

RESPONSE TO PUBLIC COMMENTS

Scituate Wastewater Treatment Plant

On December 22, 2003, the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) released for public notice and comment a draft National Pollutant Discharge Elimination System (NPDES) permit developed pursuant to an application from the Scituate Wastewater Treatment Plant, for the reissuance of a permit to discharge 1.6 million gallons per day of municipal wastewater to the designated receiving water, a tidal creek which is tributary to the Herring River. The public comment period for this draft permit expired on January 20, 2004. Comments were received from Alvin C. Firmin, P.E. Vice President, Camp Dresser & McKee Inc. (CDM), on behalf of the Town of Scituate, in a letter dated January 20, 2004.

After a review of the comments received, EPA has made a final decision to issue the permit authorizing this discharge. The following are the comments and EPA's response to those comments, including changes that have been made to the final permit from the draft as a result of the comments. The comment letter is part of the administrative record and is paraphrased herein. A copy of the final permit may be obtained by writing or by calling Doug Corb, EPA Massachusetts NPDES Permits Program (CMP), 1 Congress Street, Suite 1100, Boston, MA 02114-2023; telephone: (617) 918-1565.

Comment 1

The subject draft NPDES permit was sent to Anthony Antonello, Director of Public Works dated December 18, 2003. Comments, issues, arguments, and supporting materials must be submitted by January 20, 2004. The first page of the cover letter accompanying the draft permit recommended "You are encouraged to closely review all terms and conditions contained in this draft". The town feels that the timing of the draft permit did not allow adequate time to fully review the conditions and terms of the proposed permit. The review period, December 19, 2003 through January 20, 2004, contains 23 weekdays. However, this period had three holidays. The effect of Christmas and New Years falling on a Thursday effectively eliminated three work days during each of these weeks. The impact of the holidays effectively reduced the available review time to 16 days. The town feels that this is inadequate time and not within the spirit of the 30 day review period. On behalf of the town, CDM inquired about obtaining an extension of the review time to account for the holiday period. EPA staff responses were negative. These comments are being submitted in order to maintain compliance with the January 20, 2004 date. However, the Town respectfully requests that this draft permit be reissued to allow for the full 30 day review period.

Response 1

Doug Corb (EPA) met with the Scituate Wastewater Treatment Plant Operator, Robert P. Rowland, at the Treatment Plant on November 1, 2002 to discuss the new permit. In particular, EPA's concerns about the apparent absence of dilution and possible effects on water quality based permit limits were raised during that initial meeting.

A follow-up meeting regarding the new permit was held at the EPA New England Office on April 9, 2003. In attendance were: Richard H. Agnew (Scituate Town Administrator), Robert P. Rowland (Plant Operator), Anthony Antionello (Scituate DPW Director), Paul Hogan (DEP), Alvin C. Firmin, (P.E. Vice President CDM), Doug Corb (EPA Permits), Brian Pitt (EPA Permits), and Stephen Couto (EPA Compliance). The principal topic of this meeting was the recalculation of the effluent dilution and resulting effect on the water quality based limits.

On September 8, 2003, Doug Corb faxed a pre-draft permit to Mr. Antionello to review for correctness. Mr. Agnew responded to the pre-draft in a letter dated September 30, 2003.

Mr. Antionello received the draft permit on December 18, 2003. The public notice began December 22, 2003, and ended on January 20, 2004.

The EPA remains convinced that the Town was given sufficient time to comment on this permit, particularly since the town had been given a pre-draft permit and notice of the major issues prior to the 30 day comment period.

Moreover, Mr. Firmin contacted Mr. Corb on the afternoon of January 15, 2004 to request an extension of the public notice. Messrs. Pitt and Corb explained to Mr. Firman that afternoon that there would not be sufficient time to publish an extension of the public notice in the paper prior to the January 20th close of the comment period.

