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

.

METROPOLITAN DISTRICT COMMISSION, .

et al., .

.

Defendants. .

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CONSERVATION LAW FOUNDATION OF .

NEW ENGLAND, INC., .

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Plaintiff, .

. CIVIL ACTION

v. . No. 83-1614-MA

.

METROPOLITAN DISTRICT COMMISSION, .

.

Defendants. .

.

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MWRA MONTHLY COMPLIANCE REPORT

FOR OCTOBER 1999 AND

PROGRESS REPORT AS OF NOVEMBER 15,1999

The Massachusetts Water Resources Authority (the "Authority") submits the following monthly compliance report for the month of October 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 October 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. Back-Up Residuals Disposal Plan.

On October 15, 1999, in accordance with Schedule Six, the Authority submitted its semi-annual report on its backup residuals disposal plan, attached as Exhibit "C" to the monthly Compliance and Progress Report. The Authority and the Commonwealth also submitted their Joint Report regarding the Memorandum of Understanding on beneficial use of biosolids.

B. Progress Report.

1. Fiscal Matters.

(a) Federal Funding.

On October 20, 1999, the President signed the VA, HUD and Independent Agencies Appropriations bill for Fiscal Year ("FY") 2000. The bill included $1.9 million for the Authority's combined sewer overflow ("CSO") program.1

(b) State Funding.

Last week the Massachusetts Legislature approved a proposed budget for the Commonwealth for FY 2000 and sent it to the Governor for review and signature. As anticipated, the Legislature's budget included $53.9 million in debt service assistance for statewide wastewater projects and for the Authority's MetroWest Water Supply Tunnel. Of that amount, the Authority is eligible to receive $43.1 million for wastewater projects and $4.2 million for the MetroWest Tunnel. In addition, the budget provides for $38.9 million in state funding for the State Revolving Fund for wastewater projects and $9.9 million for the State Revolving Fund for drinking water projects. The budget also includes $500,000 to reimburse the Authority for

the operation of the Clinton Wastewater Treatment Plant. For the benefit of sewer and water service ratepayers, the budget continues the state's Low Income Sewer and Water Assistance Program.

(c) Borrowing from State Revolving Fund.

On November 3, 1999 the Authority completed a restructuring of $320.9 million of outstanding 20-year Massachusetts Water Pollution Abatement Trust (State Revolving Fund) bonds to 30-year debt and finalized the sale of an additional $95.5 million of new 30-year debt to finance wastewater system improvements. These funds will be used primarily to finance work at the Deer Island Treatment Plant and CSO improvements. This transaction culminated a long-term effort by the Authority to extend its State Revolving Fund debt to match more closely the life of the asset improvements. The near-term rate revenue savings from the refunding portion of the transaction is approximately $3 million annually.

2. Harbor Management.

(a) Construction of Effluent Outfall Tunnel.

Discussion is continuing regarding plans to recover the equipment left at the diffuser end of the tunnel during the July 21, 1999 incident that resulted in the deaths of two workers. The contractor submitted a revised recovery plan to the U.S. Occupational Safety and Health Administration ("OSHA") and Local Union 56, which represents the divers who will be performing the recovery work. OSHA has sought input from a sister agency, the National Institute of Occupational Safety and Health ("NIOSH"). OSHA and NIOSH appear to be focusing on the adequacy of rebreathers as the backup air supply and procedures for switching from the primary to the backup air supply in an emergency. Questions also remain regarding the provision of a redundant communication line to provide continuous communication with the workers in the tunnel. NIOSH is currently reviewing the plan with the contractor and, at the contractor's request, will perform a health and hazard evaluation, which is expected to take several weeks. Training and recovery of the equipment cannot begin until all parties find the recovery plan provides an acceptable level of safety risk.

(b) Electrical System Modifications

for Deer Island Pump Stations.

The levels of harmonic distortion associated with operation of the Lydia Goodhue and North Main Pump Stations continue to be within acceptable limits. The Authority believes its previous concerns have been resolved satisfactorily.

(c) Secondary Battery C.

In the reactor batteries for Secondary Battery C, the contractor has corrected the vibration problem in the mixers and is continuing with the four-hour tests of the aerators and mixers. The contractor has started the purge blower tests and has filled the reactors with water, in preparation for air testing. Wire pulling and terminations continue in the reactor gallery.

