UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
1 CONGRESS STREET
SUITE 1100
BOSTON, MASSACHUSETTS 02203

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES.

NPDES PERMIT NO.: MA0103373

PUBLIC NOTICE DATE:

NAME AND ADDRESS OF APPLICANT:

Massachusetts Water Resources Authority
100 First Avenue
Boston, Massachusetts 02119
ATTN: John Shawcross, Director Capital Engineering

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Wachusett Lower Gatehouse, and Wachusett Aqueduct
off D'Angelo Drive
Marlborough, Massachusetts 01938

RECEIVING WATERS: Wachusett Aqueduct Open Channel and Sudbury Reservoir

CLASSIFICATION: Class A

I. Proposed Action, Type of Facility, and Discharge Location

The above named applicant has requested that the U.S. Environmental Protection Agency issue an NPDES permit to discharge into the designated receiving waters, the Wachusett Aqueduct Forebay & Open Channel eventually leading to the Sudbury Reservoir. The facility is engaged in the collection and treatment of drinking water for the Greater Boston metropolitan area.

II. Description of Discharge

The discharge into the Wachusett Aqueduct Forebay, will be raw untreated water from the Wachusett Reservoir, a Class A water. No chemicals or other materials will be added to the raw water. Figure 1 of the fact sheet shows the geographic location.

III. Limitations and Conditions

The effluent limitations and monitoring requirements may be found in the draft NPDES permit.

IV. Permit Basis and Explanation of Effluent Derivation

The Massachusetts Water Resources Authority (MWRA) is currently constructing a 405 million gallon per day (mgd) water treatment plant (WTP) at Walnut Hill, which is at the intersection of Northborough, Southborough and Marlborough. As part of this project, the Wachusett Aqueduct is being rehabilitated and the MWRA must test the Wachusett Aqueduct to ensure that it meets the design specifications before being put into service. The Wachusett Aqueduct rehabilitation is scheduled to be completed in the summer of 2002.

A start-up testing program for operation of the existing Wachusett Intake Lower Gate House and the Wachusett Aqueduct is proposed. The purpose of these tests is to ensure performance of the constructed facility with the design plans and specifications, and to provide training to MWRA staff in the operation of the facilities. In particular, flows are needed to test pressure in the aqueduct, test the hydraulic systems, and various components of the system. During this testing period, water delivered and processed through the new facilities will not be put into the MWRA's water supply. Rather, the flows will be discharged to the Wachusett Aqueduct Open Channel (also referred to as the "Open Channel") and will flow through the Sudbury Reservoir system to the Sudbury River (for a project map, see Figure 1). The Open Channel flows to the Sudbury Reservoir, Stony Brook, Foss Reservoir (#3), Stearns Reservoir (#1), and the Sudbury River downstream from these reservoirs.

Wachusett Intake Valve Testing Procedures (WHCP-1)

Pre-Tests

The Wachusett pre-testing program for the new valves at the Wachusett intake is scheduled to begin in July 2002 and to be completed by the end of the month. The valves will be pre-tested one at a time to determine if any structural or vibration problems are found. Each test will be of two-hours duration and will discharge approximately 2.5 million gallons of water per day. This is well below the discharge of up to 10 mgd, which until recently was discharged from MWRA (temporarily discontinued for construction). Therefore, this work should have no impact. An approximate total of 27.5 MG will be used to perform the pre-tests. No water treatment is required for these tests, since only Wachusett Reservoir raw water will be used.

Although there is a relatively high flow rate during the Wachusett Intake Pre-test the short duration of the tests (2 hour duration) will not produce a change to the total flow to the Sudbury Reservoir. These tests will be performed sequentially, over a period of six days but, not at the same time.

Full Scale Tests

In order to test the valves up to the anticipated operating condition full scale tests will take place in September 2002. Three separate 12-hour tests at 60, 120 and 150 mgd will be performed, and two 6-hour tests will be run. The three 12-hour tests during WHCP-1 "Wachusett Intake Startup" will result in downstream discharge flows of-

60 mgd (93 cfs) (30 mg total volume),
120 mgd (186 cfs) (60 mg total volume),
150 mgd (232 cfs) (75 mg total volume).

The two 6-hour test releases will result in downstream flows of-
120 mgd (186 cfs) (30 mg total volume), and
180 mgd (279 cfs) (45 mg total volume).

Wachusett Aqueduct Testing (WHCP-2)
The flow testing of the rehabilitated Wachusett Aqueduct will require the release of up to 240 mgd (371 cfs) of raw water from Wachusett Reservoir over a period of 15 days. The flow can be gradually increased from approximately 30 mgd to the peak flow. This "ramping up" of the flow will allow for adjustments in water temperature and acclimation of fish. The current program schedule of this test in the early fall of 2002.

General Requirements
Under Section 301(b)(1)(c) of the Clean Water Act (CWA), discharges are subject to effluent limitations based on Water Quality Standards. The Massachusetts Surface Water Quality Standards include the requirements for the regulation and control of toxic constituents and also require that EPA criteria established pursuant to Section 304 (a) of the CWA shall be used unless site specific criteria are established. The State will limit or prohibit discharges of pollutants to surface water to assure that surface water quality standards of the receiving water are protected and maintained or attained.

