30, 2003. Additionally, the MA DEP has visited the site and the MA DEP files show multiple inspections and enforcement actions (see the response to Comment 1.b, above).

**Comment 2:** A commenter (11) asked to have a shorter term for this permit, such as two years, instead of waiting the traditional 5 years and Commenters were concerned that EPA may not get to rewriting the permit within 5 years.

**Response to Comment 2:** EPA does not have the resources to rewrite minor permits every two years and the duration for this permit will be five years. If the monitoring shows there may be pollutants being released that would cause an exceedance of a water quality standard, EPA has the authority to modify the permit in accordance with 40 C.F.R. § 122.62. At this time EPA is unable to know whether the resources will be available to rewrite the permit within the 5-year term of this permit. The reissuance of any permit depends on EPA's priorities and resources available at the time. Fortunately, the regulations allow for an administrative continuance, which avoids a permittee from discharging without a permit and maintains an enforceable permit. Furthermore, a continuance obligates the permittee to perform all tasks of the original permit including the periodic sampling of the discharge and submitting monthly discharge monitoring reports.

**Comment 3:** Commenters (2, 11) stated that Permit Compliance System (PCS) did not contain information for the period between July 2004 and November 2005.

**Response to Comment 3:** PCS is used to compile the information reported by facilities that submit Discharge Monitoring Reports (DMRs) as required by a NPDES permit. The data is updated on a periodic basis with an emphasis on inputting data from major dischargers (greater than one million gallons per day). The commenter should also be aware that EPA receives hundreds of DMRs each month and DMRs are inputted as resources allow. The currently missing data should be added soon and does not necessarily mean that B&M has not submitted the information.

## **B. Facility Operations**

**Comment 4:** Commenters (2, 3, 11) asked what is in the process water.

**Response to Comment 4:** The process water from the Engine House often contains engine oil spilled during locomotive engine maintenance, such as changing oil and oil filters. Additionally, locomotives are periodically washed in the Engine House at a rate of approximately two to four

locomotives per week. The detergent used to clean the locomotives is Trans-Tex 100, which contains sodium hydroxide (a surfactant) and steam. Storm water from catch basins in the area of the Engine House, Turntable, Repair Shop and the Office Building mix with process water from the Engine House during storm events.

The Fuel & Sand Facility is where locomotives are fueled with diesel fuel. Any spilled diesel fuel is captured by an underground pad and mixes with precipitation during a storm event. This process waste water is conveyed and treated at an oil/water separator (O/W separator) before mixing with the process water from the Engine House. In summary, the process water can contain diesel fuel, engine oil, and a surfactant. Outfall 004 only discharges treated water from the WWTP.

**Comment 5:** Commenters (2, 9, 10, 11) noted in the Fact Sheet that on page 12 it states, "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." Why limit this to these two instances? Additionally, Commenters were concerned that B&M would add a flow to the WWTP without modifying its permit.

**Response to Comment 5:** This is clearly an omission of the word "not" between the words *but* and *limited* that was missed during the review process. EPA meant to stress these two instances as likely scenarios that could occur and not to limit the number of instances that a permit would need a modification or reapplication submitted. The Fact Sheet is a final document and will not be reissued, but this document serves to clarify this as an error in the production of the Fact Sheet.

Furthermore, a Fact Sheet is not a document that can rewrite the NPDES regulations. The NPDES regulations do not limit the instances to those stated above when a permittee would be required to submit a request to modify the permit or reapply for a new permit. The regulations allow modifications according to 40 C.F.R. § 122.62.

According to the regulations, B&M is required to request a modification to the permit for "material and substantial alterations or additions." An addition of a waste stream, such as contaminated groundwater to the WWTP, is a substantial alteration and B&M would be required to apply for a modification. Otherwise, B&M could be subject to an enforcement action for not complying with the requirement.

**Comment 6:** A commenter (1) asked how sanitary sewage is handled.

**Response to Comments 6:** B&M has stated that all sanitary sewage is treated on site with septic systems. EPA has seen no specific evidence that sewage is disposed at the 6 outfalls or infiltrates the storm water discharges.

### **C. Storm Water Outfalls**

**Comment 7:** Commenters (1, 2, 3, 9, 10, 11, 12) were concerned that the permit only required monitoring of the storm water discharges (Outfalls 001, 002, 003, 005 and 006) for total suspended solids (TSS), O&G and pH. The Commenters wanted to have WET sampling

performed and limits set for C-NOEC and LC<sub>50</sub>. Additionally, Commenters wanted quarterly PP and WET sampling instead of the annual sampling. Furthermore, the Commenters wanted the sampling to continue for 5 years.

**Response to Comment 7:** According to the draft permit released for Public Comment on December 30, 2004, B&M is required to annually sample the storm water discharges for conventional pollutants and priority pollutants. PP, TSS, O&G, fecal coliform and pH are tests that will be performed during annual testing at each storm water outfall. No numeric limitations for pollutants are included in this permit for storm water because there was very little analytic data to choose the types of pollutants to include and to assess the need for a numeric effluent limitation. WET sampling is not required under the final Permit because EPA chose to require annual sampling for Priority Pollutants as a phased approach in determining whether a toxic risk exists. If PP are detected at levels that could pose a risk, then EPA would likely require WET sampling to determine whether a real risk exists to biological organisms.

Furthermore, this facility had a permit under EPA's NPDES Storm Water Multi-Sector General Permit for Industrial Activities (MSGP). See 65 FR 64,745 (2000). EPA directed the B&M to submit a facility specific permit for the storm water discharges based on historical spills and the remediation sites identified under a MA DEP program. The general permit did not require sampling nor set any numeric discharge limits based on data from similar facilities across the country. EPA is unwilling to set numeric effluent limitations for storm water from this facility until there is actual data to suggest a need. However, the SWPPP is considered a non-numerical effluent limitation for the storm water discharges. As stated in Response 29, EPA can modify the permit if the monitoring detects pollutants at levels that could cause an exceedance of water quality standards.

Additionally, B&M is required to continue to sample for all 126 PPs until EPA approves a reduction after two consecutive years of not detecting the pollutant. To make it clear that B&M must continue to monitor for all 126 pollutants, EPA added specific language which requires written approval from EPA. Not only has Footnote 10 been changed to require written approval from EPA, but Footnotes 6, 7 and 11 have also added language to clarify that EPA has to formally approve in writing any reduction in sampling.

**Comment 8:** Commenters (5, 8) requested EPA to reconsider the requirement to annually monitor the storm water discharges for PPs due to costs and the lack of detecting pollutants from a sampling round performed prior to the issuance of the final Permit.

