

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-MA

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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-MA

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METROPOLITAN DISTRICT COMMISSION, .

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Defendants. .

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MWRA MONTHLY COMPLIANCE REPORT FOR
MAY 1999 AND PROGRESS REPORT AS OF JUNE 15, 1999

The Massachusetts Water Resources Authority (the "Authority") submits the following monthly compliance report for the month of May 1999 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.

1. Schedule Six.

A status report for the scheduled activities for the month of May 1999 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. Commence Construction of Prison Point Facility Upgrade.

As anticipated last month, on May 27, 1999, the Authority issued a Notice to Proceed on the construction contract for upgrades to the Prison Point combined sewer overflow ("CSO") treatment facility, in compliance with Schedule Six.1 The construction contract includes replacing and upgrading the sodium hypochlorite disinfection system, installing a sodium bisulfite dechlorination system, constructing an on-site building to house

both chemical systems, replacing and upgrading instrumentation to improve facility operations and monitoring, replacing the sampling system for compliance and other water quality testing and making other improvements related to staff safety and plant reliability. The Authority expects construction of the Prison Point upgrade to be complete by October 2000, on schedule.

B. Progress Report.

1. Fiscal Matters.

(a) Bond Sale.

On June 8, the Authority completed a \$150 million variable rate bond sale to provide additional funds to support the capital program. While interest rates on these bonds will be reset at least every 35 days, the Authority expects the average rate to be four percent. Variable rate debt generally produces lower interest costs, but leaves the Authority with more budget exposure in times of rising rates. This variable rate sale brings the Authority's variable rate debt to 18 percent of total debt, the maximum percentage exposure the Authority plans to undertake.

In addition, Standard and Poor's recently upgraded the Authority's bond rating from A to A+. Substantial completion of the Deer Island Treatment Plant, continued progress in financing construction at lower than-anticipated costs, annual state debt service, strong management which has generated strong reserves and solid liquidity, very strong collection enforcement mechanisms and the fiscally strong Boston Water and Sewer Commission were cited as reasons for the upgrade.

(b) State Funding and Legislation.

On June 10, 1999, the Massachusetts State Senate approved its Fiscal Year 2000 budget recommendation. The Senate budget approved a number of measures that were also in the House of Representatives budget reported last month. The Senate budget included \$53.91 million for statewide debt service assistance for wastewater projects, as well as the Authority's MetroWest Water Supply Tunnel. Of this amount, MWRA would be eligible to receive approximately \$48 million. The Senate budget also includes \$500,000 for the operation and maintenance of the Clinton Wastewater Treatment Plant. Additionally, the Senate included language increasing funding for the low-income sewer and water ratepayer assistance program and extending the repayment period for the State Wastewater Revolving Fund to 30 years. A joint House-Senate Conference will be appointed shortly to reconcile the differences between the House and Senate budgets.

On June 1, 1999, the Joint Committee on Natural Resources and Agriculture issued a favorable report on Senate Bill 1056, which would increase the Authority's bonding capacity to \$4.75 billion. On June 10, 1999, the same Committee issued a favorable report on House Bill 4053, which would amend the Authority's Enabling Act to allow lease/leaseback transactions. The bill would require any financial benefits from such transactions to be used to reduce water and sewer charges for Authority customer communities.

2. Harbor Management.

(a) Construction of Effluent Outfall Tunnel.

The contractor for the Effluent Outfall Tunnel completed excavating concrete from the shaft lining and slurry wall to form the opening to the conduit connecting the disinfection basins to the tunnel. Because of the extensive re-bar, concrete and slurry used to form the shaft and slurry wall originally, completion of this work took longer than expected. Staff are currently reviewing the contractor's schedule to determine if this delay will effect the overall completion schedule.

