

MWRA ADVISORY BOARD

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WASTEWATER NEWS

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by Marie Goldstein

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Eliminating Secondary Treatment from the Deer Island Facilities

Secondary treatment, a major federally mandated component of the new Deer Island treatment plant, is coming under increased scrutiny, first on technical grounds--How much better will the effluent be?--and, more important from an Advisory Board perspective--Can a less costly method achieve comparable results?

In 1979 Professor Donald Harleman--a long-time critic of secondary treatment for cleaning up the harbor--joined other area scientists in offering evidence to support the MDC's request for a waiver on secondary. EPA denied the waiver, but the issue is very much alive, and according to Dr. Harleman, as the Authority begins to enter its big spending years, more and more relevant.



A sizable crowd, including Paul Levy and MWRA Board members John Carroll and Sam Mygatt, came to hear Dr. Harleman at the Advisory Board's October meeting in Wellesley. His talk was long and detailed, but several points stood out sharply.

Dr. Harleman addressing the Advisory Board.

Secondary, for example, will improve the effluent only marginally, and thus Dr. Harleman believes the Authority should go with primary treatment alone. If the effluent from the new and improved primary facility fails to meet water quality standards, advanced primary should be done. Advanced primary requires no separate facilities; it is a relatively inexpensive physical-chemical process in which polymers added to the liquid effluent help in the clumping of dissolved solids, 80 percent of which are removed in the process.

But lower overall cost isn't the only benefit. Primary produces a smaller quantity, better quality sludge, while secondary doubles the amount and concentrates to a greater degree the toxic substances contained in it. Since the Authority's residuals are already borderline, a more highly toxic sludge may well torpedo the MWRA's beneficial reuse (pelletizing) program.

Convincing EPA that secondary is not needed in Boston Harbor will require solid evidence, and to that end, Congressman Chester Atkins has inserted a line item in the EPA's FY90 budget to support research on secondary treatment. But even with evidence, it was pointed out, EPA is unlikely to grant a waiver, since so many municipalities have already built secondary facilities. But it's worth noting that those facilities were built with federal/state funding, unlike the secondary plant slated for Deer Island, which will be paid for almost entirely by ratepayers.

One final point: the federal Clean Air Act passed this year allows municipalities flexibility in meeting air quality standards, and Dr. Harleman believes similar discretion should be given to those having to meet CWA standards.

I/I Program Update

One important aspect of this program has yet to be settled--which agency, DEP or MWRA, will be solely responsible for its administration. Thus far DEP seems reluctant to deal only with the MWRA, leaving it to the Authority to administer the program at the local level. Mr. Levy will meet with Dan Greenbaum, DEP head, to determine areas of responsibility, and from that point an interagency agreement can likely be reached. Communities don't particularly like to be regulated, especially if they have to answer to more than one agency, so if the program is to get going, it's important to resolve the matter soon.

While awaiting its resolution, the Authority is forging ahead. It will begin installing sewer meters at 157 locations, and has formulated a draft I/I Management Policy Statement that calls for, among other provisions:

- requiring each community to eliminate illegal inflow and excessive infiltration, with allowable limits and reduction goals/schedules specified in the municipal discharge permit
- consulting and negotiating with each community to establish I/I reduction goals and schedules

- providing communities with administrative and technical assistance in dealing with I/I-required activities

The Authority is seeking community input on its I/I management policy and program and is establishing a task force for that purpose. Interested communities should contact Vinnie Ragucci at 242-6000, ext. 1191.

Advisory Board Field Trip to Clinton Wastewater Treatment Plant

In place of its regular August meeting, Advisory Board members and friends boarded buses and rode out to the Clinton Wastewater Treatment Plant to check progress on the new facility and see how the ratepayers' money is being spent. As almost everyone is aware by now, Clinton is not a member of the MWRA, but old agreements to maintain the plant, and unfulfilled state promises to share the costs of constructing and operating the new one, have left ratepayers as the revenue source of last resort. (A history of how and why Clinton became the MWRA's responsibility is available, upon request, from the Advisory Board office.)

