

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 SEPTEMBER 1999 AND
PROGRESS REPORT AS OF OCTOBER 15, 1999

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

I. Schedule Six.

A status report for the scheduled activities for the month of September 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 Trunk Sewer
Relief for Chelsea 002-004.

On September 28, 1999, in compliance with Schedule Six, the Authority issued a Notice to Proceed with the construction contract for the Chelsea Trunk Sewer Relief project. The project is intended to bring combined sewer overflow ("CSO") discharges at outfalls CHE 002, CHE 003 and CHE 004 (located along the confluence of the Mystic River and Chelsea Creek) into compliance with state water quality standards. It includes replacing

the existing Chelsea trunk sewer, which varies in diameter from eight to 18 inches, with 2,300 feet of 30-inch diameter pipe to increase its capacity to convey wet weather flows for treatment at Deer Island. The work also includes replacing or repairing sections of outfalls CHE 002 and CHE 003 to correct structural problems. Although the Authority has commenced construction of the project in compliance with the Schedule Six milestone, it now finds that it may be unable to complete construction by August 2000, as required by the schedule. During design of the project, the Authority found that the necessary addition of unanticipated structural repairs to CHE 002 and CHE 003 would extend the time required to complete the project. The Authority attempted to provide the additional time needed by planning to award the contract and commence construction of the project in August 1999, a month ahead of the original project schedule. However, the potential for a bid protest from a rejected bidder on the contract delayed the award of the contract by a month. The Authority is now exploring what other measures may be available to allow it to meet the completion date in compliance with Schedule Six.1

B. Progress Report.

1. Fiscal Matters.

(a) Federal Funding.

The United States Congress has passed the VA, HUD and Independent Agencies Appropriations bill for Fiscal Year 2000, including \$2 million for the Authority's CSO program. The bill is expected to be signed by the President.

(b) Capital Improvement Program.

Printed copies of the Authority's Capital Improvement Program for Fiscal Years 2000-2002, approved on June 30, 1999, are now available.2 A copy is attached as Exhibit "B."

2. Harbor Management.

(a) Construction of Effluent Outfall Tunnel.

The Massachusetts State Police and the U.S. Occupational Safety and Health Administration are continuing their investigation into the July 21, 1999 incident in the Effluent Outfall Tunnel in which two workers who were part of the diffuser safety plug removal team died. During the past month, several meetings took place to discuss the plan for recovering the equipment left at the diffuser end of the tunnel when the accident occurred, and the contractor is addressing two remaining issues: use of the high pressure bottled air versus self-contained rebreathers and provision of redundant communications from the diffuser reach to the surface. Once the plan is final, and none of the parties concerned take further exception, the recovery effort itself, including mobilization and training, is expected to extend over two to three weeks.

Meanwhile, with the exception of minor items that cannot be finished until the tunnel is ready to be flooded, the installation of a protective coating at the top of the tunnel shaft is in place. All of the work the contractor is able to perform until the plug removal resumes is now complete.

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

As reported last month, the harmonic distortion levels at both the Lydia Goodhue and North Main Pump Stations were within acceptable limits during testing with multiple pumps in operation. Further tests confirmed these findings.

(c) Secondary Battery C.

The contractor for Secondary Battery C successfully completed standard oxygen transfer rate testing in the reactor batteries and is currently running four-hour tests of the aerators and mixers. The contractor and its vendor representative are reviewing vibrations experienced during testing of the mixers. The contractor is also pulling electrical wires and performing final painting work in the gallery.

In the clarifier batteries, the contractor completed aligning the drive systems and is now installing the flight chains. Installation of the scum dip tubes and sludge collection equipment is ongoing in multiple clarifier tanks. Installation of equipment is most advanced in clarifier tanks one and two,3 and dry runs of this equipment are in progress. Once the dry run tests are completed successfully in the first two tanks, the contractor will fill these tanks with water and perform leak testing. Functional testing of the scum and sludge collection equipment will take place thereafter. The contractor's success in completing this testing according to schedule will determine

whether or not the Authority will be able to achieve the milestone for completing construction of Battery C. Currently, the most work remains in clarifier tanks nine and ten, and the completion of mechanical installation and testing in these clarifiers is driving the overall schedule.

In the clarifier gallery, the contractor completed hydrotesting the return sludge line, as well as pulling electrical wire and check out and testing of the first set of return sludge pumps. Work on remaining sludge pumps is in progress. In the cryogenics facility, testing is now underway, while testing in the dry polymer building is complete.