**Response to Comment 8:** EPA has chosen a phased approach for the permitting of the storm water discharges at this facility. Very little analytical data existed prior to the recent sampling round. One sampling round is not enough data to make an informed decision. Additionally, B&M has the potential to discharge pollutants to the storm water system through infiltration of contaminated groundwater as documented by MA DEP's records for this facility under the Massachusetts Contingency Plan. Categories of contaminants detected in either soil and groundwater include extractable petroleum hydrocarbons (EPHs), volatile petroleum hydrocarbons (VPHs), polynuclear aromatic hydrocarbons (PAHs), and total metals. Many of the specific pollutants detected by this sampling are pollutants listed as PPs. B&M admits that groundwater is infiltrating storm water in its Wastewater/Storm Water Process Flow Diagram submitted with its permit application. Due to an aging storm water system it is likely

groundwater is infiltrating. Therefore, this permit requires B&M to monitor the storm water discharges (001, 002, 003, 005, & 006) annually for PPs. B&M is also required to sample the storm water discharges on a quarterly basis for the 14 heavy metals from the PPs list (see Response 12). However, the permit allows B&M to request a reduction from EPA of the number of PPs to be sampled after two consecutive years of not detecting a PP. This should allow B&M to reduce its costs associated with the sampling for the PPs if they are not detected.

EPA has chosen to require B&M to monitor the storm water discharges for PP annually as the minimum frequency. Part of the decision to only monitor on an annual basis is because EPA is aware that PP sampling is costly. B&M states in their comment letter that the sampling round performed on October 19, 2004, cost over \$13,000 and would be too costly to perform annually. The permit writer reviewed the costs from three private laboratories on the internet. The average cost for a full PP scan was approximately \$725. For the five storm water discharge locations, the costs are estimated to be \$3,625 without considering the costs of a consultant to perform the actual on site sampling. The sampling is expensive but the frequency is annually. B&M needs to gather more data to assure the storm water discharges are not negatively impacting the water quality of the Connecticut River and not posing a risk to human health or environmental including the endangered species in the area. The cost of performing this sampling should reduce with time, assuming pollutants are not detected, as the number of pollutants that is required to be sampled is reduced upon EPA's written approval.

**Comment 9:** A commenter (11) was concerned that the flow rate at the storm water discharges was only being evaluated once per year during the annual sampling for PP and conventional pollutants.

**Response to Comment 9:** The SWPPP has been amended to now require B&M to estimate flow rates at the storm water discharges during monthly "visual inspections" of the storm water discharges in Section I.B.5.b.ix of the final Permit. In order to gather more information for each storm water discharge to determine the rate of loading or how the flow rate might otherwise affect the water quality of Connecticut River, EPA is requiring B&M to perform monthly inspections at each of the storm water discharges. Part of the inspection will be the requirement to estimate the flow rate at the point of discharge using standard engineering techniques. Additionally, B&M is required to record the weather conditions at the time of the inspections.

**Comment 10:** A commenter (11) was concerned that B&M would not sample the storm water discharges during a reasonable time after a spill.

**Response to Comment 10:** EPA amended Section I.B.5.b.v of the final Permit, Spill Prevention and Response Procedure, to require nearby storm water discharges to be tested for pollutants contained in the material spilled within 24 hours from the spill and as directed by the EPA or the MA DEP during the clean up. B&M may be subject to other requirements after a spill and should follow all requirements it is subject to including any requirements in their Spill Prevention, Control, and Countermeasure Plan.

**Comment 11:** Commenters (1, 2, 3, 4) asked whether any sampling occurred at the storm water outfalls.

**Response to Comment 11:** EPA, by a letter dated June 21, 2004, required B&M to sample the

five storm water outfalls at the same time B&M was required to apply and obtain an individual NPDES permit for the 5 storm water outfalls. The sampling results were received in December 2004. The results were summarized in an attachment to the Fact Sheet Addendum released on March 23, 2005, for public comment. Also noted in the Fact Sheet dated December 30, 2004, pages 4 and 5, are sampling results that were taken on April 23, 2001, after an incident at Outfall 003.

**Comment 12:** Commenters (7, 9, 10, 11, 12) were concerned that EPA did not set limits for pollutants or assess the impact to the wetlands at the five storm water outfalls despite the sampling results from a storm event on October 19, 2004 that detected zinc, lead, and copper.

**Response to Comment 12:** EPA has chosen a phased approach for the permitting of the storm water discharges. Because there is very little analytical data EPA is requiring B&M to sample the five outfalls annually for PP and quarterly for the 14 heavy metals from the PP list. This data should provide information so EPA can evaluate the impact to the wetlands and receiving waters and the need for numeric effluent limitations. In the interim EPA is requiring non-numerical effluent limitations on the storm water discharges by requiring B&M to develop and implement a SWPPP.

Nationally, EPA has collected data from many sectors under the MSGP. Railroads have never been a sector that required monitoring. Therefore, the amount of data collected for this sector is limited. In the near future, EPA anticipates proposing a new MSGP for public comment that is likely to contain a benchmark of 100 mg/l of TSS.

EPA has issued a memorandum titled "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits," dated September 1, 1996. The memorandum explains the rationale being implemented at this facility and includes the following explanation. The Clean Water Act (CWA) does not always require numeric effluent limitations. Section 301 of the CWA requires that discharge permits include effluent limitations necessary to meet state water quality standards. Section 502 defines "effluent limitations" to mean any restriction on quantities, rates and concentrations of constituents discharged from point sources. EPA has through regulation, interpreted the statute to allow non-numerical limitations (e.g., "best management practices" or BMP, see 40 C.F.R. § 122.2) to supplement or replace numeric limitations in specific instances that meet the criteria at 40 C.F.R. § 122.44(k). This regulation essentially codifies a court case addressing storm water discharges. NRDC v. Costle, 568 F.2d 1369 (D.C. Cir. 1977). In that case, the Court stated that EPA need not establish numeric effluent limitations where such limitations were infeasible.

EPA has defended use of BMPs as a substitute for numeric limitations in litigation involving storm water discharges (CBE v. EPA, 91-70056 (9th Cir.)(brief on merits)) and in correspondence (Letter from Michael Cook, EPA, to Peter Lehner, NRDC, May 31, 1995). EPA has found that numeric limitation for storm water permits can be very difficult to develop at this time because of the existing state of knowledge about the intermittent and variable nature of these types of discharges and their effects on receiving waters.

Due to the intermittent and variable nature of these storm water discharges, EPA has chosen to use BMPs (i.e., the SWPPP) as a non-numeric effluent limit. The BMPs being implemented require B&M to amend its SWPPP as stated in Section I.B of this final Permit. The SWPPP needs to be developed and implemented within 90 days of the date of this final Permit. The

requirements are detailed and extensive. For example, the requirements for the SWPPP include a description of potential pollutant sources, development of storm water management controls, the formation of a pollution prevention team, development of risk identification and assessment/material inventory list, the development of a preventative maintenance plan, and many other requirements. The development of the SWPPP and the implementation of the plan on site should minimize the release of pollutants to storm water discharges.

B&M should realize that management of materials, especially those stored outside, is an important element to meeting the intent of SWPPP. During the Permit Writer's visit to the site on May 27, 2004, he observed "a pile of metal grindings overflowing a hopper onto the ground that was rusting" outside the Engine House, as documented in the NPDES Site Visit report dated May 28, 2004. Additionally, he observed, "hundreds of new cresol railroad ties were being stored in a clearing to one side of Outfall #006." These situations need to be addressed in the SWPPP and B&M would be strongly advised to audit the whole facility for potential sources of pollutants that could effect the water quality of the storm water.