The facility is surprisingly small--compared to Deer Island--and looking at it from a platform atop the digester, its most unusual features are trickling filters, very large, roughly



Standing at the edge of a sludge-drying bed.

circular areas of rock sunk several feet into the ground, and huge sludge-drying beds. Although Clinton is called an advanced primary treatment plant (an altogether different process from the one advocated by Dr. Harleman for Deer Island), according to Rick Trubiano, the plant's manager, it is actually a primary plant with a kind of secondary treatment. After solids in the wastewater settle out, the effluent flows through the trickling filters, where biological growths on the rocks consume dissolved organic matter and convert it into a settleable solid, or sludge. The effluent and the sludge are then pumped back to settling tanks, where the sludge is removed, dried, and landfilled, and the effluent chlorinated and emptied into the Nashua River. The effluent meets current EPA standards for the facility, and when the new plant is on line, will meet more rigorous ones.

The trip ended at the Wachusett Reservoir, where the visitors learned how things work in the control room, heard about the importance of keeping this beautiful body of water as free as possible from the contamination of development, and had their many questions answered.

CSO Update

With the December 31 deadline for submission of the Draft Facilities Plan looming, the members of the MWRA Board of Directors have been digesting, integrating, and assessing the mass of information given them by staff to help in deciding how to control CSOs in Boston Harbor.

A major decision--who will pay--was made at the June 28 meeting, when the Board endorsed staffs' recommendation for the Authority to "construct and fund, through general ratepayer revenues and grant sources, such major construction projects . . . as are necessary to control discharges from CSOs within the MWRA sewerage district."

Over the following months staff:

- told the Board that best management practices to reduce and control CSOs cannot alone meet water quality standards
- compared several CSO alternatives--no-action, or depending solely on more powerful pumps and the greater capacity of the new treatment plant, as well as other improvements to the collection system; and in-system, near-surface, and deep tunnel storage--in the six CSO basins
- showed through monitoring studies that even with maximum CSO controls the Harbor will still contain significant quantities of bacteria and toxic substances from stormwater runoff
- reported that an analysis of tunnel sizing by cost showed that a 93 percent overflow capture is cost effective, yet
- heeded the Board's suggestion that a final decision on a preferred alternative not be made until DEP comes out with final water quality regulations and the Authority knows for sure exactly what standards it has to meet. The Authority had planned to recommend a single alternative in the Draft Facilities Plan,

but the Advisory Board, by working through the MWRA Board, succeeded in keeping other options open.

In the Draft Facilities Plan, staff recommends the continued study of two options: a "limited" plan of 47 percent capture that will control the flows in the Lower Charles and Dorchester Bay basins, and an "expanded" plan of 93 percent capture that will control flows from Inner Harbor CSOs as well. In the three remaining basins--Alewife Brook-Mystic River, Upper Charles River, and Neponset River--there will be either "no action" taken or in-system and near-surface storage implemented.

At its December 13 meeting, the Board accepted the Draft Facilities Plan both for submission to the Court and for release to the public for a 60-day comment period.

EDITORIAL

Economic Feasibility - How Much Is Enough?

From its inception the MWRA Advisory Board has endorsed the goal of a cleaner Boston Harbor, but its endorsement has been tempered by the knowledge that the bill will be paid almost entirely--without any help from traditional government sources--by families of widely varying financial resources. Those at the lower end of the income scale, and there are many of them, will pay at the same rate as their more affluent neighbors.

For the past four years the Advisory Board has worked hard at achieving a practical goal: through its budget reviews, it has tried to help those families, and all the families in the MWRA service area, by keeping Authority spending, and thus rates, as low as possible. Its ideal goal, however, is to keep rates manageable--which is far different--so that a large number of MWRA families can help the Authority reach its goal of a cleaner harbor without being bankrupted in the process. But the Advisory Board is realistic enough to know that ideals are seldom, if ever, achieved, and thinks the same kind of realism ought to inform the environmentalists' goal of a pristine Boston Harbor. At some point, the two forces must meet.

The Advisory Board hopes that when the Board of Directors makes its final decision on CSO control facilities it bears in mind that ratepayers have already been burdened with the \$6+ billion it will cost for the new treatment plants. For many MWRA families--older ones on fixed incomes, and younger ones struggling to get by--spending any amount at all over what's absolutely necessary may be the straw that breaks the camel's back. EPA policy allows for less than 100 percent fulfillment of its standards if it can be demonstrated that to fulfill them totally will cause severe financial hardship. For many, many MWRA families, severe financial hardship is not just a possibility but a certainty. We think the burden is already heavy enough.

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