MASSACHUSETTS

DEPARTMENT OF ENVIRONMENTAL PROTECTION

GUIDANCE FOR ABATEMENT OF POLLUTION FROM CSO DISCHARGES

August 11, 1997

Summary

1. This guidance is provided to assist permittees in assessing CSO impacts and developing CSO control alternatives which comply with the Clean Water Act and the Massachusetts Water Quality Standards.

2. As an initial and continuous control measure, Permittees are required to implement CSO controls known as the Nine Minimum Controls (NMC) as a minimum technology-based limitation. These controls provide for minimizing CSO impacts through optimizing use of existing CSO and wastewater facilities, as well as through implementation of pollution prevention, public notification, and monitoring programs.

3. All permittees are responsible for developing and implementing Long-Term CSO Control Plans (facilities plans) that will ultimately result in compliance with the Clean Water Act (CWA). The plan must evaluate the cost and performance of a range of CSO control alternatives including elimination, relocation, storage, and treatment, and also must include a public participation plan. Abatement plans may involve phased work plans with the most cost effective control given the highest priority.

4. It is the goal of the Department to eliminate the adverse impacts of CSOs. Where elimination is not feasible or would cause substantial widespread economic and social impact, the impacts of CSO discharges shall be minimized to achieve the highest water quality attainable. Highest priority will be given to eliminating or otherwise controlling CSO discharges to sensitive use areas.

5. In accordance with the EPA National CSO Policy, CSO controls which will result in achieving compliance with national goal use standards at least 95% of the time will be presumed to meet the water-quality based requirements of the Clean Water Act, provided that such a presumption is reasonable in light of existing information. Affected receiving water quality segments in this case will be identified as B_{cso} or SB_{cso} in the Water Quality Standards to note that these segments are subject to a subcategory use restriction and will be subject to minor CSO discharges. Lesser CSO controls will only be allowed where there are no sensitive uses and where CSO controls meeting this classification have been shown to be infeasible or to cause substantial widespread economic and social impact.

6. If insufficient information exists to determine the attainability of national goal use standards, permittees will be required to implement the NMC and any further controls shown to be cost-effective; a variance may then be issued for a specified period of time to allow for the development of additional water quality information where one of the criteria for removal of a use (314 CMR 4.03(4)) is met.

I. Introduction

Combined sewers are collection systems that convey both sanitary sewage and stormwater runoff. These collection systems convey dry weather flows and those portions of wet weather flows which do not exceed the capacity of the downstream interceptors or wastewater treatment facilities. Regulator structures allow excess flows to discharge to an adjacent waterbody; these discharges are considered combined sewer overflows (CSOs). Research has failed to define a best practicable technology (BPT) for these sources of pollution. Therefore best professional judgement must be used to determine abatement measures. Solutions must be site-specific in order to address a wide variety of technical and economic constraints. This guidance is adopted to define the Department's general goals; interpret water quality standards and criteria in relation to CSO abatement projects; and specify uniform evaluation procedures for facilities planning. The Department regulates CSO discharges in accordance with the Massachusetts Water Quality Standards (WQS), 314 CMR 4.00, under the statutory authority provided by MGL c.22 s.21.

Section V of this guidance is excerpted from the DEP CSO Policy and establishes the regulatory framework associated with different CSO control alternatives. This policy applies to segments impacted by the discharge of CSOs. A list of these waterbodies is included in the WQS. The list will be updated every three years as part of the scheduled readoption of the WQS and Classification of Waterbodies pursuant to the Federal Clean Water Act.

II. Goals

The Department has the following goals with regard to CSO abatement measures.

1. Elimination of receiving water impacts is the primary goal.

2. Where elimination of CSOs is not feasible, the goal is minimization of impacts to the maximum extent feasible and attaining the highest water quality achievable. In these areas the identification and protection of critical uses is essential.

III. Nine Minimum Controls (NMC)

In accordance with the 1994 EPA national CSO policy, permittees must as soon as practical implement and evaluate the effectiveness of the Nine Minimum Controls as the minimum technology-based requirement of the Clean Water Act.