As of September 30, 1999, overall physical construction of Secondary Battery C was 88 percent complete, several points behind scheduled progress. Overall testing was 31 percent complete. Currently, 2,721 field tests and 895 functional tests remain, with essentially no float in the schedule available to accommodate issues that may arise during later stages of the project. The contractor continues to use overtime as a means to recover schedule, where possible.

3. Residuals Management.

(a) Management of Pelletizing Operations.

As previously reported, the New England Fertilizer Company ("NEFCo") has been under contract to the Authority to manage sludge operations at the pelletizing plant, including transportation, processing and disposal of sludge and sludge products, since the plant opened in 1991.⁴ In April 1995, the Authority extended the original term of the contract until December 1999, reaching agreement with NEFCo to lower unit prices in the contract. On October 13, 1999, the Board of Directors approved a further extension to the contract, continuing NEFCo's responsibilities through December 2000. NEFCo agreed to a further reduction in unit prices for the additional year.

Recently, the Authority began the process of preparing to bid the successor contract for managing pelletizing operations, to replace the current contract in January 2001. Also on October 13, the Board authorized the award of a contract to a consultant to provide advisory services to support the procurement.

(b) Pelletizing Plant Expansion.

As reported last month, the contractor for the pelletizing plant expansion was able to operate the mixer conveyor in one of the new dryer trains for brief periods with the use of two motors. Since then, however, the contractor has been unable to achieve consistent running time for periods long enough to perform necessary testing of various components of the system. The contractor is currently implementing additional short-term adjustments to the conveyor system that may allow the testing to continue. In addition, the Authority is reviewing a possible long-term solution that would use a differently configured shaftless screw conveyor powered by a single motor. With respect to the pug mill vibration, the contractor has completed the installation and testing of the new larger-diameter pug mill. The new pug mill now operates within acceptable vibration limits.

(c) Report on Backup Disposal Plan.

In accordance with Schedule Six and its backup residuals disposal plan, the Authority attaches as Exhibit "C" its report on actions taken during the last six months. In addition, the Authority and the Commonwealth are jointly filing a progress report on implementing their Memorandum of Understanding regarding the beneficial use of biosolids.

With regard to the Walpole landfill site, the Authority has not pursued further consideration of the need to retain the site. The Authority does not intend to take up the matter again in the near future.

4. CSO Program.

(a) Cambridge Sewer Separation.

As anticipated last month, Cambridge officials attended the September 29, 1999 Board of Directors' meeting to discuss the dramatic increase in cost and scope of the Cambridge sewer separation project.⁵ At that meeting, Cambridge officials and the Authority agreed upon an approach for moving the project forward, consisting primarily of a reassessment of the overall project to determine if sewer separation is still the most cost-effective CSO control alternative. The reassessment will take into account the most recent information obtained regarding actual conditions in Cambridge, including up-to-date cost estimates, results of flow metering, revised sewer system and receiving water modeling and a reevaluation of sewer separation and other CSO control alternatives.⁶ The Board has directed staff to return no later than February 2000 with a revised overall CSO control plan for the Alewife Brook CSOs and a proposed implementation schedule.

In the meantime, the Board authorized the expenditure of sufficient funds to allow Cambridge to continue with design of sewer separation for a portion of the project, the area tributary to CAM 004, while the overall reassessment is in progress.⁷ The funding approved by the Board will also allow Cambridge to conduct additional field investigations and evaluations of the areas tributary to CAM 002, CAM 004 and CAM 401 to support the project reassessment.

In the interim, Cambridge is continuing work on two construction contracts still in progress. In addition, the Authority will continue discussions with the Environmental Protection Agency and the Massachusetts Department of Environmental Protection, to apprise them of project developments and to prepare proposed revisions to Schedule Six for submission to the Court.

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

The Authority continues to work toward resolution of the opposition raised by some members of the South Boston community to the site selected by the Authority for the Reserved Channel CSO Facility. However, on October 7, 1999, the Authority received notice from the "M Street Park and Neighborhood Association" and other South Boston residents (the "Association"), transmitted by their counsel, Hale and Dorr, of their intent to file suit in Massachusetts Superior Court against the Authority and the Secretary of Environmental Affairs (the "Secretary") to challenge the siting selection and the Secretary's July 23, 1999 certificate on the Authority's Notice of Project Change regarding the project.⁸ Authority staff has had an initial meeting with the Association's attorneys and will continue discussions.

