

UNITED STATES DISTRICT COURT  
for the  
DISTRICT OF MASSACHUSETTS

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.  
UNITED STATES OF AMERICA, .

.  
Plaintiff, .  
. CIVIL ACTION  
v. . No. 85-0489-MA

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METROPOLITAN DISTRICT COMMISSION, .  
et al., .

.  
Defendants. .  
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CONSERVATION LAW FOUNDATION OF .  
NEW ENGLAND, INC., .

.  
Plaintiff, .  
. CIVIL ACTION  
v. . No. 83-1614-MA

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METROPOLITAN DISTRICT COMMISSION, .

.  
Defendants. .  
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MWRA MONTHLY COMPLIANCE REPORT  
FOR JUNE 1999 AND  
PROGRESS REPORT AS OF JULY 15, 1999

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

There were no scheduled activities for the month of June 1999 on the Court's Schedule Six.

A. Progress Report.

1. Fiscal Matters.

(a) Budget and Rates for Fiscal Year 2000.

On June 30, 1999 the Board of Directors approved a final Fiscal Year ("FY") 2000 Current Expense Budget ("CEB") in the amount of \$423.4 million and a final FY 2000 - 2002 three-year Capital Improvement Plan ("CIP") in the amount of \$1.4 billion. The CEB will increase the combined water and sewer rate revenue requirement from \$345.5 million to \$363.7 million, a 5.3 percent increase. As expected, charges to individual member communities will vary from the 5.3 percent increase because of variations in community water use and wastewater flows. For example, of the combined service communities, Milton has the highest

increase (17.3 percent), and Canton will be charged 2.2 percent less than in FY 1999.

During the new fiscal year, water system related expenses will increase BY 11 percent and sewer costs will increase by 3.7 percent, reflecting the faster growth in capital spending on water system infrastructure and the resulting larger increases in debt service costs. The FY 2000 budget will rely on \$13.8 million in non recurring revenues to reduce what would otherwise have been a 9.3 percent rate increase. Based on the final FY 2000 CEB, future rate increases are projected to be 7.2 percent each year through FY 2006.

The FY 2000-2002 CIP calls for \$562.5 million in spending in FY 2000 and \$1.4 billion over the next three years. Over the three year period, the bulk of wastewater spending will shift from Deer Island Treatment Plant construction to the combined sewer overflow ("CSO") program and the Braintree/Weymouth Interceptor. Over the next ten years the Authority's CIP includes \$2.3 billion in spending on water and wastewater system improvements.

## 2. Harbor Management.

### (a) Mid-Year Update.

The Authority submits as Exhibit "A" its Mid-Year Progress Report (the "Report") on the overall progress of construction for the Boston Harbor Project. The Report provides an update on progress toward achieving the 1999 priorities identified in the Authority's "Boston Harbor Project Deer Island Related Facilities 1998 Annual Progress Report," submitted January 29, 1999.

### (b) Construction of Effluent Outfall Tunnel.

In the Effluent Outfall Tunnel, the contractor completed the final placement of concrete in the conduit connecting the disinfection basins to the tunnel shaft. The forms have been stripped, and minor repair work is underway. The concrete coatings contractor has completed sandblasting of surfaces in preparation for placing a protective coating in the conduit, a portion of the disinfection basins and related areas. Application of the coating is in progress.

The outfall contractor also finished all contact grouting in the tunnel and shaft elbow. Grouting the bottom 30 feet of the shaft liner and other limited areas of the shaft remains to be completed. The contractor has also installed and pressure tested the sodium bisulfite lines in the tunnel. The contractor must terminate the pipe and install elbows at the surface. A separate contractor will connect the sodium bisulfite lines to the treatment plant sodium bisulfite system. The necessary piping is on order, and this work is scheduled for completion in mid-August.

Work is now proceeding on removal of the safety plugs installed at the base of each of the 55 diffusers after the contractor made the connections to the diffusers from the tunnel. The subcontractor performing this part of construction arrived on site July 13 and is using a deck installed in the starter tunnel to stage the humvees and other necessary equipment. A work crew entered the tunnel today to install communication lines and other equipment in the tunnel to support the plug removal operation. Actual plug removal is scheduled to commence tomorrow. As described in more detail in the Mid-Year Progress Report (Exhibit "A"), the removal of the safety plugs begins the series of final steps in completing outfall tunnel construction that will enable and, ultimately, necessitate the opening of the tunnel by mid-September.<sup>1</sup>

### (c) Electrical System Modifications for Deer Island Pump Stations.

Sufficiently high flows have not yet occurred at the North Main and Lydia Goodhue Pump Stations to allow full scale testing of the additional harmonic filters installed at both stations to address problems with electrical distortion. A flow of approximately 700 million gallons per day ("mgd") is needed to perform the testing. The Authority will report when testing is complete.