The Nine Minimum Controls are

1. Proper operation and regular maintenance programs for the sewer system and the CSOs;
2. Maximum use of the collection system for storage;
3. Review and modification of the pretreatment program;
4. Maximization of flow to the Publicly Owned Treatment Works (POTW) for treatment;
5. Prohibition of CSOs during dry weather;
6. Control of solids and floatable materials from CSOs;
7. Pollution prevention programs;
8. Public notification to ensure that the public receives adequate notification of CSO discharges and their impacts, and;
9. Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

Permittees will be required to submit information detailing the implementation of actual control measures and subsequently additional

information on the degree to which the NMC achieve compliance with water quality standards. Additional guidance on the NMC is contained in the EPA *Guidance for Nine Minimum Controls.*

IV. Long-term CSO Control Plan

A. General

Permittees are responsible for the development of a Long-Term CSO Control Plan which must ultimately result in compliance with the Clean Water Act and applicable Water Quality Standards (WQS). This CSO Plan is the critical vehicle for determining appropriate CSO controls and will also form the basis for any necessary administrative reclassifications of receiving waters. The planning effort should include considerable stakeholder input and the permittee should work closely with regulatory agencies so that the plan will be consistent with basin-wide watershed management efforts. The Department does not attempt to specify uniform treatment levels for CSO discharges. Instead, in accordance with the 1994 EPA National CSO Policy, the Department requires an evaluation of potential CSO controls and their impacts in the long-term plan. The long-term plan must include the following elements:

1. Characterization, monitoring and modeling of the CSO system and the receiving waters as the basis of selection and design of effective CSO controls. The characterization should be watershed-based to the extent possible, so that it presents a site-specific determination of the relative impacts of CSO and non-CSO discharges on water quality.

2. A public participation process which includes at a minimum one public meeting to discuss CSO control alternatives and one public hearing on the recommended plan. The permittee must also satisfy the requirements of the Massachusetts Environmental Policy Act (MEPA), 301 CMR 11.00, regarding public review of the project. Additional public participation is often warranted in major and complicated projects.

3. Consideration of sensitive use areas as the highest priority for eliminating or otherwise controlling CSOs.

4. A detailed evaluation of CSO control alternatives which will enable the permittee in consultation with regulatory agencies and the public to select CSO controls which will meet CWA requirements.

5. Cost/Performance considerations to compare and evaluate the cost-benefit of a range of CSO control alternatives. Performance of CSO control alternatives should be based on pollutant reductions to be achieved and water quality benefits.

6. An Operation and Maintenance Plan to minimize CSO impacts from recommended control facilities where CSOs will not be eliminated.

7. Maximization of treatment at the existing POTW for wet weather flows.

8. An implementation schedule, which reflects the adverse impacts from CSOs upon WQS and designated uses, and the cost-benefit of recommended CSO controls.

9. A post-construction compliance monitoring program adequate to verify compliance with water-quality based requirements of the Clean Water Act and ascertain the effectiveness of CSO controls.

As noted in section III of this CSO guidance, each permittee will be required initially to minimize discharges from CSOs and their resultant impacts on water quality by implementation of the Nine Minimum Controls.

B. CSO Control Alternatives

As the ultimate goal of the plan is to achieve compliance with the CWA, the permittee should work with regulatory agencies and the public during the planning process to establish receiving water quality goals and associated CSO control goals based on the use designations and regulatory options contained in the water quality standards. The planning effort should be consistent with the Department's watershed-based approach to assessing and managing water resources, and the cost/benefit analysis of a range of CSO control alternatives should be evaluated considering their relative impacts on water quality and impairment of uses. The range of CSO control alternatives considered should include the following alternatives.

a) Nine Minimum Controls

The NMC, which include collection system and source controls, are required for all CSO permittees and therefore constitute the baseline level of CSO control. In some areas, the NMC may be significant in eliminating or controlling CSOs to the extent that water quality goals and uses can be attained. While this is not normally the case, the long-term plan should evaluate the degree to which the NMC achieve compliance with standards to establish a baseline from which to compare the costs and benefits of higher level CSO controls.

b) Elimination/Relocation

Since there is no finite limit to the magnitude and duration of a precipitation event, CSO controls can only lower the probability of untreated overflows, not eliminate them entirely. CSO discharges therefore can only be eliminated by complete sewer separation. Sewer separation must be considered initially in all CSO-impacted areas and evaluated to determine if it is feasible. Once it has been demonstrated to the Department that elimination of CSO discharges is not feasible, the relocation of CSOs should be evaluated. Relocation alternatives must be examined on a system-wide basis so that the maximum recovery of water uses is achieved, including the protection of critical uses.

c) Storage Technologies

Storage technologies include in-line storage (in the existing collection system), off-line near surface storage with construction of tanks or other facilities, and deep tunnel storage. In each instance, flows are stored until the storm event is over and the stored flows are then pumped to the treatment facility when capacity is available to treat these flows. A range of storage volumes should be considered based on flows from a number of different storm events (3-month, 6-month, 1-year, etc.) and the hydraulic capacity of the combined sewer system. Physical constraints at storage sites should also be considered. The level of CSO control necessary to meet receiving water goals and uses and the overall cost/benefit of alternatives are critical factors in determining appropriate storage alternatives.