According to 40 CFR 122.41(l), when a permit is reissued effluent limitation, standards or conditions must be at least as stringent as effluent limitations in the previous permit unless the circumstances on which the previous permit were based have materially and substantially changed since the time the permit was issued.

Waterbody Classification and Usage
Class A waters are designated as a source of public water supply. To the extent compatible with this use they shall be an excellent habitat for fish, other aquatic life and wildlife, and suitable for primary and secondary contact recreation. These waters shall have excellent aesthetic value. These waters are designated for protection as Outstanding Resource Waters under 314 CMR 4.04(3).

Temperature and pH
The numerical limitations in the permit for temperature and pH are based on state certification requirements under Section 401(a)(1) of the CWA, as described in 40 C.F.R.124.53 and 124.55. The Massachusetts Surface Water Quality Standards contain the specific numerical limits for temperature and pH, for Class A receiving waters.

Additional instream temperature samples of the river shall be taken before testing occurs and within two days after testing is complete Samples shall be taken at the point of discharge, at the inlet and outlet of the Wachusett Aqueduct and at the inlet and outlet of the Sudbury Reservoir. Sampling results shall be reported to EPA and MA DEP in accordance with Section D. of the permit.

The temperature shall not exceed 68^0 F (20^0 C) in cold water fisheries, nor 83^0 F (28.3^0 C) in warm water fisheries, and the rise in temperature due to a discharge shall not exceed 1.5^0 F (0.8^0 C), and natural seasonal and daily variations shall be maintained. There shall be no changes in background conditions that would impair any use assigned to this Class, including site-specific limits necessary to protect normal species diversity, successful migration, reproductive functions or growth of aquatic organisms.

Turbidity
The Wachusett Aqueduct and Open Channel were originally designed to carry flows of 320 mgd or approximately 495 cfs and operated under these conditions through the 1960's. The maximum

flows from any of these tests are well below what the system was designed for and operated until that time. To minimize the potential for turbidity or other associated impacts as a result of increased flows and velocity, MWRA proposes to "ramp-up" flows over a period of days where appropriate. In addition, MWRA will lower the level in the Sudbury Reservoir prior to Wachusett Aqueduct flow testing which will allow the reservoir to absorb the testing flows and provide flood protection.

Copper

MWRA applies copper sulfate, an algaecide, to the Wachusett Reservoir twice per year on average to control levels of nuisance algae in the the water supply. All withdrawal from the Reservoir to the Aqueduct will be made at least two weeks after the application of copper sulfate. This will allow time for dispersion of it within the reservoir. It will not significantly effect water quality or aquatic life downstream during testing.

Best Management Practices Plan

Pursuant to 40 CFR 122.44(k)(4), Best Management Practices may be expressly incorporated into a permit where reasonably necessary to achieve effluent limitations and standards or to carry out the purpose and intent of the CWA. These circumstances apply to the MWRA's start-up and testing programs at the Wachusett Lower Gate House and the Wachsuett Aqueduct.

In essence, the BMP requirements direct the permittee to mitigate potential impacts to the receiving water due to temperature, and copper. The objective of BMP is to protect the local waterway by minimizing the potential of pollutants being discharged, through human error, or through equipment malfunction. In issuing such a condition to MWRA, consideration of the potential for the adverse impact on water quality and aquatic wildlife were the dominant factors. In concert with the EPA requirements, the Commonwealth of Massachusetts has also addressed the BMP's in their regulations at 314 CMR 3.02(2).

The BMP's becomes an enforceable element of the permit one month after the effective date of the permit. The BMP's, therefore, become supporting elements to the numerical effluent limitations by minimizing the discharge of any pollutants through the proper operation of the testing program. Consequently, BMP's are as equally enforceable as the numerical limits on the discharges.

V. State Certification Requirements

EPA may not issue a permit unless the Massachusetts Department of Environmental Protection (MADEP) with jurisdiction over the receiving waters certify that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. The staff of the MADEP has reviewed the permit and advised EPA that the limitations are adequate to protect water quality. EPA has requested permit certification by the State and expects that the permit will be certified.

VI. Public Comment Period, Public Hearing, and Procedures for Final Decision

All person, including applicants, who believe any condition of the permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, 1 Congress Street, Suite 1100 (CMA), Boston, Massachusetts 02114-2023. Any person, prior to such date, may submit a request in writing for a public hearing to consider the permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days

public notice whenever, the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final permit decision, any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of 40 C.F.R. §124.74, 48 Fed. Reg. 14279-14280 (April 1, 1983).

VII. EPA Contact

Additional information concerning the permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

Betsy Davis
US Environmental Protection Agency
1 Congress Street
Suite 1100 (CPE)
Boston, Massachusetts 02114-2023
Telephone: (617) 918-1576

/Signature on file/	Linda M. Murphy, Director
DATE	Office of Ecosystem Protection
	U.S. Environmental Protection Agency

Attachments - Figure 1, Map not included