



MASSACHUSETTS WATER RESOURCES AUTHORITY

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Dear Friend:

News reports about EPA's legal pressure on MWRA to construct expensive filtration facilities as part of the forthcoming Walnut Hill Treatment Plant project have not been easy to follow. We want to update you on our view of the status of the dispute and also reinforce some basic facts about MWRA's water quality to offset some of the negative messages people might take from the EPA campaign.

The "Dual Track" for Selecting Walnut Hill's Treatment Technology

In 1993, MWRA entered into a "dual track" consent order with Massachusetts DEP for design and construction of a new treatment plant (now known as the Walnut Hill Treatment Plant) downstream from Wachusett Reservoir to serve the greater Boston MWRA communities. Accordingly, MWRA has been preparing to construct modern disinfection and corrosion control processes at Walnut Hill which in addition, on one track, would include filtration facilities. Meanwhile, MWRA and MDC have delivered an aggressive watershed protection program, including land acquisition, sewer construction and bird and animal control, to improve and protect the quality of the source water at the Wachusett intake. Together with updated disinfection practices and other system improvements, this program, the second track, might lead to compliance with EPA and DEP filtration avoidance criteria, thereby possibly allowing MWRA's ratepayers to avert the need and save the cost of installing filtration facilities in the new plant.¹

The dual track approach appeared to be tacitly accepted by EPA at least until early 1997. Everyone recognized (as the DEP consent order required) that the entire system would be evaluated in 1998 so that a treatment technology decision for Walnut Hill (with or without filtration) could then be made by MWRA and, if necessary, reviewed by DEP for compliance with all the regulatory requirements.

In October 1997, MWRA and MDC requested DEP to allow the last stages of design of the filtration facilities to be suspended until a treatment technology decision was made. In issuing a conditional approval of that request and deferring further review until fall 1998, DEP (relying on extensive supporting material submitted by MWRA/MDC) noted that nine of eleven criteria for filtration avoidance were satisfied, and that the remaining two were likely to be met by July 1998.

¹ Without filtration facilities, the new Walnut Hill Treatment Plant is expected to cost about \$225 million. Filtration facilities will add approximately \$265 million to the capital expenditure and also bring significant long-term operating costs.

On December 9, 1997, however, EPA notified MWRA, MDC and DEP that the Department of Justice had been asked by EPA to file a federal lawsuit against MWRA and MDC demanding an immediate pre-emptive decision in favor of filtration, based on historic water quality conditions in 1991 prior to the demonstrated and expected positive results of watershed protection and other system improvements.

MWRA, MDC, DEP, EOEA, the State Attorney General and others then spent weeks conducting extensive negotiations with EPA and the Department of Justice. But, on February 12, the Department of Justice filed the lawsuit.

MWRA expects to pursue in the lawsuit the same position taken in negotiations: its Board of Directors, with public discussion, technical input, and reasoned arguments from every viewpoint, should proceed to propose the best possible treatment technology decision later this year. *MWRA has not yet proposed, and DEP has not reviewed, a decision whether or not filtration facilities at the Walnut Hill Treatment Plant should be included in the proposed technology.* DEP, under the consent order, and EPA, if it chooses to do so through a federal lawsuit can be expected to review that decision for compliance with all regulatory requirements. We hope, though we have no assurances, that the federal court that now has EPA's lawsuit will see the practicality and lawfulness of allowing the decision to proceed in this way.

In the meantime, MWRA has agreed with DEP to modify the consent order to meet EPA's insistence that design of filtration facilities, already prepared to 60% of biddable plans and specifications, be completed without interruption. The consent order also incorporates elaborate planning and construction milestones assuring that the Walnut Hill Treatment Plant--with filtration included if necessary--could be completed by its earliest feasible date for start-up in conjunction with the new MetroWest Water Supply Tunnel in late 2003.