d) Treatment Technologies

Treatment technologies for CSO discharges are intended to reduce pollutant loadings to receiving waters from remaining CSO discharges and include screening, solids removal, disinfection, and other associated unit operations. Treatment alternatives, like storage, need to be sized in relation to the flows from different storm events and hydraulic conditions, and as noted above, a range of storms and flows should be considered in evaluating the design and performance, as should any siting constraints as well. Again, the critical factor in assessing these alternatives is evaluating the cost and the extent to which the treatment alternatives serve to achieve water quality goals and uses.

e) Collection System Controls

Collection system controls include interceptor relief, partial sewer separation, or other system modifications which reduce CSO volume and frequency by removing or diverting runoff, maximizing the volume of flow stored in the collection system, or maximizing the capacity of the collection system to convey flow to a treatment facility. These controls can significantly reduce CSO impacts and are often used in combination with other CSO controls to optimize the long-term control plan.

C. Evaluation of Alternatives

(1) *Sewer Separation*

Permittees will be required to eliminate CSOs through sewer separation in all areas where such action is determined to be feasible and will not cause "widespread social and economic impact" as noted in CMR 314 4.03(4)(f). The Department shall base a determination of widespread social and economic impact on the following factors:

- Costs of Separation: The costs of separation must be evaluated to determine if the impacts on ratepayers are excessive using EPA's *Economic Guidance for Water Quality Standards.*

- Benefits of Separation: The water quality benefits of the sewer separation program should be quantified with the goal of attainment of designated uses. When determining the benefits to be achieved, potential interactive and overlapping pollution sources such as discharges from the storm drain system after separation may be taken into account. This assessment of benefits should include a site-specific assessment of the impacts of the separation program and shall include a reasonable estimation of stormwater and other non-CSO pollutant loads.

- Protection of Sensitive Uses: Sensitive uses, including bathing areas, shellfishing areas, water supply sources, and endangered species habitats should be afforded maximum protection. If CSOs are not completely eliminated in these areas, other alternative CSO controls or combinations of controls must provide an equivalent or higher level of environmental benefit, and result in greater attainment of national goal use standards.

In general, the department will make a finding that sewer separation will cause widespread social and economic impact when a project exceeds the affordability guidelines included in the EPA *Economic Guidance for Water Quality Standards*; or when costs are determined to be excessive when compared to water quality benefits to be achieved; or where alternative CSO controls are demonstrated to provide superior environmental benefits to a receiving water in supporting existing and proposed uses and associated water quality standards. In these instances, the alternative CSO controls will normally provide significant abatement of not only CSO loads, but stormwater loads as well, which have in some areas been identified as a major cause of water quality standard violations.

(2) *Cost Benefit of Alternatives*

A key aspect of evaluating the range of CSO control alternatives is quantifying the water quality benefits and costs of each alternative. Quantification of the benefits of any CSO control alternative should reflect the extent to which the controls allow or contribute to attainment of national goal use standards and existing uses. Such a quantification normally relies on an assessment of CSO and non-CSO loads to the impacted receiving waters and a sewer system/receiving water model to predict the water quality impacts of

the various CSO control alternatives. The following methods can be used to demonstrate the benefits of CSO control alternatives:

- a presentation of the average annual duration and volume of CSO discharges for each alternative.

- model outputs which estimate the duration of violations of water quality standards (e.g. fecal coliform, dissolved oxygen) for a range of storm events as well as on an annual average for each alternative.

- model outputs which estimate the frequency and duration of beach closures or shellfish bed closures or loss of other uses for each alternative, where these uses are impacted by CSO discharges.

- a presentation of the average annual pollutant loads removed and associated costs for the range of CSO control alternatives.

The level of CSO control provided in each case should be the highest feasible CSO control, and achieve the highest water quality classification reasonably attainable. The evaluation should include a comparison of the costs, performance, and technical considerations of all alternatives or combination of alternatives. In complex situations, the abatement plan should identify the most critical resources and the cost/benefit of the controls in establishing an implementation plan which affords the greatest improvement in water quality. This often involves a phased implementation plan.

