

UNITED STATES DISTRICT COURT
for the
DISTRICT OF MASSACHUSETTS

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UNITED STATES OF AMERICA, .
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Plaintiff, .
. CIVIL ACTION
v. . No. 85-0489-ADM
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METROPOLITAN DISTRICT COMMISSION, .
et al., .
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Defendants. .
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CONSERVATION LAW FOUNDATION OF .
NEW ENGLAND, INC., .
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Plaintiff, .
. CIVIL ACTION
v. . No. 83-1614-ADM
.
METROPOLITAN DISTRICT COMMISSION, .
et al., .
.
Defendants. .
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MWRA MONTHLY COMPLIANCE REPORT FOR
FEBRUARY 1998 AND PROGRESS REPORT AS OF MARCH 16, 1998

The Massachusetts Water Resources Authority (the "Authority") submits the following monthly compliance report for the month of February 1998 and supplementary compliance information in accordance with the Court's order of December 23, 1985, subsequent orders of the Court and undertakings of the Authority.

I. Schedule Six.

A status report for the scheduled activities for the month of February 1998 on the Court's Schedule Six, certified by Douglas B. MacDonald, Executive Director of the Authority, is attached hereto as Exhibit "A."

A. Activities Completed.

1. Submission of CSO Annual Report.

On February 24, 1998, the Authority submitted its Annual Progress Report on the Combined Sewer Overflow Control Plan in accordance with Schedule Six. The Report summarizes activities in the combined sewer overflow ("CSO") control program in 1997 and notes recent developments that may affect project implementation.

B. Progress Report.

1. Harbor Management.

(a) Construction of Secondary Treatment and Related Facilities.

In Battery B of the new secondary treatment facilities, the Authority is currently treating 60 million gallons per day ("MGD") per reactor train for a total of 180 MGD. As expected, the Authority removed Battery A from service in late February for an inspection and maintenance check. Although staff found no major problems, they have performed work on the scum gates and weirs in the reactors, on the weir strips, chain tensions and baffle clearances in the clarifiers and on the expansion joints in the clarifier influent channel. They also have modified the air diffusers in the influent channel, although the comparable change made in Battery B has been only partially successful in addressing the air entrainment problem experienced initially in Battery A. All of the Battery A work has been completed, and plant staff are refilling Battery A with wastewater in preparation for resuming treatment operations this week. In the meantime, the contractor for Battery C has completed testing of the interim polymer system to be available for Batteries A and B and turned it over to Deer Island Treatment Plant staff.

In the residuals facility, performance testing of the centrifuges still awaits production of sludge of appropriate quality but should resume within the coming weeks. Plant staff are in the process of filling the last set of digesters and expect to have eight digesters on-line by the end of the month.

(b) Nut Island Headworks.

The contractor for the Nut Island Headworks facility completed testing of the odor control systems and turned over the remainder of the facility to the Authority's Transport Department on March 4. Over the last month, Transport has been performing its own tests and checkout of the various headworks systems. To date, no major problems have been identified, and the Authority expects the new headworks to be available for South System start up within the next two weeks.

(c) Preparation for Transfer of South System Flows.

On February 23, 1998, staff completed filling the Inter-Island Tunnel, allowing the South System Pump Station contractor to commence retesting of wastewater pump operations. The contractor encountered several difficulties during the initial round of testing, including a problem with certain bearings in the pump shafts, which were determined to have been reinstalled incorrectly after the initial round of testing in February 1996. In view of the difficulties experienced, the contractor was directed to perform a complete inspection of each pump, which required working around the clock for several days to disassemble, inspect, test and reassemble each pump, shaft, motor, variable frequency drive and control system. Following this effort, functional testing resumed and was completed last Friday. After completion of testing of related signals and controls, all but one of the pumps are expected to be available for turnover to the Authority shortly. The exception has a burned out capacitor in the harmonic filter in its motor that cannot be replaced for several weeks. Following turnover of the seven pumps, treatment plant operators expect to conduct their own test operations in the South System Pump Station for at least two weeks, before determining their readiness to activate the new headworks, shut down the Nut Island Treatment Plant and initiate transfer of South System flows for treatment at Deer Island. It appears that the earliest date by which these steps may be undertaken is during the week of March 30.

During the past month, the Authority and the Town of Winthrop have exchanged letters regarding the implementation of the various measures Winthrop requested to be in place between transfer of flows and activation of the new outfall. The Authority has arranged for a meeting with Winthrop representatives later this week to address a number of issues that remain unresolved, in the hope that it can reach agreement with Winthrop promptly and on reasonable terms.

(d) Construction of Effluent Outfall Tunnel.