Because metals grindings were being stored outside and because the initial sampling round detected metals near the National Recommended Water Quality Criteria, B&M will have to monitor for metals on a quarterly basis and report the results in Discharge Monitoring Reports. More specifically, each storm water outfall (001, 002, 003, 005, and 006) shall be sampled and analyzed for the 14 heavy metals from the PP list during each quarter (except in the quarter that annual PP sampling takes place because the metals are already being sampled for). 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.

**Comment 13:** A commenter (8) suggested that a substantial portion of storm water, with the inference of possible pollutants, may originate from off site locations.

**Response to Comment 13:** According to this final Permit, B&M is not required to sample the storm water that flows from off site before flowing through its property to the storm water discharges. However, B&M is required to monitor the storm water discharge at Outfalls 001, 002, 003, 005, and 006. In the future, EPA may set numeric effluent limitations based on the results of the monitoring especially if EPA determines that the discharge is exceeding Massachusetts Water Quality Standard for the Connecticut River or National Recommended Water Quality Criteria. Therefore, B&M would be advised to sample the water and measure the flow rate at its property line to show the level of pollutants flowing through the property from off site. Regardless, B&M is responsible to meet any effluent limit established under NPDES that discharges from its property.

**Comment 14:** A commenter (7) was concerned that B&M would negatively impact the receiving waters, the Connecticut River and the Connecticut River at the confluence of the Deerfield River. Massachusetts has determined that the Connecticut River has failed to meet the water quality standards for priority organics, suspended solids, and pathogens by the facility. The Commenter wanted EPA to set numeric effluent limitations at the storm water discharges from B&M to limit its impact on these standards.

**Response to Comment 14:** Massachusetts has assessed the water quality of the Connecticut River as needing total maximum daily load (TMDL) for priority organics, TSS and pathogens in the river near the facility in a 2002 Water Quality Assessment Report. To date, TMDLs have not been set for these pollutants. Priority organics in this case refers to PCBs. The sampling

performed by B&M in October 2004, did not detect any PCBs. However, B&M is required to annually monitor for PCBs as part of the PP sampling at the outfalls.

Suspended Solids were detected in the October 2004 sampling of the five storm water outfalls. However, EPA has determined that not enough data exists to establish numeric effluent limitations for the five storm water outfalls. Additionally, the levels of TSS detected at the five storm water outfalls were below the numeric effluent limitation of 50 mg/l set for Outfall 004 and the benchmark of 100 mg/l for TSS, which EPA anticipates proposing in a new MSGP for public comment. This permit requires B&M to annual monitor the storm water outfalls for TSS.

In this case, pathogens refer to historically elevated fecal coliform levels in this segment of the Connecticut River. The elevated levels of pathogens are related to the discharge of untreated sanitary wastes that are most likely from the discharges at combined sewer overflows. B&M has on site septic systems to manage its sanitary wastes. This final Permit requires B&M to monitor for fecal coliform bacteria on an annual basis at the storm water outfalls (see also Response to Comment 39). If fecal coliform bacteria is not detected, then the sanitary septic systems are likely operating properly and not leaching into the storm water drainage system. However, if fecal coliform bacteria is detected, then it could be from the sanitary septic systems or from another source, such as wildlife around the facility. For all these parameters being monitored by B&M, if the data at the outfalls detect levels at or above water quality standards, EPA may set numerical effluent limits for the pollutant in the future.

**Comment 15:** Commenters (1, 2, 12) suggested that groundwater infiltration could pose higher pollutant concentrations at other times of the year than the proposed sampling month of September.

**Response to Comment 15:** Traditionally, snow melt and wet weather in March would cause the groundwater to be high and if groundwater infiltration is an issue, it would be more appropriate to sample in March. Therefore, the annual sampling for Outfalls 001, 002, 003, 005 and 006 shall be changed to March. If there is no rain event in March, the final Permit requires sampling during the first storm event after March.

**Comment 16:** A commenter (2) asked whether any solvents, cleaners or other substances used at the site may be present in storm water?

**Response to Comment 16:** There are no known substances used at the facility except Trans-Tex 100, which is used as a cleaner. The material safety data sheet states that it contains approximately 7.5 % Sodium Hydroxide and 20% tetrasodium EDTA (a chelating agent) and other inert substances. These substances should be directed to and removed by the WWTP. Also, onsite are many oils and greases for maintenance performed on the locomotives. The materials should not be discharged at the storm water Outfalls (001, 002, 003, 005, and 006), since the cleaner and the oils and greases are all used in the areas that drain to WWTP, treated and ultimately discharge at Outfall 004.

**Comment 17:** Commenters (1, 2, 11) thought that Footnote 10 was unclear whether B&M is allowed to batch or test the storm water outfalls separately.

**Response to Comment 17:** To clarify EPA's original intent that the samples from each outfall have to be analyzed separately, EPA has added language to the footnote. At the end of the first sentence in Footnote #10 the following has been added, "separately (no combining of outfall

samples allowed)."

**Comment 18:** Commenters (1, 2, 3, 7, 11) asked to have an opportunity to review and comment on the SWPPP. One commenter asked to correct the Fact Sheet that stated the SWPPP was due 90 days from the effective date of the "draft permit" to read the "final Permit."

**Response to Comment 18:** During the public comment periods after the release of the draft permit, anyone could have commented on the elements to be included in the SWPPP. Elements within the SWPPP have changed based on comments received. See Response to Comments 9 and 21.

EPA is not requiring B&M to release the document to the public for comment. However, B&M is required to annually submit a report with proper certification to EPA and MA DEP, documenting that the previous year's inspections and maintenance activities were conducted, results recorded, records maintained, and that the facility is in compliance with the SWPPP. EPA and MA DEP can ask for a copy of the SWPPP under its inspection authority and authority to request information under CWA § 308. Once the documents are in EPA's or the MA DEP's possession, the public can request to have a copy released under their Freedom of Information Act statutes.

The Fact Sheet is a final document. However, it is stated here that the intent of requiring the amended SWPPP to be completed was 90 days after the final Permit becomes effective. Since the final Permit is worded properly, there is no need to make a change to the Fact Sheet.

**Comment 19:** A commenter (3) was concerned whether the discharge at Outfall 006 is a diverted intermittent or perennial stream.

**Response to Comment 19:** EPA at this time is not sure whether the discharge is the result of a stream being diverted. Furthermore, due to the age of the facility, EPA does not know whether the discharge is a natural or manmade stream. However, the drainage from the site emerges from an approximately 2-foot diameter pipe and drains most of the eastern portion of the site. The description of the stream does not impact the final permit or the monitoring that will occur at the outfall. Additionally, annual sampling for PP and conventional pollutants and quarterly sampling for metals should detect toxic pollutants if they are being discharged at Outfall 006. See also next Response to Comment.