(3) *Sensitive Use Areas*

While this guidance includes a description of the general procedures to be used in evaluating CSO controls, it is not intended to replace best professional judgement when considering site-specific factors in the determination of reasonable, feasible, and appropriate CSO controls. The most important site-specific factors governing these judgements are the actual and projected receiving water uses in a segment. The Department expects that each permittee will afford the highest priority in its long-term CSO control plan for eliminating or otherwise controlling CSOs in any receiving waters where critical uses have been identified. These include water uses that relate to public health or welfare, such as public water supply sources, shellfish harvesting areas, public bathing areas, endangered species habitats, and other areas of ecologic or economic concern which are identified as critical uses through the facilities planning and public participation process. In each case the goal shall be to eliminate the CSOs in these areas and where this is infeasible, to minimize their impacts.

In many instances, these sensitive use areas will also fall within the purview of other state agencies, who may also impose regulatory requirements. These agencies include, but are not limited to: DEP Division of Water Supply; Department of Public Health; and the Department of Fisheries, Wildlife, and Environmental Law Enforcement. Where CSO impacts fall within the purview of these or other state agencies, these agencies must be included in the review of the long-term CSO control plan, and DEP will consult these agencies during the review and approval process.

V. Regulatory Framework

CSO discharges are regulated by the Commonwealth in several ways. Like any discharge of pollutants, CSOs must have an NPDES/MA Surface Water Discharge Permit under federal regulations and 314 CMR 3.00. Permit procedures are described in 314 CMR 2.00. Municipalities and districts seeking funding for wastewater treatment, including CSO abatement, must comply with the facilities planning process at 310 CMR 41.00. Entities obtaining funding or exceeding specific thresholds must also comply with the Massachusetts Environmental Policy Act regulations at 301 CMR 11.00. Each of these regulations contain substantive and procedural requirements. Because both MEPA and facilities planning require the evaluation of alternatives, these processes are routinely coordinated.

Any permit for a CSO discharge must require compliance with Massachusetts Surface Water Quality Standards at 314 CMR 4.00. States are responsible for promulgating water quality standards under the federal Clean Water Act and parallel state laws. Water quality standards contain classifications of water bodies, designation of uses, criteria to protect the uses, and antidegradation provisions.[1] The water quality standards establish goals for waters of the Commonwealth, and provide the basis for water quality-based effluent limitations in NPDES permits. Any discharge, including CSO discharges, is allowed only if it meets the criteria and the antidegradation standard for the receiving segment.

Regulatory Options for CSOs

The CSO Policy describes a hierarchical "menu" of options within the Surface Water Quality Standards to accommodate the range of situations in which CSOs are found. The appropriate regulatory option for each CSO will be chosen based on the frequency and impact of each overflow, with public participation as an integral part of permit issuance. The Policy encourages cost-effective options that promote progress toward water quality goals while avoiding, where possible, the downgrading of water bodies on a permanent basis. Regulatory options for CSOs include:

- Class B or SB - CSOs are eliminated.
- Class B(CSO) - CSOs remain but must be compatible with water quality goals.
- Variance - CSOs remain when allowed under a short term modification of water quality standards through an NPDES/MA permit.
- Partial Use Designation - CSOs remain with moderate impacts resulting in intermittent impairment of water quality goals.

[1] Water bodies are classified as A, B, or C (SA, SB, or SC for marine waters). All waters in Massachusetts are currently classified either Class A (source of public water supply) or Class B ("fishable/swimmable"). Numeric or narrative criteria are established for each water body. Antidegradation provisions protect the designated and existing uses of waters. Uses of water bodies include habitat, recreation, fishing, or water supply.

- Class C - CSOs remain, causing permanent and sustained impairment so that Class B water quality goals cannot be met.

Revisions to DEP's Surface Water Quality Standards were made in 1995 to establish this system for efficient and effective regulation of CSOs. The "menu" enhances flexibility for permittees, minimizes demands on the Department's administrative resources, provides equivalent environmental protection with less process, and ensures the highest level of public health and environmental protection consistent with the realities of CSO abatement.

The Department will base its decision to identify a segment as B(CSO), to issue a variance, to issue a partial use designation, or to change the classification to Class C, on one or more of the reasons stated at 314 CMR 4.03(4)[2]. Generally, a decision to allow CSO discharges to continue will only be made if the Department finds that more stringent controls would lead to substantial and widespread economic and social impact as determined by a cost/benefit analysis. The Department may, but is not required to, allow CSO discharges when a facility can demonstrate its eligibility based on one or more of the reasons stated in the regulations.

The public notice and hearing requirements that apply to all Department regulatory changes will be observed prior to the promulgation of any additional revisions to the Surface Water Quality Standards for implementation of the Policy. Revisions to the Water Quality Standards will be required to establish a partial use designation or downgrade to Class C.