The contractor finished trimming the new opening to the conduit and made the first concrete pour, completing the bottom portion of the conduit. The contractor also completed placing re-bar and formwork for the two sides of the conduit and poured both sides together today. The top and final pour will take place in the next few days. Once this work is complete, a separate contractor will apply an epoxy coating to protect the concrete in the

conduit and a portion of the disinfection basins. The second contractor will perform the coating work concurrently with the outfall contractor's remaining activities to complete the tunnel.

The outfall contractor has resumed grouting work within the tunnel. This task must be completed before work on the sodium bisulfite lines can resume. The contractor has installed the vertical lines near the tunnel shaft but must still hang and place approximately 800 linear feet of pipe on both sides of the tunnel wall.

(b) Electrical System Modifications for Deer Island Pump Stations.

Deer Island Treatment Plant staff continue to await a period of sustained high flows to conduct full scale testing of the additional harmonic filters installed at both the Lydia Goodhue and North Main Pump Stations to address excess electrical distortion. As previously reported, all pumps are now available for operation without limitation.

(c) Demolition and Construction on Nut Island.

The contractor for the Nut Island Headworks completed the cover slabs in the surge containment area and continues to work on the installation of the new sluice gates. Once this work is complete, the inspection of the old Nut Island outfalls will begin. The contractor has also completed placing concrete to block outfall 104, which will not be used in the event of a surge.

(d) Secondary Battery C.

Construction of Secondary Battery C is moving forward. In the reactor area, the contractor has completed waterproofing and is performing water testing. In addition, the contractor is installing mechanical equipment and electrical wiring. In the clarifier area, the contractor has completed the gallery roof and is installing mechanical, electrical and HVAC components. In the polymer building various equipment and piping are in place, and electrical terminations are underway.

Senior Authority staff are meeting monthly with the contractor's management to monitor the progress of construction in order to ensure that this project maintains a schedule consistent with meeting the December 1999 milestone for completing construction. The contractor has increased its work force, and construction trades are currently working extended hours on weekdays and weekends to recover lost time.

(e) Transition in Program Management

Walter G. Armstrong recently announced his plans to leave his position as Director of the Authority's Program Management Division in late August 1999. Since 1987, the Program Management Division has managed the planning, design and construction of the facilities on Deer Island and Nut Island required to comply with Schedule Six. Mr. Armstrong has served as its Director since 1992. His leadership has been invaluable in managing a large and complex project, meeting schedule or recovering or minimizing delays and resolving all of the major challenges that arose inevitably but unpredictably along the way.

In order to ensure the continuation of the strong leadership required to complete the Boston Harbor Project and meet all of the Authority's related Court-ordered obligations, the Board of Directors will receive recommendations concerning various staffing changes for consideration at a meeting tomorrow. The Authority will report on the Board's actions in next month's report.

3. NPDES Permit

On June 16, 1999, the Authority's staff will be discussing with its Board of Directors the possibility of an appeal by the Authority from certain conditions contained in the final NPDES permit jointly issued on May 20, 1999 by the Environmental Protection Agency ("EPA") and the Massachusetts Department of Environmental Protection ("DEP") for the Authority's wastewater treatment plant and related facilities, including the new outfall. A copy of the new permit is attached as Exhibit "B." None of those conditions, the Authority wishes to reassure the Court, concern the operation of the new outfall. In particular, the Authority is not currently considering an appeal from

the limitations the permit places on the quantities of contaminants and total flow that may be discharged through the outfall. In general, the Authority continues its efforts to comply with its obligations under the orders entered by the Court to place the new outfall in service as soon as possible.

An explanation of the potential appeal requires a brief consideration of the events leading up to the issuance of the new permit. The Authority's existing permit expired in 1992, but has continued in effect because of the Authority's timely filing of an application for a renewal of the permit in September 1991.³ The Authority subsequently updated its application to include the new outfall, which is the discharge location anticipated in the new permit.

On February 13, 1998, the Authority reported to the Court on the issuance of the draft permit for public comment.⁴ The Authority subsequently participated in a public hearing in Boston on March 25, 1998, and submitted extensive written comments on the draft permit on May 4, 1998 and a response to comments by others on June 25, 1998. Whereas the issuance of the draft permit followed a lengthy period of informal meetings and the sharing of information and points of view between regulatory officials and Authority staff on many topics covered in the new permit, such exchanges have not taken place since the close of the public comment period on June 25, 1998.