The contractor for the Effluent Outfall Tunnel has completed work in the divider slab area and the diffuser portion of the tunnel. The Authority has inspected and accepted both areas, including all adits connecting to the 55 diffusers. The contractor has also completed work related to the concrete pour of the venturi. Only two repairs to the invert tunnel lining remain to be completed in the venturi area. The contractor also has completed final cleanup and repair of the tunnel invert in the first 1,200 foot interval west of the venturi, relocated dams, pumping equipment and a rail switch and commenced work on the next 1,500 foot section.

Contact grouting in the first 1.5 miles of the tunnel continues during both the day and the swing shifts. The contractor also is filling voids in the segment joints with cement, ahead of the grouting operations. In addition, the contractor is continuing with the "first pass" clean up and repairs to the crown portion of the tunnel liner and is moving westward toward the shaft on Deer Island. Repairs to the tunnel crown remain to be performed on approximately 1.1 miles of the tunnel length closest to Deer Island.

(e) Boston Harbor Project Management.

The Authority recently received notice of the impending departure of one of the key leaders of the Boston Harbor Project, Charles Button, P.E. As Deputy Director of the Program Management Division and Director of Construction Services for the past ten years, Mr. Button has provided invaluable leadership to the management of construction services and overseen the successful completion of the majority of project construction. The Authority is developing a transition plan to ensure that effective management will continue through the remaining construction and contract close-out period.

2. CSO Control.

(a) Regulatory Water Quality Determinations.

The Authority recently received a copy of the Environmental Protection Agency ("EPA") response to the Massachusetts Department of Environmental Protection ("DEP") "Final Administrative Determinations for CSO-Impacted Waters" issued on December 31, 1997, in regard to the Authority's Final CSO Facilities Plan.¹ In the letter, attached herewith as Exhibit "B," EPA has approved DEP's actions to date, which change water quality standards for most of the receiving waters that will continue to be affected by CSO discharges after implementation of the Authority's control plan. Exceptions are the Upper Mystic River, Alewife Brook and the Charles River, areas which DEP has designated, or expects to designate, to receive variances for remaining CSO discharges.² In its response, EPA concurred with DEP's conclusion that further CSO controls in the areas addressed would cause substantial and widespread economic and social impact.³ With EPA's concurrence, most of the Authority's CSO plan now stands in compliance with the state's Surface Water Quality Standards and, accordingly, the federal Clean Water Act.

The Authority is disappointed that it has not progressed further in discussions with EPA regarding the proposed amendments to Schedule Six necessary to reflect project changes in the Final CSO Facilities Plan.⁴ These amendments include replacing three screening and disinfection facilities originally proposed for the Stony Brook area, BOS 017 and BOS 019 with sewer separation, hydraulic relief and a storage conduit, respectively, and deleting the Cottage Farm outfall upgrade and screening at CAM 005. Of most immediate concern to the Authority is the July 1998 milestone requiring the Authority to begin design of the screening and disinfection facility for Stony Brook, the Cottage Farm outfall upgrade and screening at CAM 005. Under the circumstances, if the Authority is unable to reach agreement with EPA and other parties soon on proposed amendments to Schedule Six to address all of the project changes, it will move unilaterally to be relieved of the July 1998 obligations. In the meantime, the Authority has made it clear to EPA that it will be unwilling to agree to a date for beginning sewer separation for Stony Brook (a project to be performed by the Boston Water and Sewer Commission with Authority funding) as long as uncertainty remains about the overall goals of CSO control for the Charles River and the scope of any additional control projects EPA may press the Authority to undertake. Past comments by EPA regarding CSO planning generally and the Charles River in particular suggest the possibility of circumstances in which the Authority might be forced to revisit the current plan for sewer separation in the Stony Brook area.

(b) Upgrades to Existing CSO Facilities.

On March 4, 1998, the Authority's Board of Directors authorized the award of a construction contract for upgrading the Cottage Farm CSO Treatment Facility. The Authority expects to issue a Notice to Proceed by the end of March, in compliance with Schedule Six. The construction contract includes replacement and upgrade of the sodium hypochlorite disinfection system, installation of a sodium bisulfite dechlorination system, construction of an on-site building to house both chemical systems, replacement and upgrade of instrumentation to improve facility operations and monitoring, replacement of the sampling system and other improvements related to staff safety and plant reliability.

In the meantime, weather conditions have allowed the Authority to continue its water quality sampling program related to the proposed upgrades at other CSO treatment facilities. The Authority conducted sampling at the Prison Point facility during the storm events of January 24 and February 12, and at Prison Point and Commercial Point on February 18 and February 24. With field sampling now conducted at Prison Point and Commercial Point for at least three storms each, sampling activities will shift to the Somerville Marginal facility. Eventually, there will be sampling at the Fox Point facility as well. In the meantime, the Authority will review the results of sampling at Commercial Point and Prison Point to assess the completeness of the data and whether further sampling at these facilities is necessary. The Authority will report the results of the field studies in the Supplemental Environmental Impact Report for the CSO facility upgrades, which the Authority continues to expect to submit for MEPA (5) review by September, 1998. The Authority's discussions with EPA regarding a revised schedule for performing the upgrades at all facilities except Cottage Farm are still in progress.⁶

(c) Discovery of Additional CSO Outfall.