A Balanced View of MWRA's Current Drinking Water Quality

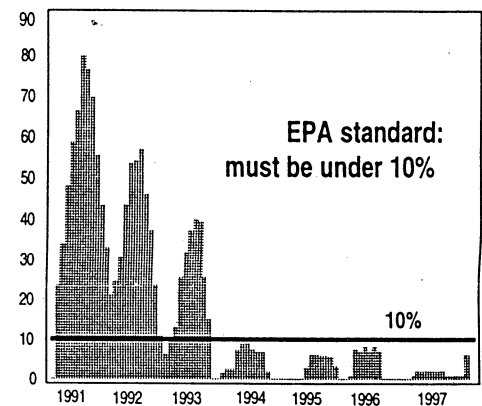
MWRA's \$1.7 billion capital investment program to improve the reliability and quality of MWRA drinking water acknowledges and addresses important respects in which MWRA water quality has needed to be strengthened. Our goal is to provide water that meets all regulatory criteria and exceeds our customers' expectations for purity and healthfulness. At the beginning of the decade, accumulated neglect and obsolescence of the system presented significant water quality issues, including periodic failures of coliform criteria and related regulatory standards. However, MWRA and its customers could reasonably hope to capitalize on the extraordinarily strong water quality potential of its almost unique Wachusett/Quabbin reservoir and watershed assets.

Critical improvements in recent years, many undertaken within the framework of the DEP consent order and in cooperation with MDC and the Commonwealth, have yielded dramatic results.

For example:

- Significant watershed protection improvements have been made in the Wachusett area by purchasing large amounts of critical land, controlling wildlife and birds, and building a sewer system in West Bolyston and Holden, successfully improving coliform levels in the source water to meet all federal standards.
- The Spot Pond Reservoir was removed from service in September 1997 as the result of the completion of extensive pumping station and pipeline improvements, removing a perennial source of water quality problems, especially coliform violation in surrounding communities.

The Progress Between 1991 and 1998 From Watershed Protection Efforts Can Make All the Difference



- New enclosed storage tanks are under construction to replace the open Fells and Weston Reservoirs, and the Norumbega covered water storage project has passed a critical siting and environmental tests, promising to improve several water quality parameters, while reducing chlorine use.
- Important physical and operating changes have been made to existing disinfection and corrosion control practices, even prior to construction of the new Walnut Hill facility, resulting in better control of distribution system bacteria performance while maintaining disinfection byproducts well below the latest federal limits.
- The new \$700 million MetroWest Water Supply Tunnel began construction in 1996, setting the stage for the new system-wide treatment facility to be built at Walnut Hill, and correcting the unacceptable over-reliance on the 57-year old Hultman Tunnel to bring water from the reservoirs to greater Boston,

These improvements mean that today's MWRA water quality is stronger than has been the case for many years. In some respects, especially in ways that directly reflect strong source water quality, it is a very high quality water -- for example in the low levels of disinfection by-products, associated with newly-emerging concerns about cancer risks. Disinfection by-products in MWRA water easily pass federal standards throughout most of the system and are dramatically preferable to levels in hundreds of other drinking water systems, large and small, across the country. On another parameter, the measurement of trace coliforms against federal standards, the system has presented virtually perfect testing results since Spot Pond Reservoir was taken off line and disinfection adjustments were made last year. This is a record for which added reassurance, however,

must be drawn from warmer weather operating experience next summer.

MWRA's current assessment of its water quality, based on one of the most thorough and aggressive sampling and monitoring programs in the country can be summarized as follows:

AT THE SOURCE	
Coliform Bacteria	Wachusett Reservoir has continuously met state/federal source water criteria for water supplied from unfiltered surface reservoirs since 1993; Quabbin Reservoir has met the criteria since 1991.
Other Pathogens	Wachusett and Quabbin Reservoirs have very low levels of giardia and cryptosporidium at the intake: only 1 in 70 samples were positive in the past 3 years at Wachusett and 1 in 44 at Quabbin. These low levels can be attributed to an effective watershed protection program.

IN THE DISTRIBUTION SYSTEM	
Coliform Bacteria	Since the Spot Pond Reservoir was taken off line in September 1997, only 4 of 7254 coliform samples in community distribution systems have been positive: a 0.05% positive rate compared to the 5% standard. Once completed, storage and disinfection system improvements are expected to keep summertime bacteria to a minimum.
Disinfection Standards	MWRA easily meets disinfection CT criteria for bacteria and viruses. Facilities recently constructed by MWRA are expected to improve performance on the giardia standard to 100% by July 1998. Chlorine levels in the system continue to stay well below the current proposed not-to-exceed federal standard of 4.0 ppm. Minimum disinfection residuals in the distribution system now average very close to MWRA's target of .2 mg/l, although variability from sample to sample remains greater than MWRA's ultimate expectations, a function of the varying conditions of the community pipelines and distance from disinfection (among other factors).
Disinfection By-Products	In late January and February total THM levels have been in the range of 25-40 ppb, a slight elevation (as MWRA has predicted) over earlier levels as a result of disinfection adjustments, and still far under existing and forthcoming federal limits. The MetroWest communities (Marlborough, Southborough, Framingham and Weston) for whom chloramination facilities are being designed to substitute for rechlorination are, in the meantime, running THM levels in the 50 mg/l range, well under federal standards.
Corrosion Control	Corrosion control has improved considerably over earlier results since the start-up of the Interim Corrosion Control facility in June 1996. pH and alkalinity at the Commonwealth Avenue Pump Station average 7.8 and 30 mg/l respectively. Further corrosion control improvements must be made and are linked to completion of the covered storage programs and completion of the Walnut Hill Treatment Plant.