### (d) Construction on Nut Island.

Structural work needed for the installation of new sluice gates associated with the surge containment area at the Nut Island Headworks is complete. The contractor is removing scaffolding to make room for the new gates. Completion of the structural work took longer than expected, and the sluice gate installation is now forecast for August.<sup>2</sup> The diving contractor responsible for outfall inspection has begun mobilization on the ocean side of Nut Island and will move to the shore side as soon as sluice gate installation is complete. The Authority expects the inspection to take place in August.

(e) Secondary Battery C.

In Secondary Battery C, construction is in progress in the reactors, the clarifiers, the polymer building and the cryogenics facility. In the reactors, water testing is complete in Train 1 and is continuing in Trains 2 and 3. The contractor is currently mounting motors for the oxygen mixers, installing oxygen piping, pulling wire from the electrical buildings and terminating the wires at individual equipment. In the clarifiers, the contractor has completed waterproofing in 12 clarifiers, with work continuing in the remaining six and the influent channel. Return sludge pumps and discharge piping are in place in the gallery area. The installation of return sludge piping and influent piping is complete in five out of 18 clarifiers. The installation of suction piping and mechanical equipment in the upper and lower level collectors is underway.

The contractor has completed mixer and pump testing in the polymer building, with minor repairs and other work remaining. In the cryogenics facility, where the contractor is adding oxygen generation capacity, a new compressor and 90 percent of the chiller piping are in place. Electrical work is continuing.

(f) Transition in Program Management.

At its June 16 meeting, the Board of Directors approved a transition plan to provide new leadership in the Program Management Division in light of the anticipated departure of Walter Armstrong. Ralph Wallace will become the new Director of the Division. Mr. Wallace has been a senior manager with the project since 1994, most recently as Deputy Director for Management and Administration, and has worked closely with Mr. Armstrong throughout this period. In addition, William Hodgson will remain with the Authority an additional year as Deputy Director for Construction and Engineering Services through September 2001. Mr. Hodgson has supervised the management and construction of all major liquid process facilities on Deer Island as well as site control.<sup>3</sup>

Although the Boston Harbor Project is more than 96 percent complete, significant and challenging work remains, including start up of the Effluent Outfall Tunnel and Secondary Battery C later this year. Other major priorities include contract close out, dispute resolution and transition of functions to the Sewerage Division and Deer Island Treatment Plant staff. The transition plan will provide continuity in management and ensure the continued oversight necessary to bring the project to a successful conclusion.

3. Appeal of New NPDES Permit.

On June 16, 1999, the Authority's Board of Directors voted to accept the majority of the new NPDES permit issued on May 20, 1999 by the Environmental Protection Agency ("EPA") and the Massachusetts Department of Environmental Protection ("DEP"), including all the provisions that govern the operation of the Deer Island Treatment Plant and monitoring of conditions in Massachusetts Bay following the opening of the new outfall.<sup>4</sup> At the same time, the Board voted to appeal those sections of the permit of particular concern to the Authority and described in last month's report. These include provisions imposing a 1.4 mgd limit on new connections from outside the Authority's service area; requiring development and implementation of a drinking water conservation plan in all of the Authority's wastewater communities; and requiring the Authority to develop a plan, following a substantially prescribed format, to address infiltration/inflow ("I/I") and sanitary system overflows ("SSOs") in both its own and member community sewer systems. Appeal documents were filed with EPA and DEP on June 21, 1999. The appeal filed with EPA resulted in a stay of all of the new permit, pending EPA response, and the appeal filed with DEP included a request for such a stay. EPA and DEP have not yet responded to the appeals.

Other interested parties also filed appeals. These included the Authority's Advisory Board, the Barnstable County Commissioners/Bays Legal Fund and Stop the Outfall Pipe from Cape Cod, the Charles River and

Fore River Watershed Associations and a resident of the Town of Weston. Several of the appellants stated publicly that their primary motivation for appealing the permit was to ensure that the permit was not weakened as a result of the Authority's appeal.

#### 4. Deer Island Staffing Report.

The Authority submits as Exhibit "C" its annual Deer Island Staffing Report. The Report describes changes in the staffing plan that have occurred during the past year, the current status of staffing and future staffing plans.