At the same time, the Authority continues to make progress toward finalizing the design plans for the project and obtaining land, easements and approvals necessary to build at the Authority's recommended site. The Authority's consultant is preparing to make its first submission of the 100-percent design packages, due over the next month. The consultant recently submitted land and easement plans to support the Authority's drafting of Article 97 legislation, necessary for construction in areas designated parkland. Finally, the Authority has continued to meet with members of the Neighborhood Working Group to obtain community input regarding the design, although recognizing that some members of the Working Group are opposed to the recommended site for the CSO facility.

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

Over the last month, the Authority met with staff from the cities of Cambridge, Somerville and Medford to coordinate the stormwater sampling efforts required under the Variance for CSO discharges to the Upper Mystic River and Alewife Brook.

(d) Hydraulic Relief for CAM 005.

As reported previously, work began in July to provide hydraulic relief for CAM 005 by constructing a new pipe to relieve the existing dry weather connection between the CAM 005 regulator and the North Charles Metropolitan Sewer.⁹ Once on site, the Authority's contractor discovered buried steel sheeting and other differing site conditions that precluded the original construction approach. It became necessary to suspend construction activities, pending redesign of the earth support system and reconfiguration of the new structures. This changed condition resulted in a 48- day delay in the construction schedule. The contractor remobilized on site, only to encounter additional buried steel and concrete. Construction is suspended once again, pending approval of alternative means to install piles. Although the overall impact to the construction schedule is unknown, at this time the Authority does not expect that these delays will preclude its compliance with the August 2000 milestone for completion of the project.

(e) Cottage Farm CSO Facility Upgrade.

As previously reported, upgraded facilities at the Cottage Farm CSO facility have been in operation since March 1999, providing improved disinfection and dechlorination, while construction of the permanent control room and automated control systems has been continuing.¹⁰ Since that time, the construction contractor completed repairs to the deteriorated concrete floor that was found unexpectedly in the area of the existing building designated to serve as the central control room for the upgraded facility. In addition, the contractor installed the control equipment in this area and has begun testing of the facility improvements.

During recent testing, the contractor discovered problems with certain components of the new monitoring and

control equipment that have delayed the Authority's final acceptance of the upgraded facility. Some of the new influent flow meters, necessary for automated operation of the upgraded chlorination system, are not operating as intended, due to turbulent flow conditions. The vendor for the flow meters has begun testing an alternative meter. If the meter proves to be satisfactory, the contractor will proceed with installation and any necessary retrofitting of wiring as quickly as possible. Resolution of the matter could take several weeks. In the meantime, Authority staff will continue to provide chlorination and dechlorination of facility discharges in a manual mode. The contractor is also testing the functionality of the new instrumentation and controls and related signal loops. Certain problems with these systems have delayed completion of the tests, which are approximately 75 percent complete.

After addressing these problems, the contractor will commence overall facility performance. While an actual wet weather-related activation of the facility is necessary to complete testing, Authority staff are also recirculating dry weather flows through the facility to expedite the testing program. Full performance testing is required prior to acceptance of the facility and commencement of the start up period described in Note 35 to Schedule Six.

By its attorneys,

Dated: October 15, 1999

Notes:

1. The rejected bidder filed a bid protest after the contract award and attempted to enjoin execution of the contract. The matter was resolved in the Authority's favor.
2. See July 15, 1999, Compliance and Progress Report, pp. 2-3.
3. Battery C contains 18 clarifier tanks in total.
4. See Compliance and Progress Reports for February 16, 1988, pp. 8-9, and April 14, 1995, pp. 16-17, among other reports on NEFCo's role at the pelletizing plant.
5. See the July 15, 1999 Compliance and Progress Report, pp. 11-12, for a report on the Board's request to meet with Cambridge officials, in view of the significant escalation in the project after design was in progress.
6. As previously reported, activities to support the reassessment have been underway for several months. See Compliance and Progress Reports for April 15, 1999, pp. 9-10 and June 15, 1999, pp. 15-16, among others.
7. Construction that has already taken place since July 1998 (the milestone for commencing construction on this project) may create temporary restrictions in the sewer system, increasing the risk of localized flooding and sewer backups.
8. See August 13, 1999, Compliance and Progress Report, pp. 11-12, for a report on the Secretary's certificate.
9. See Compliance and Progress Reports for August 13, 1999, p. 13, and September 15, 1999, p. 2.
10. See April 15, 1999 Compliance and Progress Report, pp. 4-5.