Mr. Firmin's comments, dated January 20, 2004, also incorporated other materials by reference. Doug Corb left a voice mail message for Mr. Firmin on January 28, 2004 explaining that some the materials referenced in his January 20th comment letter were not in the administrative record and must be submitted to EPA to be entered into the Administrative Record for the permit reissuance. A letter from Roger Janson, Director of the EPA, Reg. I NPDES Permit Program gave the Town until February 9, 2004 to submit the referenced material. Mr. Firmin submitted the material with a letter dated February 3, 2004, thus the Town was in effect given an extension to supplement its comments.

EPA's position relative to the key points raised in Mr. Firmin's comments has been consistent throughout our meetings and correspondence even prior to the comment period. Mr. Corb's understanding was that the Town was researching and gathering material to comment on EPA's position throughout this lengthy process. The loss of several working days to holidays during the public notice comment period should not have had a significant effect on the Town's ability to respond.

Comment 2

The draft permit contains concentration and mass limits for BOD, TSS, and TN. The mass limits are based on the concentration limits and the average plant flow (1.6 mgd). The TN mass limits are based on an annual rolling average. The BOD and TSS mass limits are monthly limits based on the average annual flow and the 10 mg/l average monthly limits.

This results in the concentration limits governing at flows of 1.6 mgd or less and the mass limits governing at flows in excess of 1.6 mgd. This could be problematic as the plant approaches design flows. For example, the current peak month flow is about 1.6 times the annual average. At design flows, the peak month flow should be in the range of 2.6 mgd. Under these conditions effluent TSS and BOD must be 6 mg/l. The reasoning presented in the Fact Sheet more appropriately leads to the conclusion that mass limits should be based on a annual rolling average, similar to the TN limits. The town is not requesting, or suggesting, that the monthly concentration limits be based on an annual rolling average. The mass limits should be adjusted to an annual rolling average or eliminated from the permit. The concentration limits provide adequate protection to the receiving waters. Weekly mass limits should be eliminated.

Response 2

Regulations found at 40 CFR Section 133.102 require that BOD and TSS limitations be expressed as concentrations. However, the regulations found at 40 CFR Section 122.45 allow for mass limits where appropriate, 40 CFR Section 122.45 (f)(1) and (2). Expressing limitations in terms of both concentration and mass encourages proper operation of a treatment facility. Concentration limits discourage the reduction in treatment efficiency during low discharge flow periods, and mass limits discourage higher loads being discharged into the receiving water during periods of high discharge flow.

USEPA and MADEP believe that it is necessary to include mass limitations for BOD and TSS, as well as for total nitrogen, in order to satisfy water quality anti-degradation requirements. For example, if mass limits are not included, the permit would authorize a significant increase in the mass discharge of BOD and TSS over the mass authorized in the previous permit. The previous permit contained a monthly average flow of 1.6 MGD and monthly average BOD and TSS limits of 10 mg/l which if discharged at those maximum allowable flow and concentration limits would result in a monthly average mass of 133 lbs/day).

If an annual average flow is used to calculate mass limits, a peak flow which is 1.6 times the design flow could result in a discharge of 213 lbs/day or a 62% increase in BOD or TSS loading which is inconsistent with Massachusetts anti-degradation requirements. In addition, the discharge of BOD and TSS results in impacts on water quality which are immediate (e.g. low dissolved oxygen) in the receiving water.

Because of the potential immediate impacts from BOD and TSS, EPA and MADEP determined that it is most appropriate to include concentration and mass limits for BOD and TSS using a monthly average flow, rather than a rolling average. For total nitrogen, MADEP and EPA feel that use of the rolling annual average flow for those limits is appropriate due to the fact that nitrogen loading analysis are based upon annual loadings and the receiving water response is not immediate. Furthermore, the MADEP has specifically required the monthly average mass limits for BOD and TSS as a condition of the section 401 water quality certification required by the Clean Water Act. The permit will include a monthly average concentration limit for total nitrogen of 4.0 mg/l and a mass limit of 53 lbs/day based upon the rolling annual average.

The permit will include weekly average concentration limits for BOD, TSS and total nitrogen but will not include weekly mass limits for those parameters. EPA and MADEP carefully reviewed the comments submitted on this item and agree that determining weekly mass limits using monthly or average annual flows is not technically sound and that a concentration limit will be adequate to project water quality in the receiving water.