MWRA is committed to making readable and accurate information about water quality available to citizens, community officials, students and journalists in varying levels of technical detail. Here is some of what we can provide to you:

- *Water Quality Advisory -- February 17, 1998.* A recent summary of a briefing meeting held for the MWRA Advisory Board Operations Committee discussing recent trends, objectives and issues surrounding chloramine use in the context of ongoing improvement of MWRA's disinfection practices.
- *The Discussion About Filtration for MWRA Water: What are the Issues, What are the Facts, January 27, 1998.* This is a detailed and annotated review, organized on a topic-by-topic basis, of many of the issues raised by EPA in its public relations campaign.
- *Water Quality Update.* Monthly MWRA report covering a range of water quality parameters.
- *Executive Summary: Request for Review and Revision of DEP Determination that Filtration is Required for Wachusett Reservoir, October 1, 1997.* Summarizes current and projected status of MWRA water system compliance with regulatory standards applicable to the filtration requirement.
- *Weekly Water Quality Report.* Current data and tracking graphs used by MWRA and community system water managers and operators relating to numerous regulatory and other operating parameters for the system. Some technical familiarity with water system operations and chemistry is desirable for making full use of this data.

Where Do We Go From Here?

MWRA is now stepping up its efforts to prepare for a treatment technology decision to be made by its Board of Directors in October 1998. That decision will be based on analysis of monitoring data and results and the application of an extensive program of basic and applied research, much of it conducted with specific attention to the MWRA system. The relevant investigations of MWRA water characteristics and treatment needs began in 1993 and are in some cases already available in technical reports on which design work (for both tracks) has proceeded to date. Other investigations resulted from a major study completed in June 1997: *Walnut Hill Water Treatment Project Task 8: Integrated Water Quality Improvement Strategy Initial Assessment*. Monitoring results for coming months will be critical to establishing MWRA's compliance today (rather than in 1991 or 1993) with regulatory criteria that, if met, open the door to the consideration of a treatment technology that forgoes filtration.

MWRA appreciates that the treatment technology decision will attract wide interest and expects that the Board of Directors' preparation and deliberation for its recommendation will consider the views of public health experts, the MWRA

service area communities and their water supply and public works professionals, the MWRA Advisory Board, elected officials, an array of environmental and public health groups and interests, specialized observers like the Water Supply Citizens Advisory Committee and numerous others. The basis of the board decision, when made, is expected to provide a detailed basis for the review of that decision by state and federal officials.

Meanwhile, we emphasize that all design work and construction planning for the new Walnut Hill Treatment Plant continues to march ahead, so that the plant will be constructed without delay, whatever decision regarding filtration is reached in October.

We are pleased that the course MWRA wants to follow seems to have been endorsed, albeit a bit skeptically, by the editorial writers of the Boston Globe, who said this week:

"Officials at both the Massachusetts Water Resources Authority and the U.S. Environmental Protection Agency should continue their efforts to work out a timetable while conceding the possibility, however unlikely, that further study of the question could find the plant unnecessary."

(In any case, a major new plant will be built at Walnut Hill; the open question relates to whether the plant should include filtration facilities.)

We hope this information is helpful to you and that you will call us with questions, comments, suggestions and any requests for further information.

Sincerely,



Douglas B. MacDonald
Executive Director

Questions, comments, suggestions and requests for further information can be directed to:

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MWRA can also be reached about further publications on the Internet at www.mwra.com

Consent Communication #13

1345
Communication was received from
Douglas B. MacDonald, Exec. Director
MWRA, transmitting a news report
regarding the "Dual Track" for
selecting Walnut Hill's Treatment
Technology.

In City Council March 2, 1998

PLACED ON FILE