The effluent limitations and monitoring requirements associated with the Deer Island Treatment Plant and the CSO treatment facilities in the final permit are consistent with the draft and the Authority's expectations. They do, however, differ from prior permits in imposing a limitation on the volume of flow that the Authority can accept for treatment. Specifically, the Authority is permitted to discharge no more than 436 million gallons per day ("MGD") of average dry day flow through the new outfall.

The new permit also includes the Ambient Monitoring Program developed under the purview of the former Outfall Monitoring Task Force⁵ and adds other monitoring requirements not endorsed by the former Task Force. Among them are the maintenance of a hydrodynamic water quality model, development of a food web model to characterize the abundance of important prey of endangered species, lobster studies and possible additional monitoring for red tide.

Also included in the new permit is the Authority's Contingency Plan, developed to identify and respond to any monitoring data indicating a possible unanticipated environmental problem that may be related to operation of the outfall.⁶ The permit requires the addition of certain elements to the Plan. One provision appearing for the first time in the final permit is a requirement to develop, prior to opening the new outfall, a plan for maintaining the existing Deer Island outfall system and an explanation of alternative discharge scenarios, including a return to those outfalls. In another change from the draft, the final permit contains new requirements for the Authority to make information about its operations, monitoring results, Contingency Plan and other programs available to the public via the Internet.

In addition to a number of other provisions that, though onerous, are both consistent with the draft permit and typical of NPDES permits in general, the new final permit imposes several conditions that are unprecedented intrusions on the Authority's and its member communities' operations of their sewerage systems. In one instance, because the burdensome provision appeared for the first time in the final permit, the Authority was deprived of an opportunity to comment. It is this condition and two others which will likely be the focus of the consideration by the Authority's Board of Directors of a potential appeal.

First, the permit would limit new connections from outside the Authority's current sewerage system to a total of 1.4 million gallons per day, even if the Authority's discharge is well within total flow limits of 436 million gallons per day. Such a modest increase, equal to approximately one-third of one percent of total flow, would have no detectable effect on receiving waters. Even if it did, there is no basis in the purposes of the NPDES system to permitting the additional flow if it comes from new connections within the service area while prohibiting it if it comes from outside that area. The net effect is to forbid the Authority from benefitting the environment by providing excellent secondary treatment to discharges now receiving inadequate treatment while at the same time benefitting its ratepayers by spreading the impact of its capital expenditures.

Second, the permit contains an unprecedented requirement for the Authority to develop a comprehensive plan for conservation of the drinking water supplied by itself and others to its wastewater communities. This requirement appears both procedurally and substantively deficient. Procedurally, EPA and DEP are purporting to reserve the right to impose alterations on any plan the Authority might develop without affording the Authority any avenue for review or appeal. Substantively, the reduction in the amount of clean water entering the sanitary systems of the Authority and its wastewater communities that such a program could effect would have no detectable effect on the quality of receiving waters.

Third, the permit would impose a similar requirement that the Authority develop a comprehensive plan to reduce infiltration and inflow and eliminate sanitary sewer overflows in not only its own system but those of its member communities. This imposition has several impermissible procedural deficiencies. It was inserted for the first time in the final permit without opportunity for comment. EPA and DEP once again purport to reserve the right to impose obligations without opportunity for review and appeal by changing the provisions of any plan the Authority might develop. More significantly, the Authority would be unable to carry out the command that it control the operations of its wastewater communities without a substantial shift in its historic relationship with those communities.

When NPDES Permit No. MA 0102351 takes effect, some of the court ordered facilities subject to Schedule Six are likely to not be complete.⁷ Because the permit conditions are based on the assumption that the Authority already has in operation all of the facilities required to meet the permit, for an interim period the Authority will or may be unable to meet some of those conditions. The Authority attaches as Exhibit "C" an "Interim Compliance Status Report," describing those permit requirements which will or may be affected by the remaining construction.