Comment 3

The town's existing NPDES permit was based on a 13:1 dilution factor in the receiving waters (Herring River). The tidal ditch conveying plant effluent to the Herring River was permitted as a mixing zone. The point of discharge for loading calculations was the confluence of the tidal creek and the Herring River. As noted in the Fact Sheet, "The point where dilution is measured for toxic pollutants has been re-evaluated by EPA during this permit reissuance (emphasis added)..." The Town strongly contests this re-evaluation and subsequent reduction in dilution which is resulting in increased stringency for copper, nickel and zinc discharges. As noted in the Fact Sheet, the town evaluated alternate discharge methods, including an ocean outfall, during Facilities Planning. The current course of action was selected based on facilities planning, environmental impacts, and approval by the regulatory agencies. Construction of the current facilities and discharge to the current point were implemented under an Administrative Consent Order, ACO SE 94 1003. The town maintained complete compliance with all terms, conditions, and schedule of the ACO. To reverse findings and concurrences leading to a multi million dollar facility upgrade through discretionary reasoning during the next round of permit reissuance places an unreasonable burden on the Town of Scituate.

To further aggravate the situation, EPA representatives verbally indicated that the current dilution would be acceptable if the town were to build a pipe from the current discharge point to the Herring River. Construction of such a pipe would be costly and likely result in significantly more environmental impact during construction (if even allowed) than current practice, with no change in the water quality of the Herring River. The following are hereby incorporated to this comment by reference: Final Facilities Plan and Environmental Impact Report for Wastewater Management, Scituate, MA dated March 1, 1995, Volumes 11, and 111, prepared by Metcalf and Eddy, Wakefield, MA; and all correspondence, meeting notes, memorandum, public hearings, MEPA reviews, regulatory approvals, files, and associated materials related to the production and approval of the facilities plan/EIR.

Response 3

The Fact Sheet (dated Nov. 19, 2003) explains the decision to establish tighter toxic pollutant limits based on the assumption of no dilution (i.e., the decision not to recognize a mixing zone for toxics in connection with the new permit). As further explained in the Fact Sheet, the toxic pollutant limits are necessary to meet the provision in the state water quality standards that “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).

Calculating the limits for metals based on the assumption that there is no dilution is appropriate since, as acknowledged in the Town’s Final Facilities Plan and Environmental Impact Report, there is little if any dilution of the effluent entering the receiving water during low tide. Effluent data submitted by the Town (discussed in the Fact Sheet) shows that significant levels of toxic metals are being discharged into the receiving water/tidal creek. The regulatory agencies can no longer base toxic effluent limits on the assumption of dilution that does not exist, since doing this would continue to allow for the accumulation of the toxic pollutants, in an extended area, at levels which have deleterious effects on aquatic organisms. Thus the continuation of a mixing zone for toxics is not appropriate under 314 CMR 4.03(2).

In its comments, the Town has not produced any analysis which challenges these legal and technical bases for the new permit’s toxic limits. Rather, the Town argues that the new tighter limits should not be imposed since they are different from those in the prior permit and since they “reverse findings and concurrences” which occurred during the treatment plant facilities planning and environmental review process.

The new permit’s toxic limits are tighter than those in the prior permit, but this is entirely appropriate. The EPA revisits all aspects of NPDES permits at each five year permit reissuance, consistent with the goal of the Clean Water Act to restore and maintain the chemical, physical and biological integrity of the nation’s waters. While section 402(k) of the CWA provides some protection for permittees against having to comply with changes in requirements during a permit’s term, the clear intent of the statute is that there can and indeed often must be such changes in requirements when new permits are issued after prior permit terms.

Nothing in the MADEP’s approval of the Town’s Facilities Plan/Environmental Impact Report or in the MADEP’s recommended effluent limits, precludes the establishment of the new tighter toxics limits.