**Comment 20:** Commenters (1, 9) asked whether EPA has verified dry weather flow at the storm water outfalls.

**Response to Comments 20:** EPA has not verified dry weather flow at the storm water outfalls. However, the permit writer observed very slow flows at each of the storm water outfalls during the Site Visit on May 27, 2005. The MSGP for storm water allows certain non-storm water discharges such as groundwater and spring water, which are likely sources of the dry weather flows. No dry weather sampling is being required because EPA believes that storm events pose the main risk of pollutants to be discharged to the Connecticut River by the storm water transporting sediment and pollutants. If contaminated groundwater is reaching the storm water system, it would most likely occur during long periods of wet weather that would cause the groundwater to rise. March is historically a wet month (see Response to Comment 15, above) and therefore, the best time to perform the annual monitoring. As a result, the final Permit requires B&M to sample the five storm water outfalls during a storm event during March.



**Comment 21:** A commenter (5) asked why B&M is required to list all materials stored on site including materials stored in rail cars for the past three years in the SWPPP at Section B(5)(a)(iv).

**Response to Comment 21:** B&M is being required to provide "[a] narrative description of significant materials that have been treated, stored or disposed of in a manner to allow exposure to storm water between the time of three years prior to the issuance of this permit to the present." This statement seems reasonable because it limits the requirement by "significant" and "in a manner to allow exposure to storm water" for the past three years. Furthermore, Section B(5)(a)(v) of the final Permit and B(5)(a)(iv) asks for a narrative. Therefore, it is not asking for all materials stored in the rail yard, but just those that have caused or may have caused material to enter the storm water systems. An example could be a liquid spilled onto the ground in the rail yard. Due to the potential for ground water infiltration into a storm water conveyance system, a liquid spill that was not totally recovered could enter a storm water system. In making an assessment of what a "significant" amount of material spilled would be, B&M might look to other EPA regulations such as the reportable quantities of spilled hazardous substances in accordance with 40 C.F.R. Part 117.

#### **D. WWTP/Outfall 004**

**Comment 22:** Commenters (1, 2) were concerned that B&M increased the flow of the treatment system without a change in the permit. Other Commenters (5, 8) were concerned that the flow rate was too low and would like to be able to operate the WWTP at the designed capacity of the plant of 72,000 gallons per day during extended periods of heavy precipitation or sustained snow melt.

**Response to Comment 22:** B&M originally applied for a NPDES permit in June 1972 and received a permit from EPA in November 19, 1975. The original permit application estimated the flow from the Engine House at 2,500 gallons per day. Since that time the facility installed oil/water separators to control the oil & grease being discharged.

MA DEP performed enforcement inspections in the early 1980s because B&M exceeded its discharge limits for O&G and surfactant. The MA DEP then attempted to get B&M to upgrade its water treatment system through enforcement actions. As a result, B&M signed an Administrative Consent Order dated September 4, 1986, that required B&M to design and construct a WWTP that would use chemically-assisted dissolved-air floatation (DAF) technology. During the 1980s the amount of waste water and storm water directed to the oil/water separators increased to avoid pollutants from being directly or indirectly discharge without treatment into the Connecticut River watershed. For example, B&M began treating the waste water from the Fuel and Sanding Facility and more storm water from the active maintenance areas. B&M added the flows from catch basins near the Engine House, Turntable Repair Shop, Fuel Track Unloading Facility and Office Building.

The MA DEP approved the operation of the plant on June 13, 1990, with a design capacity of 72,000 gallons per day. EPA had not modified the permit to allow for a larger flow rate. However, B&M was meeting the discharge limits for O&G and surfactants while treating more water that otherwise had the potential to pollute the Connecticut River Watershed.

In developing the flow rates established in the final Permit, EPA reviewed the flow rates for over 5 years of data that B&M submitted in its discharge monitoring reports. From that review EPA concluded that only an average monthly flow rate of 15,000 gallons per day and a maximum daily flow of 45,000 gallon was necessary to operate the WWTP based on the current level of on site activities and with the amount of storm water being diverted to the WWTP. See pages 11 and 12 of the Fact Sheet issued on December 30, 2004, for a more detailed explanation.

**Comment 23:** Commenters (5, 8) requested that a less stringent discharge limit (higher concentration) for Outfall 004 be allowed for Oil & Grease and Surfactant since the limits would still be protective of the Water Quality Standards of the Connecticut River.

**Response to Comment 23:** The current permit application submitted by B&M requested an increase in the flow rate to 72,000 gallons per day (or 50 gallons per minute), the design capacity of the treatment plant. Furthermore, B&M offered to meet an annual loading limit for O&G, surfactant, and benzene. However, their analysis in their comment letter was flawed because they used the maximum daily flow (MDF). EPA never intended to allow B&M to operate at the MDF for 365 days a year. Using the MDF for 365 days per year would result in severe exceedances of the final Permit's limit for the average monthly flow rate of 15,000 gallons per day. Since the flexibility that B&M sought by the analysis is flawed, EPA has kept the limits on a concentration basis for the final Permit.

EPA used a site-specific technology-based limit in determining the numeric effluent limitations for O&G and Surfactant. According to actual data reported on DMRs and using a statistical analysis, the permit writer used his best professional judgement in determining a technology based limit. B&M should be able to meet the limits set out in the final Permit for O&G at 3 milligrams per liter (mg/l) and Surfactant at 0.3 mg/l based on historical data. For a more complete discussion on the development of these limitations, please refer back to the Fact Sheet released for Public Comment on December 30, 2004, Section IV.E.3 and 4. If B&M exceeds these limits, then it is an indication that the DAF system is being improperly operated or unpermitted constituents are being added, and corrective actions need to be taken. An example of a corrective action might be the use of less cleaner (surfactant) in the wash water that emulsifies oils into solution. Over using a surfactant makes separating O&G from the water phase more difficult in a DAF treatment system.

**Comment 24:** Commenters (2, 11) asked whether the DAF treatment system removes toxics.

**Response to Comment 24:** The DAF treatment system removes metals, complex organic compounds, semi-volatile compounds, and some volatile compounds. Toxic compounds can be defined in many ways. However, under the Clean Water Act toxics are usually considered the 126 Priority Pollutants (PP) listed in 40 C.F.R. 423, Appendix A. These compounds have the potential to be a risk to human health and the environment when in substantial concentrations in the waterway. The list of PP includes the types of compounds the DAF treatment system can remove.

The DAF system effectively removes the known pollutants generated at the B&M facility including those monitored for by the final Permit at Outfall 004, such as benzene and Priority Pollutants. The monitoring shall confirm whether the DAF system treats to the required level for benzene and detects any unknown Priority Pollutant that is present. Additionally, the facility is

required to perform annual WET sampling. WET sampling uses the discharge water on two aquatic species and observes the short and long-term effect. This monitoring should detect the overall toxic effects of pollutants in the discharge on the aquatic environment.

**Comment 25:** A commenter (2) asked why the storm water outfalls are not treated by the DAF system.

**Response to Comment 25:** The WWTP does not treat the storm water from Outfalls 001, 002, 003, 005 and 006. The WWTP does not have the design capacity to treat the additional flow from these discharges during a storm event and the additional flow would likely reduce the efficiency of the DAF system to remove pollutants. Furthermore, not enough analytical data exists to determine the need for treatment or to establish numeric discharge limits for specific pollutants. In this permit EPA requires B&M to monitor the storm water discharges quarterly for 14 heavy metals from the PP list and annually for conventional and priority pollutants to determine whether pollutant limits should be established in the future. These monitoring requirements are more stringent than the requirements in the MSGP that similar facilities must comply with.