#### 5. Residuals Program.

##### (a) Pelletizing Plant Expansion.

Shortly after the Authority last reported, the contractor for the pelletizing plant expansion completed both the replacement of the pipe hangers that had been incorrectly installed and all of the other remaining priority items necessary to enable testing of the new Dryer Trains 5 and 6 to resume. Testing of equipment and control systems began on June 24, and the contractor introduced sludge into the new trains on June 28, initiating performance testing of the Dryer Trains for the first time since the December 1998 fire at the plant. However, problems occurred in the mixer conveyor, and testing was stopped on July 10. The contractor is working on a solution and expects to resume testing next week. Testing is expected to require at least several more weeks.

##### (b) Residuals Backup Disposal Plan.

Review of the need to retain the residuals landfill disposal site in Walpole and related discussions with EPA are continuing.

#### 6. CSO Program.

##### (a) Cambridge Sewer Separation.

During the past month, the City of Cambridge and the Authority had further discussions with DEP, and the Authority with EPA, regarding recommended next steps for moving forward with the Cambridge sewer separation project. On July 14, 1999, Authority staff reviewed the project recommendations with the Board of Directors. Because of the serious concerns Board members have about the greatly increased scope and likely costs of the project,<sup>5</sup> they requested a meeting with City of Cambridge officials before making a decision regarding further expenditures. Cambridge representatives have been invited to the Board's next meeting on August 11, 1999, and the Authority will report further thereafter.

In the meantime, the Authority is continuing with its reassessment of the cost-effectiveness of CSO control alternatives other than sewer separation described in last month's report. The Authority anticipates completing the reassessment by January 2000. The Authority is also continuing to support Cambridge sewer separation construction already authorized. Two projects have been completed, and two are in progress.

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

As anticipated, the public comment period on the Notice of Project Change ("NPC") for the North Dorchester Bay/Reserved Channel Consolidation Conduits and CSO Facility project filed with the MEPA Unit of the Massachusetts Executive Office of Environmental Affairs on June 15, 1999, closed on July 13, 1999.<sup>6</sup> The Authority expects the Secretary of Environmental Affairs to issue a Certificate on the NPC by July 20. The Authority will review the Certificate to assess any implications for the project schedule prior to scheduling a meeting with the EPA and DEP to discuss necessary changes to related milestones in Schedule Six.<sup>7</sup>

Meanwhile, the Authority continues to review the 90-percent design plans and specifications submitted by its consultant in May, as well as new data on environmental conditions at the recommended site for the

CSO facility ("Site J"). Also, on July 7, 1999, the Authority met with DEP staff responsible for project review to facilitate the coordination of permit application and issuance. In addition, the Authority and the Massachusetts Bay Transportation Authority ("MBTA") are discussing access, staging and construction issues at Site J in order to minimize impacts to ongoing MBTA operations on the site.

(c) Hydraulic Relief Projects.

On June 16, 1999, the Board of Directors authorized the award of a construction contract for hydraulic relief projects at CSO outfalls CAM 005 and BOS 017.8 The projects are intended to improve water quality in the respective receiving waters by minimizing CSO activations and volumes at the two outfalls. CAM 005 discharges to the Upper Charles River Basin, while BOS 017 discharges to the Lower Mystic River.

The Authority expects to issue a Notice to Proceed with the contract shortly. The commencement of construction will comply with the August 1999 milestone in Schedule Six for CAM 005 and will be well in advance of the March 2005 milestone for BOS 017. The Authority expects that construction at both locations will be complete early in 2000, also well in advance of related milestones for completion (August 2000 for CAM 005 and September 2006 for BOS 017).

(d) Variance for Alewife Brook and UpperMystic River CSO Discharges.

On July 1, 1999, the Authority submitted to EPA and DEP a report summarizing the 1998 receiving water sampling data collected in the Alewife/Upper Mystic Basin. The data was collected in conformance with the *Combined Work/Quality Assurance Project Plan for Water Quality Monitoring and Combined Sewer Overflow Receiving Water Monitoring in Boston Harbor and its Tributary Rivers* dated April 1998.

In summary, data collected during 1998 on indicator bacteria (fecal coliform and Enterococcus) show that counts generally decrease from upstream to downstream along the length of Alewife Brook and the Upper Mystic River, with consistently high counts seen in Alewife Brook in both wet and dry weather. However, higher bacteria counts occurred in both Alewife Brook and the Mystic River during wet weather compared to dry weather. Alewife Brook shows greater impacts, likely due to the location of CSOs and storm drains, as well as to the lower flow levels relative to the Mystic River. There is no clear correlation between the water quality standards violations and CSOs. Future updates should provide clarification through the inclusion of a new sampling station upstream of all Alewife Brook CSOs. In addition, stormwater sampling to be conducted by the Authority and the communities as part of the variance conditions will be useful in identifying impacts associated with various wet weather sources.