4. Residuals Program.

(a) Pelletizing Plant Expansion.

On June 3, 1999, the Authority met again with senior management of the contractor for the pelletizing plant expansion, including a new on-site manager, in order to assess the progress of the project.⁸ The contractor advised the Authority of additional delays to the commencement of testing Dryer Trains 5 and 6 due to the discovery of defectively installed hangars it would have to replace. Many items prerequisite to testing now are complete, and both the Authority and the contractor hope that the balance of necessary operational and safety items can be completed within another week. The Authority will meet again with the contractor on July 2, 1999 to review progress and the expected schedule for completion and turnover of the two new trains.

(b) Residuals Backup Disposal Plan.

The Authority's discussions with EPA regarding the need to retain the residuals landfill disposal site in Walpole are still in progress.

5. CSO Program.

(a) Cambridge Sewer Separation.

The Authority has continued to meet with the City of Cambridge during the past month regarding the Cambridge sewer separation project and CSO control goals for Alewife Brook. Cambridge and the Authority have tentatively agreed upon an approach to determine how to move forward with this project. The two parties are still working out the details of this approach.

The Authority postponed the second meeting scheduled to take place with EPA and DEP regarding this project to allow more time to work on resolving matters with Cambridge. The Authority has invited EPA and DEP to a meeting with Cambridge on June 21 to continue the discussion. The Authority will report again on this matter next month.

In the meantime, the Authority has begun its reassessment of CSO control alternatives for the Alewife Brook. Activities include updating the sewer system model by incorporating actual conditions observed during preliminary design, conducting additional flow monitoring to calibrate the model, using the model to determine baseline conditions and evaluate alternatives and conducting receiving water modeling to reassess benefits.

(b) North Dorchester Bay/Reserved Channel Consolidation Conduits and CSO Facility.

As anticipated, during the past month the Authority received 90 percent design plans from its design consultant for three CSO projects to be constructed in South Boston: the North Dorchester Bay Consolidation Conduit, the Reserved Channel Consolidation Conduit and the Reserved Channel CSO Facility. Those plans are now under review.

Today, the Authority is submitting to the Massachusetts Environmental Policy Act Unit of the Executive Office of Environmental Affairs the Notice of Project Change ("NPC") referenced in last month's report.⁹ The Authority anticipates that the NPC will receive public notice in the June 23 Environmental Monitor, commencing a 20-day public comment period, and that the Secretary of Environmental Affairs will issue a Certificate in July.

On June 2, the Authority participated in the community-wide public meeting on the projects, which more than 100 citizens and a number of public officials attended. Following presentations by Authority staff, representatives of the South Boston Neighborhood Working Group provided an overview of the group's involvement in the project during design and the status of the issues the Working Group had raised over the past year and a half at regular meetings with the Authority. The Working Group members voiced support for the project in concept and reported several key changes which the Authority had incorporated into the projects as a result of their requests. With regard to the CSO treatment facility, members of the Working Group continue to prefer a site they have maintained could be found at Conley Terminal, at the mouth of the Reserved Channel, as an alternative to the current site mid-way along Reserved Channel (known as "Site J"). However, information provided at the meeting indicated significant, and perhaps insurmountable, difficulties in locating the facility at Conley Terminal. At this time, the Authority believes that it can obtain the necessary approvals to construct at Site J, and the NPC submitted to MEPA continues to recommend this site.

The Authority believes it would be prudent to wait to propose requested changes in Schedule Six to accommodate the revisions in the projects described in last month's report until after it receives MEPA approval for the project changes in the NPC.¹⁰ In the meantime, the Authority is continuing to refine the potential schedule for constructing the projects, as more information becomes available. For example, a second round of subsurface sampling and groundwater testing now underway at the CSO treatment facility site has provided preliminary indication that special construction techniques may be necessary to meet federal and state requirements for handling hazardous and contaminated materials. Such techniques could affect the duration of construction. The Authority expects to have further discussions with EPA and DEP regarding scheduling issues during the Summer as it finalizes its proposal for a new schedule for the projects and prepares a motion.