In the clarifier gallery, wiring and testing of return sludge pumps are continuing. In the clarifier tanks, the contractor expects to begin filling the first tank with water for static water leak tests within the next few days. Once the water testing is complete in the first tank, the contractor will perform 72-hour wet run tests of the clarifier and its equipment. Installation of the scum tubes in underway, and sludge and scum collection control panel terminations are in progress. Once permanent power becomes available from the variable frequency drives, dry testing of the scum tip tubes will begin.

At the end of October, physical progress was approximately 90 percent complete, which is seven percent behind planned progress. Based on the contractor's most recent schedule received late last week, the forecasted project completion date has slipped approximately one month to mid-January. In particular, the contractor has been unable to achieve scheduled progress with mechanical and electrical work in the clarifier battery. The schedule slippage is most pronounced in the scum building, particularly with respect to pulling and termination of electrical and control wiring, as well as in the installation of mechanical and electrical equipment in the clarifier tanks, with the most work remaining in tanks 9 and 10. The electrical and mechanical work in these two areas are now the critical paths to completion of Battery C. The contractor continues to push to complete construction in support of the milestone by working extended hours and selected Saturdays and is focusing resources on the critical areas.

With respect to testing, overall testing is 39-percent complete, with approximately 2300 field tests and functional tests yet to be performed. As with earlier phases of the new treatment facilities, once contractor testing is complete, Deer Island Plant staff will conduct their own operational tests with primary effluent before officially commencing operation of Battery C. All parties are working toward introducing wastewater flow into Battery C at the earliest feasible date.

(d) Corrosion Control Program.

In October, the Authority completed the second and final phase of the program to upgrade concrete coatings in selected areas of the primary clarifiers and other areas of the Deer Island Treatment Plant.2 The second phase protected 393,000 square feet of concrete and metal surfaces not completed under Phase I. This work completes the application of protective coatings.

(e) Transportation Services.

On November 3, 1999, the Board of Directors approved the award of a contract to extend bus transportation services for construction workers on Deer Island through 2001.3- Based on the current schedule for completing the final site work on the Boston Harbor Project, the Authority anticipates continuation of the bus transportation services through December 2001.

3. Residuals Management.

(a) Pelletizing Plant Expansion.

During the past month, efforts to attain the consistent running time necessary to continue testing one of the new dryer trains at the pelletizing plant by implementing short-term modifications to the shaftless-screw conveyor system met with little success. As an alternative, the contractor ordered the manufacture of a different type of shaftless screw, which is scheduled for delivery shortly. Once the new screw conveyor is installed, attempts to conduct testing will resume.

The Authority is continuing to try to work with the contractor's management to resolve the problems delaying completion of this project. During the past week, a meeting took place between the Authority's Executive Director and the President/Chief Operating Officer of the company that now owns the contracting firm.

(b) Management of Pelletizing Operations.

The Authority held an initial meeting with the consultant it retained to assist in developing and promoting the re-bid of the pelletizing plant operating contract.4 The consultant brings significant experience to the project, including oversight of the recent procurement of an operator for the Milwaukee Metropolitan Sewerage District. Before beginning the actual process of developing the bid, the consultant will need first to assess the impact of the current construction delays at the plant on a re-bid or change in operation and evaluate possible approaches to future plant operations.

4. CSO Program.

(a) Cambridge Sewer Separation.

The Authority and City of Cambridge are continuing activities to support the reevaluation of CSO control alternatives for areas of Cambridge tributary to CSOs along Alewife Brook.5 The system model has been reconfigured to take into account updated existing conditions. Flow-monitoring equipment is in place to collect new data for verification and calibration of the model. The Authority's consultant is exploring alternative levels of sewer separation that would reduce the capital cost of the project, yet meet the CSO control goals.

(b) North Dorchester Bay/Reserved Channel

Consolidation Conduits and CSO Facility.

Responding to the controversy over the site selected for the Reserved Channel CSO Facility, Secretary of Environmental Affairs and Authority Board Chair Robert Durand has invited Senator Stephen Lynch, Representative Jack Hart and Boston City Council President James Kelly to the Board of Directors meeting on December 15, 1999, to provide an opportunity for them to voice their concerns regarding the site. The Authority will report further on the siting issue thereafter.

Meanwhile, the Authority continues to make progress towards finalizing the design of the facilities. The Authority received the first 100-percent design submission for the North Dorchester Bay and Reserved Channel

Conduits from its consultant on October 25. Final geotechnical and archaeological field activities are also in progress.