**Comment 26:** Commenters (1, 2, 11) thought that the testing at Outfall 004 should be performed during wet weather conditions.

**Response to Comment 26:** EPA usually has a preference for wet weather conditions for testing to assure the treatment system can handle the increase of flow from storm water. However, at this facility the treatment system has two surge tanks (20,000 gallon and 24,000 gallon) before the treatment system. The operator manually adjusts the flow to the treatment system based on the level in the surge tanks and capacity of the treatment system. Because of this configuration the storm water from a storm event mixes with existing water in the surge tanks. The delay in the treatment of the storm water makes sampling during the storm events moot. The mixing in the surge tanks makes a more homogeneous waste stream with the timing of the sampling during a storm event less critical. Also, the operator should be able to operate the plant more easily because the pollutant concentration in the waste water will fluctuate less.

**Comment 27:** Commenters (2, 11) noted that the flow coming from the Turntable appears high and what is the source of the water.

**Response to Comment 27:** The process flow diagram was provided by B&M as part of its permit application. The flows are not metered except at the WWTP. Therefore, these flow rates are only estimates. The Turntable is a large circular pit with a large track and gear equipment built at and below the surface of the pit to rotate a locomotive. This allows the operator to change direction and to direct the locomotive to the correct track leading to the Repair Shop. The only source of water from the Turntable is from storm water. Because of oil on the gears and other equipment, the runoff from the storm water is properly conveyed to the treatment facility. Furthermore, the Turntable can act as another surge tank if a 100-year flood would occur. In other words, the WWTP would not overflow and release untreated waste water, if the surge tanks were full due to a large storm event. The water would back up into the Turntable during a large storm event. The water would then be metered into the WWTP until it was all treated.

**Comment 28:** Commenters (9, 10, 11) were concerned that the information from the process flow diagram would allow EPA to establish a lower average monthly flow rate and maximum daily flow rate. A commenter was also concerned that a specific flow was not identified. Other commenters (5, 8) were concerned that the flow rate was too low and B&M should be allowed to operate the WWTP at the designed capacity of the plant of 72,000 gallons per day during extended periods of heavy precipitation or sustained snow melt. Additionally, the facility (5, 8) stated that continuous monitoring of the flow rate from the Engine House and the Fuel and Sand Facility may not be feasible.

**Response to Comment 28:** The process flow diagram submitted by B&M used only estimated flow rates. However, the final Permit used actual data, over 5 years of data as reported by B&M from the DMRs. This actual data supports the Maximum Monthly Average flow rate of 15,000 gallons per day and the Maximum Daily Flow Rate of 45,000 gallons per day. B&M should be able to meet the numeric effluent limits at these flow rates based on the actual data reported by B&M on the discharge monitoring reports. At these flow rates B&M has been able to meet the effluent limits for O&G and Surfactant since the WWTP started operating on June 13, 1990. For more accurate data, B&M is being required by the final Permit to continuously monitor the flow rate from the Fuel and Sand Facility and the WWTP. This should help to determine where the process flows are coming from.

Because the flows from the Engine House exit at four different locations and combine at different catch basins, EPA agrees that the continuous monitoring at these locations would be costly and may not result in the data foreseen when originally required in the draft permit. The flows from the engine house would mix with storm water and infiltrating groundwater before the combined flows from the four locations could be ascertained. However, B&M should be able to install continuous monitoring equipment to measure the flow rate from the Fuel and Sand Facility. For example, B&M has access to the oil/water separator just downstream. Monitoring equipment should be able to be installed at a reasonable cost. B&M may not be able to meet the effective date of the final Permit to install the at the Fuel and Sand Facility because some excavation may be necessary. B&M would only have 60 days from the signing of the final Permit to purchase and install the monitoring equipment. Therefore, B&M shall be given 90 days from the effective date to purchase and install the equipment and come into compliance with the continuous monitoring and reporting of the flow rate from the Fuel and Sand Facility. B&M shall still be required to continuously monitor the daily flow rate from the WWTP when the final Permit becomes effective because only recording equipment would need to be purchased and installed at an accessible location at the WWTP.

EPA will still require continuous flow monitoring at the Fuel and Sand Facility and the discharge from the WWTP. The combined flow of the process water from the four locations at the Engine House with infiltrating groundwater and storm water can be calculated by subtracting the flow at the Fuel and Engine Facility from the flow at the WWTP. Similarly, the continuous monitoring of pH and temperature can be performed by purchasing and installing recording equipment at a accessible location in the WWTP and should be installed by the final Permit's effective date.

The facility wants the daily maximum flow rate to be limited by the design capacity of the WWTP at 72,000 gallons per day. However, EPA is comfortable that B&M can operate the plant at the permitted quantities of 15,000 gallons per day as the average monthly flow rate and 45,000 gallons per day for the maximum daily flow rate. Admittedly, B&M even stated in its comment letter that the WWTP has not exceeded 40,000 gallons per day since January 2000, during extended periods of heavy precipitation or sustained snow melt. Even during a storm

event that might increase the quantity of water to be treated by the WWTP, B&M has designed the system to be able to back-up or flood the Turntable that would act as a surge tank. The WWTP would then treat the water at its permitted flow rate. For a more detailed discussion regarding the Turntable, please refer to Response to Comment 27, above.

**Comment 29:** Commenters (1, 2, 9, 10, 11, 12) suggested that quarterly WET and Priority Pollutant (PP) sampling would be more appropriate than annual sampling in the final Permit at Outfall 004 and the permit should set permit limits for C-NOEC and LC<sub>50</sub>. Additionally, a commenter suggested that this permit should have a permit duration of one to two years to set limits based on WET and PP sampling results.

**Response to Comment 29:** Wet sampling is performed to assure the discharge as a whole is not negatively impacting the naturally occurring biological organisms in the receiving waterway. Priority pollutant sampling is performed to assure the discharge does not contain pollutants that exceed the water quality standards established for the Connecticut River. The discharge at Outfall 004 comes from a treatment plant that uses DAF technology which is effective in removing metals, some volatile organic compounds, and semi-volatile organic compounds. EPA believes that the level of any pollutants in the discharge should be very low after treatment by the WWTP.

However, EPA wants to be assured that the discharge has no reasonable potential to exceed water quality standards (WQS). Therefore, EPA has decided to require annual WET and PP monitoring to make that assurance. EPA will receive the results of the annual WET and PP sampling and if the data suggest a risk that WQS may be exceeded, EPA has the ability to modify the permit in accordance with the Clean Water Act regulations found at 40 C.F.R. § 122.62. EPA can then set limits for C-NOEC and LC<sub>50</sub> based on the WET sampling results or set limits for specific PPs where EPA determines there is a reasonable potential to exceed WQS.