Relationship to EPA CSO Control Strategy and the NPDES Regulations

EPA's 1994 CSO Control Policy revised some features of its 1989 version to provide greater flexibility by allowing a minimal number of overflows which are compatible with the water quality goals of the Clean Water Act. DEP's 1995 regulatory revisions correspondingly decreased reliance on partial use designation as the sole regulatory vehicle to support CSO abatement plans[3].

In all cases, NPDES/MA permits will require the nine minimum controls necessary to meet technology-based limitations as specified in the 1994 EPA Policy. The nine controls may be summarized as; operate and maintain properly; maximize storage, minimize overflows, maximize flows to Publicly Owned Treatment

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[2] 314 CMR 4.03(4) allows the removal of a use that is not an existing use, a partial use designation, or a variance if the applicant demonstrates that:
"(a) Naturally occurring pollutant concentrations prevent the attainment of the use; or
(b) Natural, ephemeral intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met; or
(c) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
(d) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
(e) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
(f) Controls more stringent than those required by sections 310(b) and 306 of the Federal Water Pollution Control Act (33 USC § 1251 et seq.) would result in substantial and widespread economic and social impact."

[3] DEP's 1990 CSO Policy was based on EPA's 1989 CSO Control Policy and established the goal of eliminating adverse impacts from CSOs, using partial use designation where removal or relocation was not feasible. The three month design storm was identified as the minimum technology-based effluent limitation, which would result in untreated overflows an average of four times a year. Abatement measures to meet these minimum standards were necessary for a CSO discharge to be eligible for partial use designation. Presumably, all CSOs exceeding this standard required downgrading to Class C or SC status. No partial use designations or downgrades to Class C were actually made, but the process was perceived as administratively cumbersome.

Works (POTW), prohibit dry weather CSO's, control solids and floatables, institute pollution prevention programs, notify the public of impacts, and observe monitoring and reporting requirements. The nine minimum controls may be supplemented with additional treatment requirements, such as screening and disinfection, on a case-by-case basis.

EPA allows the issuance of a variance or the removal of a use in certain circumstances, which were incorporated into the Department's regulations in 1995 (see footnote 2). EPA regulations also generally govern the content of, and establish an approval process for, state water quality standards.

The Department's goal is to eliminate adverse CSO impacts and attain the highest water quality achievable. Separation or relocation of CSOs will be required wherever it can be achieved based on an economic and technical evaluation. The facilities planning process is designed to provide the requisite technical and economic analysis to determine whether elimination of CSOs is feasible, to provide a basis for determining which abatement measures should be implemented for CSOs which will not be eliminated, and for determining an appropriate schedule for all CSO abatement activities.

* **Class B or SB**

Where CSO discharges are eliminated through sewer separation or relocation, receiving waters may be designated as B or SB.

* **Class B (CSO) or SB (CSO)**

Where elimination of CSOs is not economically feasible and the impacts from remaining CSO discharges will be minor, the segment will be identified as B(CSO). Although a high level of control will be achieved, Class B standards may not be met during infrequent, large storm events. Overflow events may be allowed without a variance or partial use designation, provided that certain conditions are met. The 1995 revisions to the regulations created the B(CSO) water quality category by establishing regulatory significance for the notation "CSO" shown in the "Other Restriction" column at 314 CMR 4.06 for impacted segments. When the conditions have been met, the B(CSO) identification is given regulatory force[4].

An identification of B(CSO) will be made only after the Department has approved a facilities plan showing that minor CSO discharges are the most environmentally protective and cost-effective option available. Generally, eligibility for Class B (CSO) status is limited to discharges which can meet national goal use standards more than 95% of the time, but the highest level of control must always be achieved for each case as determined in the facilities plan through a cost/benefit analysis. The Department will prepare a Use Attainability Analysis[5], based on the facilities plan, to document that achieving a higher level of CSO control is not feasible or appropriate. Priority will be given to relocating or eliminating CSOs in sensitive areas such as Outstanding Resource Waters, bathing areas, water supply intakes, endangered species habitat and shellfish beds.

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[4] 314 CMR 4.06(1)(d)(10) notes that waters have been individually identified as impacted by CSOs in the water quality standards. Overflow events may be permitted without a variance or partial use designation provided that four conditions are met: "a. an approved facilities plan under 310 CMR 41.25 provides justification for the overflows; b. the Department finds through a use attainability analysis, and EPA concurs, that achieving a greater level of CSO control is not feasible for one of the reasons specified at 314 CMR 4.06(3);
c. existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected; and
d. public notice is provided through procedures for permit issuance or facility planning under M.G.L. c. 21 §§ 26 through 53 and regulations promulgated thereunder pursuant to M.G.L. c. 30A. In addition, the Department will publish a notice in the Environmental Monitor."