(c) Variance for Alewife Brook and Upper

Mystic River CSO Discharges.

Over the last month, the Authority has heard from the Massachusetts Department of Environmental Protection ("DEP") regarding various documents the Authority submitted in compliance with the Variance for CSO discharges to the Upper Mystic River and Alewife Brook. DEP accepted the Authority's July 1, 1999 report summarizing the 1998 receiving water sampling data collected in the Alewife/Upper Mystic Basin.6 DEP also accepted the Authority's 1999 Draft Stormwater Monitoring Work Plan for the Upper Mystic River7 and authorized the Authority to move forward with the sampling effort.8

During a rain event on November 2 and 3, 1999, the Authority and the cities of Cambridge and Somerville coordinated their efforts to conduct stormwater sampling in accordance with their respective work plans. The Authority's laboratory on Deer Island is providing analysis of all the samples, including those collected by Cambridge and Somerville.

(d) Hydraulic Relief for CAM 005.

As reported last month, the contractor for the project to provide hydraulic relief at CAM 005 encountered differing site conditions which interrupted construction.9 These site conditions required revisions to the earth support system and the means of installing piles. The problems appear to have been resolved, and construction has resumed. Although the construction schedule will extend several months longer than expected, due to the delays and the additional work required, at this time the Authority expects to complete the project in compliance with the August 2000 milestone.

(e) Cottage Farm CSO Facility Upgrade.

As reported last month, during testing of the automated control system recently installed at the Cottage Farm CSO Facility, the contractor identified problems with certain influent flow meters.10 Since that time, the design consultant has evaluated a number of alternative flow metering technologies and, after favorable testing, recommended changing to a Doppler type meter for this application. The Authority estimates that installation of the new meters will take approximately eight to ten weeks.

In the meantime, the Contractor has continued testing the new instrumentation and control systems and is addressing various electrical problems. The Authority expects the flow meter and electrical problems to be resolved and associated testing to be completed by mid-January 2000.

(f) Trunk Sewer Relief for Chelsea 002-004.

As reported last month, the Authority issued a Notice to Proceed with the construction contract for the Chelsea Trunk Sewer Relief project. However,

the Authority was uncertain that it could meet the August 2000 milestone for completion of the project, due to an increase in the scope of the project.11 After reviewing the contract schedule and the contractor's initial submittals, the Authority now anticipates that it will be able to complete construction of the new sewer and the related outfall work in compliance with Schedule Six. Some site restoration and landscaping work probably will be delayed until the fall planting season, but these should not interfere with placing the new sewer line in operation on schedule.

(g) Floatables Control and Outfall Closings.

In March 1999, the Authority began construction of CSO floatables control and outfall closing projects, in compliance with Schedule Six.12 In particular, the Authority began work to close CSO outfalls MWR 021 and MWR 022 on the Boston Marginal Conduit. After initial construction activities were underway, the Authority's crew determined that the work was considerably more complex than expected and beyond the scope of work reasonably provided by in-house staff. Therefore, the Authority has recently decided to pursue adding this work to a related construction contract already in progress. The Authority anticipates that the outfall closings will be performed well in advance of the May 2001 milestone for completion of the projects.

In the meantime, as anticipated, in April 1999 the Authority issued a construction contract to install underflow baffles at four CSO regulators connected to other outfalls along the Lower Charles River Basin. The underflow baffles are now in place at all four locations providing floatables control.

The construction of floatables control at the remaining seven regulator locations along the Charles River has not moved forward on the schedule anticipated when the Authority reported in April. The plans for these projects are currently receiving further review, due to problems identified in the course of design.

5. Quincy Pump Facilities.

The Authority recently completed and placed into operation the new Hough's Neck Lift Station in the City of Quincy.13 The new station replaces a station at the same location, which was demolished last week. The Authority has also completed two other components of the improvements to the collection system in Quincy, the rehabilitation of the Squantum Force Main along Wollaston Beach and the replacement of the Quincy Force Main associated with the Quincy Pump Station.14 The Authority is scheduled to begin construction of replacements for the Quincy and Squantum Pump Stations during the coming year.

6. Toxic Reduction and Control Program.

On October 29, 1999, the Authority's Toxic Reduction and Control Department ("TRAC") submitted its fifteenth annual Industrial Waste Report to the Environmental Protection Agency. The report covers activities of the Authority's industrial pretreatment program during FY 1999, including oversight of current permitted users and program expansion to include new approaches to toxics control in the Authority's service area.