(c) Variance for Alewife Brook and Upper Mystic River CSO Discharges.

On June 9, 1999, the Authority submitted to EPA and DEP a plan for estimating CSO activations and CSO volumes for all CSO outfalls in the Alewife/Upper Mystic Basin.

6. Braintree-Weymouth Relief Facilities.

On May 26, 1999, the Authority's Board of Directors approved the award of a construction contract for the first portion of the new Braintree Weymouth Relief Facilities, an 11.5 diameter, 2.8 mile deep-rock tunnel that will connect the sludge pelletizing plant in Quincy, a new Intermediate Pump Station in North Weymouth and the Inter-Island Tunnel at Nut Island. On June 8, 1999, the Authority issued the Notice to Proceed to the contractor.¹¹ The relief facilities also include construction of the Intermediate Pump Station and two relief sewers and rehabilitation of two sections of the existing Braintree-Weymouth Interceptor. Together, those projects are scheduled to provide much needed improvement to the wastewater collection system serving the communities of Braintree, Weymouth, Hingham, Holbrook and Randolph by December 2002.¹²

In addition to a wastewater conveyance pipe, the new tunnel will contain two 14-inch diameter sludge lines, extending the lines already installed in the Inter-Island Tunnel to the pelletizing plant to carry liquid sludge pumped from Deer Island and eliminate the need for barging sludge. Also, two 12-inch pipes installed in the tunnel between the pelletizing plant and the Intermediate Pump Station will carry wastewater from the pelletizing plant to join the flow directed through the Inter- Island Tunnel for treatment at Deer Island.

By its attorneys,

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Notes:

1. See May 17, 1999 Compliance and Progress Report, p. 16.
2. Prior to serving as Division Director, Mr. Armstrong was one of the original Deputy Directors who worked under Richard D. Fox from the time the Program Management Division was formed in 1987.
3. See September 16, 1991 Compliance and Progress Report (p. 9) for a report on the filing of the application.
4. See February 13, 1998 Compliance and Progress Report, pp. 11 13.
5. The Authority has conducted the pre-discharge outfall monitoring program since 1992, as ordered by this Court on June 26, 1992, to obtain baseline data. The Ambient Monitoring Program in the new permit will allow future comparison of post-discharge monitoring results with the baseline data collected from 1992 through 1999.

6. See the December 15, 1997 Compliance and Progress Report, pp. 14-16 and Exhibit C to that report for an earlier report on the Contingency Plan.
7. These may include the new outfall, Secondary Battery C and the upgrades of the CSO treatment facilities.
8. The meeting scheduled for May 20, 1999, was delayed until June 3, 1999, because sufficient progress had not taken place.
9. See May 17, 1999 Compliance and Progress Report, pp. 10-14. The Notice of Project Change includes the following project modifications: increasing the size of both conduits from 11 to 13 feet to increase storage capacity and further reduce potential CSO discharges to the Reserved Channel from three to zero in a typical rainfall year; relocating an odor control facility to a site farther away from private homes; various pipeline changes, including relocation of a dewatering force main from inside the conduits to a separate route; and alteration of the plan for removing separate storm water flows from beach areas, after a determination that total elimination of all storm water flows is not feasible.
10. The Authority is also awaiting that approval before filing Article 97 legislation to obtain legislative approval of the use of public parkland required for construction of much of the alignment of the two conduits and the CSO facility.
11. The commencement of the contract complies with the Authority's obligation under the Administrative Consent Order for the Braintree-Weymouth Relief Facilities described to the Court in the February 12, 1999 Compliance and Progress Report, pp. 20-22.
12. Another component of the relief facilities, a new Braintree Weymouth Pump Station, will provide benefits to Quincy by 2004.