[5] A Use Attainability Analysis (UAA) scientifically assesses physical, chemical, biological, and economic factors affecting a use. The analysis also evaluates whether a designated use could be attained if CSO controls were implemented (e.g. reduction of sediment loading from CSOs to prevent burial of spawning areas).

Public notice of the identification of B(CSO) segments will be provided through the public participation process that is already an important component of permit issuance. In addition, whenever a facilities plan is prepared for CSO facilities, the public participation procedures of 310 CMR 41.00 will be followed. Each includes notice of the project and an opportunity for a public hearing. In addition, a notice will be provided in the Environmental Monitor. The Department may provide other means of affording public comment at its discretion, whether upon its own initiative or upon request from interested parties.

*** Variances**

Variances are short term modifications in water quality standards. Unlike partial use designations, variances are both discharger and pollutant specific, are time-limited, and do not forego the currently designated use. A variance allows the NPDES permit to be written to the "modified" water quality standard as analyses are conducted and as progress is made to improve water quality. A variance will be used were long-term attainability of the standard is uncertain, the CSO abatement plan includes phased implementation and/or the Department believes the standards may ultimately be attained. With a variance, NPDES/MA permits may be written such that reasonable progress is made toward attaining the standards without violating section 402(a) (1) of the federal Clean Water Act, which requires that NPDES permits meet the applicable water quality standards. Where a variance is issued, permittees will be required to implement the Nine Minimum Controls and any additional controls shown to be cost-effective in the cost/benefit analysis.

The justification for a variance involves the same substantive requirements as apply to a permanent change in the standard (see footnote 2), although the showings needed are less rigorous. However, unlike a downgrade to partial use or Class C, variances maintain the currently designated use. Therefore, a variance does not require a formal Use Attainability Analysis under EPA's water quality program. Additionally, the standard for the segment will be modified only for the permittee receiving the variance, while clearly maintaining the higher standard for other discharges. By maintaining the standard rather than changing it, the state will assure that further progress is made in improving water quality and attaining the standard, particularly when there is uncertainty about the success of a proposed control strategy.

The Department will use the permit as the vehicle to grant the variance. Notice of the permit will clearly state that the variance temporarily modifies the state's water quality standards. Variances are normally reviewed every three years, and may be codified in the water quality standards at the next triennial review. In comparison, the partial use designation is also reviewable during each triennial review, but reflects the state's determination based on a higher degree of certainty that uses cannot consistently be achieved.

*** Partial Use Designation**

Where the Department is certain that uses or standards cannot, and will not, be met on a permanent but intermittent basis, a partial use designation may be granted for specific segments through a regulatory revision. Partial use is the term used to describe waters occasionally subject to short-term impairment of uses, but which generally support those uses. Generally, short-term impairment means that the standards are met at least 75% of the time, but the permissible level will be determined through the facilities planning process on a case-by-case basis. Partial use can be defined by season or a particular storm event when a use such as swimming will be unattainable in CSO impacted waters. The use must be fully protected downstream, in other seasons, or smaller storm events.

The Department may find that an applicant has demonstrated that a use is not attainable under circumstances identified in the regulations at 314 CMR 4.03(4) (see footnote 2). Information to support a designation will be developed largely in the Environmental Impact Report or the Facilities Plan. The information contained in the facilities plan and available watershed plans will include most information necessary for the Use Attainability Analysis (see footnote 4) which must be submitted to EPA prior to the designation.

*** Class C**

Some CSOs may discharge to segments where designated uses cannot and will not be achieved on a permanent basis in the foreseeable future. These segments are candidates for a change in classification from Class B or SB to Class C or Class SC. A Use Attainability Analysis would be required for the change in classification. Downgrade to Class C is the undesirable option of last resort.

VI. Administrative Procedures

A. NPDES Permitting

As CSO discharges are defined as a point source under the Clean Water Act and the Massachusetts Water Quality Standards, an NPDES Permit must be issued jointly by EPA and DEP for these discharges. The NPDES Permit will set forth the requirements for implementation and assessment of the Nine Minimum Controls (NMC) and the requirement for developing a Long-Term CSO Control Plan. These permitting requirements will normally be carried out in two phases. The Phase I Permit will require the permittee to implement and document the NMC and develop a Long-Term CSO Control Plan. The Phase II

Permit will require continued implementation of the NMC and also implementation of the Long-Term Control Plan. Where necessary and appropriate, permits will include water-quality based effluent limits to comply with receiving water classifications. The permit provisions may include a maximum number of overflows, effluent limits, a specification of minimum treatment or capture, or other measures to ensure compliance with water quality standards. These permit limits may be conditioned on storm events so as to account for the possibility of multiple extreme storm events in a single year. NPDES permits for CSO discharges will continue to be required in all areas where CSOs are not elimintated, regardless of receiving water classification. The public participation requirements set forth in 314 CMR 2.00 are a necessary and important part of the permitting process.