The City of Cambridge recently informed the Authority, as well as DEP and EPA, that it has discovered a CSO outfall tributary to Alewife Brook that was previously unknown and thus not included in the Authority's CSO plan. Extending from a City of Cambridge manhole, the outfall is located just south of the intersection of Alewife Brook Parkway and Massachusetts Avenue. Dye testing and visual observation performed by Cambridge have verified that the overflow pipe discharges into Alewife Brook.

City of Cambridge staff are working with their consultants and the Authority to investigate the drainage area and system tributary to the outfall and to ascertain the effect of any new information on the recommendations in the Authority's Final CSO Control Facilities Plan. Once the investigations are completed, the Authority will report to the parties and the Court the findings and conclusions with respect to any effect of this outfall on the recommended plan for control of CSOs to Alewife Brook.

3. Residuals Program.

(a) Pelletizing Plant Expansion.

Work on pelletizing plant expansion is progressing. The contractor continues to work on modifications to the third existing storage silo. In addition, the contractor is testing instrumentation and controls and completing final work items in the four new silos.

Inside the plant, the contractor has installed temporary decking on the support steel at the head and tail of each of the two new dryer trains, allowing work to proceed on the installation of equipment. Since last reporting, the contractor has installed pneumatic transporters, pellet coolers, recycle bins, separator cans, conveyors, pumps, fans, air compressors and air dryers and other equipment related to the new dryer trains. The electrical control panels are now in place, and installation of cable and conduit is ongoing. Testing of the centrifuges has been interrupted due to leaks discovered in the discharge chute (part of equipment pre-purchased for the job by the Authority.) Efforts are underway to correct this problem, so that testing of the centrifuges can resume.

(b) Beneficial Use of Biosolids.

At its meeting on March 4, 1998, after receiving a report on the results of the program to date, the Board of Directors authorized the continuation of the Authority's program of local sales and distribution of its biosolids fertilizer product. During 1997, the Authority continued to make significant progress toward meeting its goal of demonstrating the value of its fertilizer as a resource to Massachusetts' consumers. Over the past year, local consumption of bagged fertilizer increased by approximately 20 percent. Most of this growth was due to the higher demand from sewerage district communities, which are eligible to receive the fertilizer at no charge for use on public property. Since the inception of the local program in 1995, three-quarters of the eligible communities have taken advantage of the offer. Beginning this year, the product will be known locally as "Bay State Fertilizer."⁷

Overall, in 1997, the Authority used 100 percent of its pelletized biosolids beneficially. The material was used in commercial agriculture or in blended products for turf grass or other horticultural applications. Consumers were located in states throughout the East Coast, South and Midwest.

Also of note, for the first time since promulgation of EPA regulations in 1993, the monthly average concentrations of metals in the Authority's fertilizer remained within federal limits for unrestricted use throughout the year. However, for several months the product exceeded Massachusetts' more stringent limits for unrestricted use. Due to the ongoing start up of secondary treatment, changes in biosolids quality are to be expected. The Authority will be unable to evaluate the new metals concentrations until the new treatment process is fully stabilized.

By its attorneys,

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CERTIFICATE OF SERVICE

I, John M. Stevens, attorney for the Massachusetts Water Resources Authority, do hereby certify that I have caused this document to be served by hand or mail to all counsel of record.

John M. Stevens (BBO No. 480140)

Dated: March 16, 1998

Notes:

1: See the Authority's Compliance and Progress Report for January 15, 1998, pp. 34, and Exhibit "B" to that report for information about DEP's water quality determinations.

2: Variances are short-term modifications in water quality standards issued via the discharge permit, to be in effect while further efforts are underway to evaluate or achieve attainment of the original standards. DEP expects to issue the variances and proposed conditions for the Upper Mystic River and Alewife Brook for public review and comment in the coming months. Further action regarding the Charles River will follow the issuance of DEP's administrative determination for that area, scheduled to occur by the end of April.

3: Although EPA concurred with DEP's conclusion, EPA differed in the methodology used to arrive at that conclusion.

4: As previously noted, most of the CSO milestones in Schedule Six were based on the 1994 CSO Conceptual Plan.

5: Massachusetts Environmental Policy Act

6: Discussions of a revised schedule for completing the final report on the Authority's floatables control study and performing floatables control construction also remain unresolved. See last month's Compliance and Progress Report, pp. 2-4.

7: As reported last April, the Authority committed to change the name of its product in response to the request of Northeast Organic Farming Association. See Compliance and Progress Report for April 15, 1997, pp. 10-11. With the recent issuance of draft national standards for a National Organic Program by the U.S. Department of Agriculture, the question of what constitutes "organic farming," including the potential role of biosolids, is the subject of a national debate.