



COMMONWEALTH OF MASSACHUSETTS
 EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

DEVAL L. PATRICK
 Governor

TIMOTHY P. MURRAY
 Lieutenant Governor

IAN A. BOWLES
 Secretary

LAURIE BURT
 Commissioner

Substantial Modifications To A Public Water System That Require A Permit

Effective Date: March 15, 2008

Amended Date: N/A

POLICY# DWP/Policy 08-01

Program Applicability: DWP

Supersedes Policy, SOP or Guidance #: N/A

Approved by: _____

Glenn Haas
 Acting Assistant Commissioner BRP

Date: _____

The purpose of this policy is to identify which treatment or distribution system modifications are substantial modifications to a public water system and therefore require prior written approval from MassDEP in accordance with 310 CMR 22.04.

Background and Rationale

Substantial modifications are defined in 310 CMR 22.00 as “any deviation from approved plans or specifications affecting capacity, hydraulic conditions, operating units, the functioning of water treatment processes or systems, or the quality of water delivered to consumers. This definition does not apply to cross connection control substantial modifications as defined in 310 CMR 22.22”. In addition, 310 CMR 22.04 notes “Any person proposing to construct a new public water system, operate a public water system or to substantially modify an existing public water system shall obtain the prior written approval of the Department”.

POLICY

Substantial modifications to existing public water systems require permit submittal and approval. Generally, replacement or maintenance of existing equipment is not considered as a substantial modification to the system if the new equipment meets the specifications for the old equipment and does not require modification of the existing piping or processes. However, when the maintenance of existing equipment includes changes to the operating specifications for that equipment or plant operations, it is considered a substantial modification and requires permit submittal and approval. Applications can be obtained at <http://www.mass.gov/dep/water/approvals/dwsforms.htm#top>.

Substantial modifications may also trigger a technical, financial and managerial capacity review.¹

A. Source Substantial Modification

This Policy is not applicable to modifications to sources. For information on source modifications see Chapter 4 of the Massachusetts Department of Environmental Protection (MassDEP) Guidelines and Policies for Public Water Systems as amended.

B. Treatment, Storage or Pumping Station Substantial Modifications

It is the policy of MassDEP/DWP to require public water suppliers (PWS) or their agents, who propose the following types of system modification projects, to submit a permit application for BRP WS 25, BRP WS 29 or BRP WS 34:

- Replacement of Raw or Finished Water Pumps – Any replacement that provides a different number of pumps, alters the hydraulic characteristics, or increases pumping capacity by more than 25% will be considered a substantial modification and requires submittal of a permit application.
- Replacement of Chemical Feed Pumps – Replacement of chemical feed pumps that use different controls, have more than 25% increase or decrease in capacity, or discharge to a new chemical addition point will be considered a substantial modification and requires submittal of a permit application.
- Replacement of Filter Media – Changing filter media with a different type of media, such as replacing mixed media with GAC, changing the effective size or uniformity coefficient of the media, or changing the depth of the media will be considered a substantial modification and requires submittal of a permit application.
- Replacement of Flocculator or Mixing Equipment – Replacement with new equipment using a different number of stages or with speeds 5% more or less than the existing equipment will be considered a substantial modification and requires submittal of a permit application.
- Replacement of Residuals Removal Equipment – Replacement of existing equipment with a different type of equipment, discharge to a different location, or use of a different method of disposal will be considered a substantial modification and requires submittal of a permit application.
- All modifications to chemical addition processes including location of disinfection, type of disinfectant, and addition of a new chemical will be considered to be a substantial modification and requires submittal of a permit application. Addition of a new chemical includes replacing proprietary coagulants and phosphate compounds with other chemicals that might not produce the same treatment results.

¹ A capacity review may be done independently of a scheduled sanitary survey at any time by utilizing the last available sanitary survey and all other available or requested data. **This type of review is required for all State Revolving Fund (SRF) applicants.** The drinking water program chief may also request this type of review for the following reasons:

- The system is a significant non-complier (SNC) or a potential SNC.
- The system has a major violation as determined by the chief.
- The system needs to comply with a major infrastructure requirement or has submitted plans for a major infrastructure improvement.
- The system proposes or implements a substantial modification to the system (e.g. transfer of ownership).

Source: Page 13 of the DWP Comprehensive Compliance Strategy Y/DWPWQA/CCS/Current

- All modifications to process control or SCADA systems that eliminate data storage used to satisfy monitoring/reporting requirements or change the logic of process control and vital functions (for example eliminating flow pacing of chemical addition) will be considered a substantial modification and requires submittal of a permit application. Installing new components that do not change the functionality of the system do not require a permit.

C. Distribution System Substantial Modifications

It is the policy of MassDEP/DWP to consider the following distribution modifications to be substantial modifications and require submittal of a permit application for either BRP WS 32 or BRP WS 33:

- Any changes to storage with the exception of replacing an existing hydro pneumatic tank with a new hydro pneumatic tank of equal or greater storage volume.
- Any project that includes the construction of a pump station.
- Any changes to the capacity of an existing pump station.
- Any project that will result in a 25 % increase in the system's water main pipes or an increase of 25% of the average daily water use of the current system.
- Any project that results in the replacement of at least 25% of the distribution system.
- Any distribution project that includes the addition to the PWS distribution system of a consecutive public water system as defined by 310 CMR 22.03(3) or a separate drinking water distribution system.
- Any project that incorporates a physical interconnection with another PWS or creates alternate pressure zones.

D. Other

To protect the integrity of an existing approved public water system and to ensure that all substantial modifications are being reviewed and approved as necessary, it is the policy of the MassDEP to require a PWS to annually report all system modifications or equipment replacements that were not already submitted in a permit application.

Any modifications made by a PWS that required a permit or approval from another DEP program or a local or state authority must be reported in the PWS's Annual Statistical Report.

A permit is not required for an administrative consolidation of operations for more than one PWS as long as the consolidation does not include changes to the systems' physical infrastructures. However, prior to an administrative consolidation, the PWSs must provide written notification of the consolidation plans to their MassDEP regional office. MassDEP may conduct a technical, financial and managerial capacity review.