B. Receiving Water Classifications

As indicated in the regulatory framework, there are a range of potential classifications for waters impacted by CSO discharges. The Long-Term CSO Control Plan, which includes a public participation process, is the critical step in determining water quality-based control measures that are technically feasible, affordable, and which comply with state water quality standards. The selection of the appropriate regulatory option will be based on information compiled in the long-term plan and other watershed information, which must demonstrate that the plan will achieve compliance with specific classifications. If a change in classification is necessary for implementation of the recommended plan, the permittee must request such action from the Department, and the requisite level of CSO control must be documented in the plan. The department will work with the stakeholders and permittee throughout the process to provide guidance.

Figure 1 summarizes the administrative procedures necessary for regulatory classification of CSO-impacted receiving waters. In all cases where CSOs will remain active, a NPDES permit will be required as noted above. In addition, a Use Attainability Analysis (UAA) is also required where CSO discharges will remain except where a variance for CSO discharges will be issued. The substance of the UAA, which presents a scientific and socio-economic assessment of factors affecting a use, must be developed in the Long-Term CSO Control Plan. The UAA is prepared by the Department, submitted to EPA and must be approved prior to any further action to reclassify a segment.

Where the permittee requests that a receiving water be downgraded to a $B_{partial}$ or C classification, the permittee must additionally demonstrate that meeting the B(CSO) level of control is unfeasible based on an evaluation of the costs, benefits to be achieved, and in consideration of existing and projected uses of the receiving water. The Department in this case shall provide public notice and the opportunity for a public hearing in accordance with MGL c. 30A.

C. Public Participation

Participation by stakeholders is an important part of the administrative requirements of CSO control programs. DEP has established procedures for public participation in the following areas:

(1) Long Term CSO Planning

Public participation during the long-term CSO planning is critical since development of the long-term plan will encompass a technical, financial, and environmental evaluation of CSO control alternatives, and information in the plan will form the basis of most of the regulatory decisions. DEP requires a minimum of one public meeting to discuss CSO control alternatives and one public hearing on the recommended plan. However, most, if not all, CSO planning efforts include substantially greater public participation, including

frequent progress meetings, citizens advisory groups, and other public meetings to educate and inform stakeholders on CSO planning issues. DEP strongly encourages permittees to have extensive public participation opportunities in the planning process since acceptance by stakeholders is a critical factor in the implementability of any CSO control alternative.

(2) Water Quality Standards/Regulatory Changes

Where a change in classification of a receiving water is proposed, DEP will allow for public comment. In the case of B(CSO), notice will be made in the *Environmental Monitor*. In the case of a formal downgrade to $B_{partial}$ or C, DEP must also hold a public hearing pursuant to MGL c. 30 for a regulatory revision.

Additionally, EPA requires that DEP review and update the state water quality standards every three years. An important part of this process is holding a public hearing to receive public comment on the regulatory standards and designations for all receiving waters statewide. In cases where DEP is proposing significant changes associated with CSO impacts, DEP will hold public hearings in the areas of impact.

(3) NPDES Permits

Where CSO discharges will not be eliminated, a NPDES/MA Surface Water Discharge Permit is required under federal regulations and 314 CMR 3.00. DEP will issue public notice of all permit proceedings and will hold a public hearing on draft permits for CSO permittees to allow for public comment. At the time of issuance of the final permit, DEP shall also issue a response to comments.

(4) MEPA

CSO control programs are also subject to the requirements of the Massachusetts Environmental Policy Act (MEPA). The MEPA regulations, 301 CMR 11.00, specify a public review process for projects which may have environmental impacts. In nearly all cases, proponents of a CSO control plan will need to file an Environmental Notification Form (ENF) and subsequently an Environmental Impact Report (EIR) to provide an evaluation of impacts and an opportunity for public comment. Where DEP proposes to downgrade a receiving water, to $B_{partial}$ or C, DEP will make a MEPA filing in this regard as well.