7. Infiltration and Inflow Reduction Program.

On July 14, 1999, the Board of Directors received another in a series of annual updates on the Authority's I/I local financial assistance program, now ending its seventh year. To date, 42 of the 43 member communities have requested and received a total of \$54 million in funding for 150 separate projects.<sup>9</sup> Seven communities have already exhausted their entire allocations, which are based on their respective shares of the Authority's overall wholesale sewer charges. The estimated average daily flow reduction associated with all local I/I reduction projects which have received Authority financial assistance to date is approximately 35 mgd. Based on community requests for the funds, the Authority expects to distribute the \$47 million remaining in the total budget for the program over the next four years. A table, attached as Exhibit "D," lists the funding allocations and total remaining funds by community.

The Authority is also continuing to encourage and support the I/I Task Force that has been meeting since February 1999 in a cooperative effort to develop workable goals and strategies to reduce I/I throughout the regional wastewater collection system.<sup>10</sup> The Task Force, with representatives from a number of local communities, the Advisory Board, watershed associations and regulatory agencies, meets at least monthly. It has agreed upon a mission statement and six goals, for which it is developing recommended implementation strategies.<sup>11</sup> The Authority anticipates that the Task Force discussions will result in a cooperatively- developed report by the Summer of 2000 that will serve as a guidance document recommending a regional I/I reduction plan with appropriate burdens and benefits for various stakeholders.

By its attorneys,

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John M. Stevens (BBO No. 480140)

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Foley, Hoag & Eliot LLP

One Post Office Square

Boston, Massachusetts 02109

(617) 832-1000

Of Counsel:

Mary R. Jeka,

General Counsel

Virginia S. Renick,

Associate General Counsel

Massachusetts Water Resources  
Authority

100 First Avenue

Boston, Massachusetts 02109  
(617) 242-6000

Notes:

1. The additional time required to create the opening between the tunnel shaft and the conduit to the disinfection basins, the implications of which the Authority was reviewing when it reported last month, did not have a significant impact on the schedule for completing the outfall. As the Authority has previously noted, however, uncertainty remains over the actual duration required to complete safety plug removal, which is scheduled to take no more than two weeks.
2. In the meantime, the Authority is able to dewater the surge containment area by pulling temporary plugs, if necessary.
3. Mr. Hodgson assumed the position of Chief Engineer for the Boston Harbor Project after Charles Button left the Authority in April 1998. See Compliance and Progress Report dated March 16, 1998, p. 5.
4. The Authority inadvertently identified the new permit in last month's report, as well as Exhibit "C" to that report, the *Interim Compliance Status Report*, by the identification number applicable to the old NPDES permit that continues in effect. The new permit is designated No. MA0103284. The Authority is submitting herewith as Exhibit "B" a new copy of the *Interim Compliance Status Report*, which also corrects certain typographical and formatting errors.
5. As previously reported, the plan for sewer separation in Cambridge in the 1997 Final Facilities

Plan/Environmental Impact Report was based on sewer system maps and existing design plans provided by Cambridge. New information that became available after Cambridge began design of the current project showed that far more extensive work would be required to meet CSO control goals. In addition, Cambridge discovered a new CSO not previously identified. Potential costs of the project escalated sharply from \$14 million to as high as \$72 million. See Compliance and Progress Reports for March 16, 1998 (pp. 8-9) and February 12, 1999 (pp. 10-16).

6. For a description of the Notice of Project Change, see Compliance and Progress Report dated June 15, 1999, pp. 16-17.

7. See Compliance and Progress Report dated May 17, 1999, pp. 10-14, for a discussion of various factors affecting the current schedule for these projects.

8. See the Compliance and Progress Report dated July 15, 1998, pp. 12-13, for a detailed description of these projects.

9. The funding is distributed in part as grants and in part as interest free loans.

10. See December 15, 1998 Compliance and Progress Report, pp. 15-16, for a fuller discussion of the initial I/I workshop and the issues that led to the formation of the Task Force.

11. The mission statement reads: *The I/I Task Force will develop goals and implementation strategies that will reduce Infiltration/Inflow to optimize local and regional sewer service. The Task Force will make recommendations for cooperative implementation of the goals and strategies by local communities, MWRA, DEP, EPA, and others.*

The six goals are as follows:

1. *Eliminate all sewer backups.*
2. *Minimize/eliminate health and environmental impacts of sewer system overflows.*
3. *Remove all existing and prevent new inflow sources.*
4. *Minimize system-wide infiltration.*
5. *Educate and involve the public.*
6. *Develop minimum operation and maintenance standards.*