Additionally, EPA will be able to make a more informed decision whether to continue the WET and PP sampling or to set C-NOEC and LC<sub>50</sub> or specific PP discharge limits in the next permit cycle. To this end, EPA has added language in Footnote 6 and 7 that requires EPA to approve any reduction of PP and WET sampling. This requires EPA to make a decision whether to allow a reduction. Therefore, EPA concludes that the frequency of annual sampling for WET and PP at Outfall 004 is adequate to minimize the reasonable potential to exceed WQS. Because EPA has the ability to modify a permit as stated above, EPA sees no reason to limit the permit to one or two years. The Clean Water Act allows EPA to issue permits for up to five years. See CWA § 402(b).

**Comment 30:** Commenters (5, 8) asked why annual PP and WET sampling was being required at Outfall 004 when EPA made a statement that there are no specific pollutants or concern in the process water at concentrations or combinations that could have a toxic effect on humans, aquatic life or wildlife. Furthermore, a Commenter (8) suggested that the monthly monitoring for benzene due to its solubility, concentration, and toxicity should be used as an indicator-parameter for the WWTP operation.

**Response to Comment 30:** What was more precisely stated in the Fact Sheet was "[a]t 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." "At this time there are no known" meant to justify the lack of information including sampling for PP or WET. Therefore, EPA is requiring B&M to annual test for PP and WET at Outfall 004. In the final Permit at Footnote 6 of the Outfall 004 Table, it is stated that "B&M may request to end the WET testing after two consecutive years of not detecting an acute toxic effect (an  $LC_{50} \geq 100\%$ )." Furthermore, the final Permit at Footnote 7 of the Outfall 004 Table, it is stated that "B&M may request a reduction of the number of PPs to be sampled after two consecutive years of not detecting a PP." Alternatively, if EPA finds there may be a risk associated with the water quality of the discharge as a result of the PP or WET sampling, EPA has the ability to modify the permit in accordance with the Clean Water Act regulations found at 40 C.F.R. § 122.62.

Benzene is a good indicator-parameter that the WWTP is being properly operated because diesel fuel represents a major potential source of water pollutants being treated at the WWTP. However, the monitoring of the discharge at Outfall 004 for PP and WET sampling is being performed for another purpose. As stated in the Fact Sheet no data exists for toxics or toxic effects at the discharge. Additionally, other chemicals have been used or spilled at the facility that have made their way to the groundwater according to the MA DEP records. Also, B&M submitted a Waste Water/Storm Water Process Flow Diagram that shows groundwater infiltration estimates. The PP and WET testing is to assure the discharged water does not contain pollutants that would exceed WQS. Therefore, B&M shall annually monitor Outfall 004 for PP and WET.

**Comment 31:** Commenters (2, 11, 12) noted that because the flow diagram (Figure 2 of the Fact Sheet) shows infiltration into the conveyance system for the waste water treatment system, consider whether to add standard infiltration and inflow (I&I) language to this permit.

**Response to Comment 31:** The standard language for infiltration/inflow referred to by the Commenter applies to operators of municipal treatment plants. For municipal systems that have problems handling the flow rate to the treatment plant because of infiltration of groundwater and inflow from roof drains and floor drains are required to develop an I&I Control Plan. This language is not applicable for minor industrial NPDES permits. Since B&M is able to treat the flow directed to the WWTP, no I&I language will be added to this permit.

**Comment 32:** Commenters (2, 9, 10, 12) asked to increase the frequency of monitoring from annual to quarterly and to add limits for toxics at point of discharge from the WWTP at Outfall 004.

**Response to Comment 32:** B&M uses diesel fuel to power its locomotives at the East Deerfield Rail Yard and fuels the locomotives on fuel pads to capture spills. As explained in Response 29, above, for the WWTP outfall (004), EPA is requiring annual testing for PP and WET sampling as a form of assurance that concentrations of pollutants do not cause an exceedance of the water quality standards. Additionally, the information could help in developing a more comprehensive permit in the future. Although EPA is not going to increase the frequency of this sampling, EPA is going to add monthly sampling and reporting for benzene based on the rationale set forth in the Fact Sheet Addendum released for public comment on March 23, 2005.

In summary, diesel fuel has been used for fueling locomotives for years at the facility and is the primary contaminant in waste water being treated by the WWTP. Benzene is a constituent found in relatively high concentrations in diesel fuel. Because benzene has a high solubility in water

and demonstrates a great degree of toxicity, benzene has been chosen as the indicator-parameter (for other volatile organic compounds found in diesel fuel) to be sampled for on a monthly basis. EPA has chosen a maximum daily effluent limit for benzene of 51 µg/L for the final Permit based on the recommended Federal Water Quality Criteria for benzene adopted by the State of Massachusetts (see 314 CMR 4.05(5)(e)) for fish consumption.

**Comment 33:** B&M (5, 8) requested that EPA eliminate the requirement to monitor Outfall 004 for temperature based on its belief that the temperature should reflect atmospheric (ambient) conditions because the effluent is made up of storm water. Another Commenter (11) requested that B&M be held to a maximum rise in temperature of 5 degrees from ambient.

**Response 33:** EPA has decided not to require B&M to meet the 83 degree effluent limitation as required in the Draft Permit. Additionally, B&M is not being required to meet the maximum rise in temperature of 5 degrees from ambient levels as an effluent limitation. However, EPA requires B&M to monitor and report the average monthly and maximum daily values based on the continuous monitoring of the temperature at the outfall. EPA has made this decision because of the orientation of the treatment system. The condensed steam from the cleaning of the locomotives would flow from the Engine House to the storm water drainage system. The flow would then mix with the two underground surge tanks with a combined capacity of 44,000 gallons. The mixing of the flow from the Engine House with the contents of the surge tank would substantially drop the temperature. A large lag time exists between the surge tanks to the two oil water separators to a 2000 gallon pumping station before the waste water enters the WWTP for treatment. No heat is added at the WWTP. After this lag time the water is finally discharged at Outfall 004. Because of the mixing of the condensed steam with the contents of the surge tank and the lag time of waste water from entering the WWTP, EPA consider it unlikely that the temperature of the discharge could reach 83 degrees or exceed the 5 degrees rise.

However, EPA is requiring B&M to continuously monitor and record the temperature of the discharge at Outfall 004 to confirm that during long periods of no storm events the temperature of the discharge from the WWTP does not exceed the Massachusetts water quality standard for temperature. If problems become apparent that B&M is not meeting the standard, EPA has the authority to amend the permit in accordance with 40 C.F.R. § 122.62. From the data gathered during this permit period, EPA should be able to determine whether a temperature limit is necessary for subsequent permits.

#### **E. Other**

**Comment 34:** Commenters (1, 2, 3, 9, 10, 11) stated that based on the maximum loading under the draft permit that the anti-backsliding requirements are not met at Outfall 004.

**Response to Comment 34:** EPA concludes that the final Permit meets an exception to the anti-backsliding requirement. When a permit is renewed or reissued, effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards or conditions in the previous permit unless an exception applies according to 40 C.F.R. § 122.44 (l)(1).

As previously explained in the Fact Sheet issued on December 30, 2004, the increase in flow rate is from treating additional waste waters that previously went untreated. The numeric effluent limitations are as stringent or more stringent, such as O&G and surfactants. EPA has also added

new numeric limitations for pollutants, such as total suspended solids and benzene.