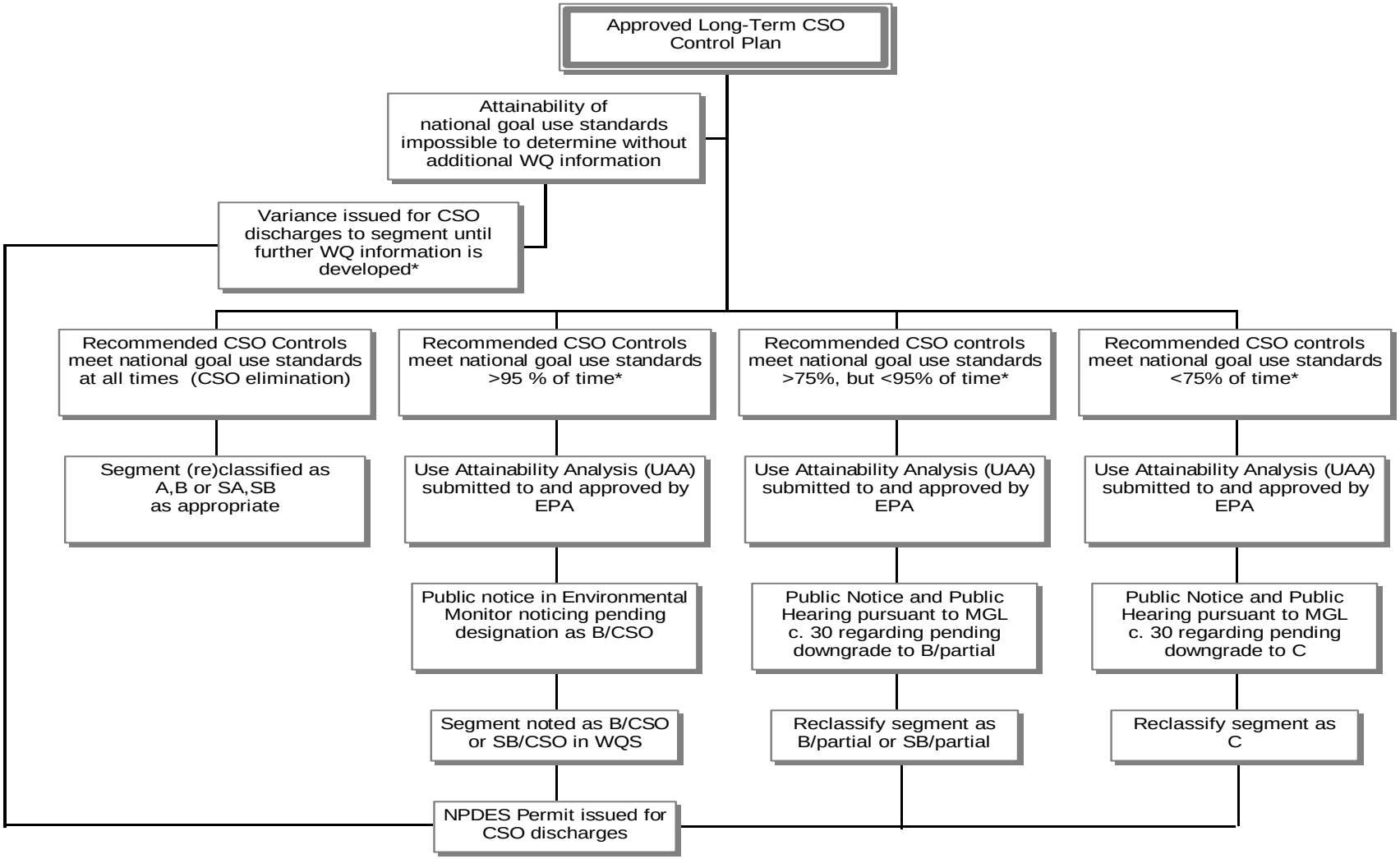
VII Contacts

Permittees and stakeholders may contact the following agencies for additional information and guidance on CSO regulatory issues:

MA Department of Environmental Protection
Bureau of Resource Protection
One Winter Street
Boston, MA 02108
(617) 556-1172

Environmental Protection Agency - Region 1
Office of Ecosystem Protection
One Congress Street
Boston, MA 02202
(617) 565-3478

Figure 1
CSO Controls - WQS Coordination



*One of the criteria of 314 CMR 4.03(4) must be met

REFERENCES

1. Massachusetts Surface Water Quality Standards, 314 CMR 4.00

2. Massachusetts Surface Water Discharge Permit Program/Permit Procedures 314 CMR 2.00 - 3.00.

3. EPA Combined Sewer Overflow Policy, Federal Register Vol. 59, No. 75 Environmental Protection Agency, April 19, 1994.

4. Guidance for Long-term Control Plan, Environmental Protection Agency, August 1995.

5. Guide to Comprehensive Wastewater Management Planning, Department of Environmental Protection, January 1996.