The total number of industrial permits issued or renewed increased from 465 in FY 1998 to 477 in FY 1999.15 The number of Significant Industrial Users ("SIUs") in Significant Non-Compliance ("SNC") continued to decrease slightly from 96 in FY 1998 to 92 in FY 1999.16 The SNC list continues to be dominated by 27 hospitals and medical facilities that are working to comply with the Authority's mercury discharge prohibition, as well as by new additions to the SIU list, such as newly-permitted vehicle washing facilities.

During the year, TRAC issued 594 early enforcement actions (Notices of Violations and Notices of Noncompliance) and $536,105 in penalties. It collected $534,839, including assessments from prior years, (approximately double FY 1998 collections) for violations of the Authority's sewer use regulations.

In FY 1999, TRAC completed implementation of the mercury "Safe Harbor" program for hospitals and medical facilities, which stays progressive enforcement for facilities demonstrating progress toward effective control of mercury in their discharges.17 TRAC also continued its outreach to dentists to promote the use of proper amalgam handling and disposal. In addition to presenting seminars at the Yankee Dental Congress (the second largest dental convention in the nation) and at eight local dental society meetings, TRAC initiated a program with the Tufts Dental School to conduct a comprehensive study of technologies for removing amalgam from dental waste streams.

Benefitting from the pretreatment program, mean concentrations for copper, lead, molybdenum and mercury in the Authority's fertilizer pellets declined significantly in FY 1999 from FY 1998 values, and all biosolids converted to fertilizer pellets were used beneficially. All metals were in compliance with both state and federal standards for beneficial use. Mercury

levels declined to less than 50 percent of DEP's most stringent limit.

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: November 15, 1999

Notes:

1. When the Authority reported on this matter last month, it was unaware that the Conference Committee reduced this item from the $2 million previously approved by the U.S. House of Representatives and Senate.

2. As previously reported, the Authority developed a corrosion control program to protect its new treatment facilities from the unexpectedly high levels of hydrogen sulfide that occurred after the new primary plant opened in 1995. See, among other reports, the June 16, 1997 Compliance and Progress Report, p. 7; the April 15, 1998 Compliance and Progress Report, pp. 5-6; and the 1998 Annual Progress Report submitted January 29, 1999, p. 8.

3. As a construction-related mitigation measure, since 1990 the Authority has provided bus transportation for workers to and from an off-site parking facility at Suffolk Downs.

4. See October 15, 1999 Compliance and Progress Report, p. 7.

5. As reported last month, Cambridge is continuing with the design of sewer separation in one area while the reevaluation is in progress. See October 15, 1999 Compliance and Progress Report, pp. 9-10. The reevaluation grew out of the greatly increased costs associated with the plans for sewer separation that became evident in the course of design. The new information called into question the previous conclusions about the most cost-effective approach for providing CSO control in the area. See February 12, 1999, Compliance and Progress Report, pp. 10-16.

6. See July 15, 1999 Compliance and Progress Report, pp. 14-15.

7. See September 15, 1999 Compliance and Progress Report, pp. 7-9.

8. The Authority also received a letter from DEP regarding the report on additional infiltration and inflow controls submitted September 1, 1999. Ibid. The Authority has requested clarification from DEP regarding the status of this report with respect to the Variance.

9. See October 15, 1999 Compliance and Progress Report, pp. 12-13.

10. See October 15, 1999 Compliance and Progress Report, pp. 13-15.

11. See October 15, 1999, Compliance and Progress Report, pp. 2-3.

12. See April 15, 1999 Compliance and Progress Report, pp. 2-3.

13. See June 15, 1998 Compliance and Progress Report, pp. 14-15, for a report on the beginning of construction of this facility.

14. See August 17, 1998 Compliance and Progress Report, pp. 10-11.

15. The Authority's permit fees program continues to be successful in recovering TRAC program costs for inspecting, monitoring and permitting industrial users.

16. The SIU and SNC designations are defined in 40 CFR 4032.3(t) and 40 CFR 403.8(f)(2)(vii), respectively.

17. See April 15, 1997 Compliance and Progress Report, pp. 14-16, for a description of this program.

18. Common dental amalgam contains up to 50 percent mercury.