The increase in flow rate meets a regulatory exception to anti-backsliding requirement. 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.

Furthermore, the increase in flow rate meets the anti-degradation requirement. With a discharge rate at the maximum flow rate and the maximum concentration of pollutants allowed by the final Permit for outfall 004, the overall loading to the Connecticut Rivers appears to have slightly increased for O&G and surfactants compared to the original permit. However, the increase in flow for this permit is because more storm and waste water is being directed and treated at the WWTP, than in initial permit. For example, during fueling of the locomotives at the Fuel & Sand Facility much of the spilled fuel ended up on the ground. Now, the fuel spilled and the storm water that mixes with the fuel gets captured and treated at the WWTP. An amount of previously untreated process and storm water is now being treated. Therefore, the potential amount of pollutants reaching the Connecticut River has decreased, which EPA has determined meets the anti-degradation requirement.

**Comment 35:** Commenters (1, 2, 7, 9, 10, 11, 12) were concerned that EPA would finalize the permit before its sister agencies had an opportunity to consult in accordance with the Magnuson-Stevens Act and should require an Environmental Impact Statement under the National Environmental Policy Act, 42 U.S.C.A §§ 4321 to 4370f.

**Response to Comment 35:** Since the draft permit was released on December 30, 2004, EPA has received concurrences from the U.S. Fish and Wildlife Services, and National Oceanic and Atmospheric Administration (Protection Resources Division) for the dwarf wedge mussel (*Alasmidonta heterodon*) and the shortnose sturgeon (*Acipenser brevirostrum*), respectively, under the section 7(a)(2) of the Endangered Species Act. Additionally, EPA has a Memorandum of Agreement (MOA) with National Oceanic and Atmospheric Administration (Habitat Conservation Division) in accordance with the Magnuson-Stevens Fishery Conservation and Management Act. The MOA states that if NOAA has any concerns with a request for a concurrence, then NOAA would reply within 30 days. NOAA was notified by letter on December 21, 2004 for Atlantic salmon (*Salmo salar*) and therefore, the 30 days has expired. NOAA has not and is not expected to respond based on conversations with the staff. These consultations are performed to assure that the discharges at the facility did not have a potential to impact the recovery of the Endangered Species.

When issuing a NPDES permit, only a new source as defined under Section 402 of the CWA are subject to requirements of the National Environmental Policy Act according to Section 511(c) of the CWA. The reissuance of this permit to B&M is not considered a discharge subject to a New Source Performance Standards. Therefore, issuing this permit is deemed not to be a major federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act.

**Comment 36:** Commenters (7, 9, 11) were concerned that metals detected during an October 2004 sampling round at the storm water outfalls could jeopardize the recovery of the state (Massachusetts Natural Heritage and Endangered Species Program) and federal endangered

species near the facility and EPA should assure the discharges do not negatively impact the wetland.

**Response to Comment 36:** Zinc, lead and copper were detected during an October 2004 sampling round near chronic levels of the National Recommended Water Quality Criteria for copper, lead and zinc for aquatic organisms. First, acute (short-term) level of exposure is more relevant than the chronic (long-term) level of exposure to these metals because storm water is intermittent and therefore, poses a short-term exposure. However, EPA is requiring quarterly sampling (versus annual sampling) for the 14 heavy metals from the PP list (see Response 12, above) and the implementation of comprehensive SWPPP for the storm water outfalls. This decision is based on the materials handling observed on site and the detected levels of these metals from the October 2004 sampling round.

Outfall 004 is only being monitored for the 14 heavy metals annually, as part of the PP sampling, because DAF technology removes metals. Annual monitoring at Outfall 004 should be adequate to confirm that the detected levels of these metals meet or are below the National Recommended Water Quality Criteria. Therefore, this monitoring should assure the discharge does not negatively impact the wetland resources or the endangered species in the area.

The other monitoring occurs at the outfalls including the annual monitoring for PP and conventional pollutants at storm water outfalls and the discharge limitations and monitoring for WET sampling at Outfall 004. This additional monitoring should assure that levels of pollutants being discharged do not exceed WQC. This monitoring at the outfalls and the implementation of a comprehensive SWPPP should minimize the threat to federal and state endangered species in the area of the facility. Nevertheless, EPA has the authority to modify the final Permit according to 40 C.F.R. § 122.62, if new information shows there may be a threat to these resources.

The MA DEP is consulting with its sister agencies, which include the Massachusetts Natural Heritage and Endangered Species Program (NHESP). The permittee should consult with NHESP to determine if there are requirements that B&M need to comply with.

**Comment 37:** A commenter (3) complained that the checkered areas were difficult to read on Figure 1, Locus Map.

**Response to Comment 37:** Reproduction of the Locus Map in the mailing was black and white. The map was originally in color. The EPA web site has a legible color map. Please see <http://www.epa.gov/region1/npdes/mass.html#poi>. During the public meeting on April 13, 2005, color copies were handed out and a large diagram of the Locus Map was provided and kept at the Deerfield Municipal Office Building.

**Comment 38:** A commenter (3) noted that "Dwarf wedge mussel" was misspelled as "Dwarf wedge muscle."

**Response to Comment 38:** It is so noted as a misspelling in the Fact Sheet.

**Comment 39:** Commenters (9, 10, 11, 12) were concerned that EPA had not assessed the potential for groundwater and its potential effect on the storm water discharges because of the potential of infiltration of pollutants from on site septic systems and historical spills. Additionally, the Commenters were concerned that EPA had not assessed the potential for pollutants from current and historic uses.

**Response to Comment 39:** EPA requires B&M to include the 5 storm water outfalls under this final Permit. One of the reasons for monitoring the outfalls for PP was because of the potential of contaminated groundwater to infiltrating the storm water drainage system. A purpose of the NPDES program is to set effluent limits at the point of discharge to assure the receiving waters (in this case the Connecticut River) meet water quality standards. The pollutants in groundwater from recent and historic releases pose a potential for pollutants to migrate into storm water. There is no explicit information to suggest that sanitary waste from on site septic systems is migrating to the storm water. However, the monitoring of the storm water outfalls detected some ammonia nitrogen, total nitrogen and phosphorous. These compounds may be related to sanitary waste. Therefore, EPA is requiring annual monitoring for fecal coliform bacteria as part of the conventional pollutant monitoring at the storm water discharges. If fecal coliform bacteria is not detected, then sanitary wastes are not likely the source of nitrogen and phosphorous compounds. This should indicate that the septic systems on site are operating properly and not infiltrating the storm water systems.

However, if fecal coliform is detected then it would be inconclusive whether sanitary waste from on site septic systems are the source of the nitrogen and phosphorous compounds. For example, B&M should be aware that the permit writer noticed beaver activity at the Fire Pond during the site visit on May 27, 2004. Therefore, B&M would be advised (but not required by this permit) to sample the inlet to the pond at the same time the sampling is performed at the discharge from the pond to exclude beaver as the source of any fecal coliform bacteria.