The Town’s Final Facilities Plan/EIR, Volume I, recognized that there was little or no dilution in the receiving water and “Therefore, the level of treatment must meet or exceed the water quality criteria for Class SA waters.” *Id.* at Page 1-7-3. Unfortunately, as further explained in the Fact Sheet, subsequent efforts by the Town to reduce toxics in its effluent have not been as successful as anticipated. Therefore it will now be difficult to meet the toxic standards at the currently approved outfall location. However, it is unreasonable for the Town to say that the EPA and MADEP must ignore the new information regarding lack of success in toxics control and allow a mixing zone, based on MADEP approval of a Town Facilities Plan.

The Facilities Plan/EIR does not establish permit limits, and the permit does not establish the outfall location (but rather specifies what permit limits apply at a particular location). While the tighter permit limits may be difficult to meet at the current outfall location, it is unreasonable to interpret a facilities plan approval as prejudging what the MADEP as EPA may do in setting future permit limits.

Additionally, as is made clear in both the prior and new permits, the Town's NPDES permit is independently issued under federal law by the EPA and under State law by the MADEP. Thus even if the MADEP's approval of the Facilities Plan precluded it from setting tighter permit limits (which it does not), this would have no effect on the federal permit as issued by the EPA.

The EPA recognizes that meeting the tighter toxic limits will be difficult. However, under the CWA, the permit limits must be set at the level required to meet the water quality standards. Setting the tighter standards in this case also is consistent with what EPA Region I has done in other similar cases (e.g., setting toxic limits for Saco and Biddeford Maine based on no dilution, for discharges to mud flats at low tide; setting toxic limits based on very low or no dilution for Brockton, Upper Blackstone, Milford, Gardner and Ipswich, MA and Hampton, NH). In addition, the Region has a program in place for working with POTWs to address the task of meeting toxic metals limitations in low (or no) dilution streams in a reasonable manner, through the issuance of Administrative Compliance Orders. The EPA urges the Town to consult with it about pursuing such a problem-solving approach, rather than contesting permit limits that are legally required.

Finally, as noted by the EPA in discussions with the Town, construction of a longer outfall to the Herring River is one possible solution to the problem. While moving the outfall would not significantly change the water quality in the River, it would solve the problem of toxics accumulation in the tidal creek. However, the EPA was not making any specific final recommendation as to how the Town should comply. The EPA recommends that the Town explore a range of alternatives. On the other hand, it is certainly premature for the Town to decide now that building a longer outfall should be ruled out because of other environmental impacts. The Town could, if necessary seek permits for such construction, which would involve only a temporary disturbance of the wetlands area which could be followed by restoration, while continuing to discharge high levels of toxic metals to that area poses an ongoing environmental problem.

Comment 4

The requirement under 1/1 "Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of infiltration and inflow to the system" is ambiguous. Quantifying recharge benefits from 1/1 reduction may be a substantial undertaking, placing an undue burden on the Town and providing little in return.

Response 4

The Massachusetts Department of Environmental Protection (the Department) requires that the operation of a sewer system in conjunction with the wastewater treatment facility be in such a manner that proper operation of the treatment facility is maintained and that discharges into the treatment facility and from the facility do not cause violations of the water quality standards of the receiving water. These requirements are based upon the regulations found at 314 CMR 12.00: *“Operation and Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers”*.

The permit does not specify an amount of recharge but outlines a requirement to include that element in the I/I Program and to determine where and to what degree increased recharge is available and feasible.

The Massachusetts Water Resources Commission report, “Stressed Basins in Massachusetts” Id. at Page 24, makes specific recommendations that greater emphasis should be placed on reducing infiltration/inflow to decrease the amount of rainwater and storm water which enters sewerage pipes, that would otherwise normally infiltrate and recharge local aquifers .

The requirement for the Infiltration/Inflow Control Plan will remain in the Town’s NPDES final permit as a condition of the section 401 water quality certification required by the Clean Water Act.. The Department will work with the Town to assure that an efficient program is developed and implemented and that it will not be duplicative to work on-going and will be conducted in a cost effective manner.

Additional Comment: In addition to the changes made in response to the Town’s comments, the EPA has made some changes to final permit to correct minor grammatical and technical errors. These changes are a logical outgrowth from the draft permit and response and as such, no new comment period is necessary.