EPA has chosen a phased approach for the permitting of the storm water discharges. Because very little analytical data exists, EPA is requiring B&M to sample the five outfalls annually for PP and conventional pollutants including fecal coliform bacteria testing, and quarterly testing for the 14 heavy metals from the PP list. This data should provide information so EPA can evaluate the impact to the wetlands and the receiving waters. In the future, EPA should be able to decide whether there is a need for numeric effluent limitations. In the interim, EPA is requiring a non-numerical effluent limitation for the storm water discharges by requiring B&M to develop and implement a SWPPP and perform monitoring.

In regards to current and historic uses at the East Deerfield Rail Yard, the annual monitoring for the 126 pollutants listed as priority pollutants and conventional pollutants, and the quarterly monitoring for toxic metals, should detect pollutants associated with the activities listed in the comment letter. The only exception is asbestos, which is not a PP, does not migrate in groundwater, and the main hazard is from breathing the fibers into the lungs.

Therefore, EPA concludes that the monitoring of the storm water and the implementation of the SWPPP is an effective non-numeric effluent limitation to assure discharges do not negatively impact the water quality of the Connecticut River. If the monitoring of a discharge reveals a risk that WQS could be exceeded, EPA has the authority to modify the final Permit according to 40 C.F.R. § 122.62.

**Comment 40:** A commenter (9) asked why this facility was not included in the database for loading and transport of nitrogen compounds to Long Island Sound.

**Response to Comment 40:** EPA has very little information to suggest that nitrogen compounds are being discharged at the facility in substantive quantities. The main purpose of the database is to limit the loading of nitrogen compounds from the Long Island Sound. This is done by tracking

large sources of nitrogen in waste waters, such as POTWs (municipal sanitary waste water treatment plants). As NPDES permits are renewed, the POTW facilities that discharge to a watershed flowing into the Long Island Sound are being required to monitor and report the quantity of nitrogen compounds being discharged and are included in the database.

According to the information known to date, EPA believes there is no significant source of nitrogen to justify including this facility in the database. The only known potential source is the on site septic systems. If information becomes available that suggests the on site septic systems are failing the facility would be required to immediately repair the systems. Additionally, from the one sampling round of the storm water outfalls, the level of nitrogen compounds were too low to justify including this facility in the database. Therefore, B&M is not being required to monitor and report the quantity of nitrogen compounds it discharges to the Long Island Sound nitrogen database.

**Comment 41:** A commenter (9) was concerned that a rusty stain was observed at Outlet 004.

**Response to Comment 41:** EPA is unsure of the source of the staining. However, the monitoring of the discharge should assure that the discharge meets the water quality standards for the receiving water, the Connecticut River. Iron is a likely source of the staining. The DAF technology used at the facility's WWTP removes metals during the pH adjustment process by adding flocculents, such as alum and a polymer. This process facilitates the separation of pollutants including metals. Therefore, EPA does not believe that iron could be discharged in concentrations that would be unsafe to the environment.

Furthermore, B&M is required to annually monitor Outfall 004 for toxic metals to assure there is no toxic effects. Additionally, B&M is required to develop a SWPPP as a non-numeric effluent limitation for all the outfalls including Outfall 004. The SWPPP requires B&M to develop Storm Water Management Controls, which requires B&M to assess the potential of various sources at the facility that contribute pollutants to storm water discharges associated with the industrial activity. Sources should include any metal material stored outside. Therefore, the proper implementation of a SWPPP by B&M at the East Deerfield Rail Yard should minimize sources of iron that could impact the discharge of storm water including the storm water that is treated at the WWTP.

**Comment 42:** A commenter (9) asked why EPA was not regulating the culvert identified in the Site Visit Report dated May 27, 2004.

**Response to Comment 42:** EPA does not believe that B&M owns the property from where the culvert begins or discharges and it appears that the storm water that would flow through the culvert would not come from the rail yard.

**Comment 43:** A commenter (9) inquired to the number of quarterly storm water inspections forms that were reviewed during the Site Visit and what was made of the facility's forms.

**Response to Comments 43:** The Site Visit was for informational purposes by the Permit Writer. The Site Visit was not an enforcement inspection to evaluate compliance. Therefore, the Permit Writer reviewed the quarterly storm water inspections forms to evaluate the types of information the facility gathered. The number of forms reviewed was not noted. As a result of the review, the Permit Writer recommended that the storm water discharges become part of the individual permit instead of the MSGP. This would allow the gathering of more information and data from

each of the storm water discharges. A large portion of the final Permit describes the information B&M needs to develop in an amended SWPPP. The implementation of the SWPPP is considered an enforceable non-numeric effluent limitation.

**Comment 44:** A commenter (9) noted that the Site Visit identified railroad ties being stored near storm water Outfall 006 and asked why EPA has not incorporated testing and monitoring requirements associated the railroad ties.

**Response to Comment 44:** A report, "Toxicological Profile for Wood Creosote, Coal Tar Creosote, Coal Tar, Coal Tar Pitch, and Coal Tar Pitch Volatiles," by the U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, dated September 2002, provides information on creosote. Creosote is the preservative found in railroad ties that contains a mixture of many classes of chemicals including PAHs. Some of the chemicals include pyrene, benzo(a)pyrene, phenol, pentachlorophenol, flouroanthene, phenanthene, anthracene, acenaphthene, as well as other compounds listed as PP. Therefore, many of these compounds are being monitored for on an annual basis. If the monitoring results show levels of these compounds that could exceed water quality standards, then EPA has the authority to modify the final Permit according to 40 C.F.R. § 122.62.

Additionally, as part of the development of the SWPPP, B&M needs to evaluate how it handles and stores materials. Part of that task includes implementing a plan that would minimize the potential of storm water from becoming contaminated from the stored railroad ties. Therefore, the proper implementation of a SWPPP by B&M at the East Deerfield Rail Yard should minimize sources of these chemical compounds from creosote in the railroad ties. EPA considers the implementation of a SWPPP as an effective effluent limitation to assure that the discharges do not negatively impact the water quality of the Connecticut River.

**Comment 45:** A commenter (9) asked how EPA estimated the flow rate from all the storm water outfalls to have a dilution rate of 24,000 and 7Q10 to be 1690 cubic feet per second for the Connecticut River.

**Response to Comment 45:** The 7Q10 of 1690 cubic feet per second was from the on-line data from the USGS Montague gauging station located directly across the river from the facility. The dilution ratio was calculated by dividing the 7Q10 by the maximum daily flow rate. However, the maximum daily flow rate used was 45,000 gallons per day for Outfall 004. At the beginning of the paragraph, Outfall 004 is referred to as the sixth outfall. The stated dilution factor is for Outfall 004, not for all six. No dilution factor was used to establish the numeric effluent limits for Outfall 004, since it discharges into a manmade ditch that leads to the Connecticut River. Because there was not enough data for the other five storm water outfalls to establish numeric effluent limits and the maximum flow from these discharges only occur during periodic storm events, EPA could not estimate the dilution factors for these discharges and no numeric effluent limits are established. Therefore, EPA estimates that the actual dilution factors for each of the five storm water discharges would be greater (lower flow rate) than the dilution factor for Outfall 004. The statement in the letter may not have been accurate by including all six outfalls, but the statement is overly conservative and does not change the result.