Combined Sewer Overflows Position Statement

Approved by PWEA on December 15, 2022

PWEA Mission Statement

Advancing Pennsylvania's water quality professionals through education and training, promoting sound sustainable water policies, and fostering public stewardship of our water resources.

Background

A combined sewer system is a system which has been designed to serve as both a sanitary sewer and storm sewer system. Combined sewer overflows (CSOs) are intermittent overflows or other untreated discharge from a combined sewer system (including domestic, industrial and commercial wastewater and stormwater) which result from a flow in excess of the carrying capacity of the system. Typically overflows occur during wet weather events as flows from stormwater sources, such as roof leaders, sump pumps, impervious surface drains and catch basins enter the combined sewer system at a rate in which the carrying capacity of the system is exceeded. Less frequently, CSOs can occur when a blockage occurs in the system resulting in overflow structures directing untreated flow into receiving waters, thereby bypassing treatment facilities designed to protect water quality.

CSOs differ from other point source discharges in that they occur only intermittently. The impacts of CSO discharges depend on such diverse factors as watershed characteristics; nature of the pollutants; variability of rainfall intensity and duration; condition, volume, and flow rate of the receiving water during the storm; location of the overflow; and use of the receiving water body. Each storm event may have a different impact on water quality. Typically, a CSO discharge is far more dilute than a sanitary sewer overflow.

Construction of combined sewer systems was common practice when a lot of the Pennsylvania infrastructure was originally constructed; however, in recent years public attention has been focused on their impacts to the receiving waters during overflow events. A national strategy to address CSOs was first released by the U.S. Environmental Protection Agency (USEPA) in 1989 and an Update to the Policy was released in 1994. The Water Environment Federation, our national organization, believes the strategy is essentially sound, but legislation is needed to support the strategy with a wider regulatory framework.

In response to the 1994 USEPA CSO Control Policy, the Pennsylvania Department of Environmental Protection (PADEP) adopted a CSO Strategy in 1996 which was later updated in 2002 and 2010. The PADEP CSO Control Policy is essentially consistent with the federal policy.

PWEA's legislative recommendations for CSOs are presented in terms of water quality standards, minimum technology requirements and compliance and enforcement.

Water Quality Standards

Existing state water quality standards typically are inadequate for addressing wet weather conditions. New standards are needed under the authority of the Clean Water Act which recognize the intermittent nature of CSO events and the impacts that conditions in tributary areas have on wet weather stream conditions. Standards should reflect accurately the impact of discharges on receiving water during and immediately after a storm event or snowmelt. EPA should have primary responsibility for ensuring development of wet weather criteria and should fund needed additional water quality research. Comprehensive watershed plans should allow for development of wet weather standards which reflect reasonable efforts to allow for intermittent and minimum deviations of stream criteria due to CSO and stormwater discharges so that the costs of control correspond with the water quality improvements attained.

Monitoring is needed to characterize CSO discharges and evaluate their impacts on water quality. Monitoring wet weather conditions is more difficult than normal effluent monitoring due to the varying conditions. Selected CSO control technologies and/or point of discharge measurements should be the basis for compliance monitoring until more reliable dynamic stream response models are developed and implemented. Accurate characterizations at representative CSO discharge points that are contributing to water quality degradation are necessary in order to establish a baseline for measuring future progress in meeting abatement targets. Initial monitoring data should not be used as a basis for enforcement action.

Minimum Technology Requirements

PWEA encourages the use of the technology based Nine Minimum Controls (NMC) Plans and the water quality based Long Term Control Plans (LTCP) as outlined in the USEPA CSO Control Policy and Technical Guidance and PADEP CSO Control Policy. These standards should rely on best professional judgment and site-specific factors.

CSO communities are encouraged to explore green and grey alternatives to addressing their specific combined sewer system, including combinations of green and grey alternatives, and implement those alternatives that are most viable.

USEPA is encouraged to render updated technical guidance with regards to NMC Plans and LTCP to clarify the requirements of the “presumptive” and “demonstrative” approach to ensure that a level playing field is being used and water quality goals are truly achieved at the federal and state level.

Compliance and Enforcement

CSO programs should continue to be implemented through the NPDES permit program under authority provided in the Clean Water Act. Flexibility to address individual or regional systems should continue to be maintained within the present system. Municipalities and municipal authorities should be urged to undertake public education programs directed toward reducing the introduction of hazardous residential and commercial materials into sanitary and storm systems.

Current regulations in Pennsylvania regarding CSO discharges are minimal. The PADEP CSO Control Policy requires that CSO dischargers must implement the NMC Plan and LTCP developed pursuant to the USEPA Technical Guidance and approved by PADEP. PADEP has created a General Permit (PAG-06) for small satellite CSO systems that meet other restrictive requirements, but most CSOs are regulated through the NPDES permit process on a case-by-case basis. Generally, CSO discharges are required to be monitored, but no specific monitoring requirements or discharge limitations are imposed other than implementation of the NMC Plan and LTCP practices. PWEA favors an approach to CSO regulation that incorporates an evaluation of the actual impact on the immediate receiving waters.

Recognizing that CSO modification and reduction measures can be extremely costly, PWEA advises that CSO control plans should consider the contribution that the implemented plan will have on improving the impacted waters on a site specific basis, the affordability of the plan, and the impact that the plan will have on the CSO community in each case. Unless an appropriate amount of federal and state resources is devoted to this issue, local municipalities and municipal authorities may be saddled with massive financing needs to achieve water quality standards through CSO control improvements which may result in a significant burden to rate payers and taxpayers. The goal of achieving water quality standards must be pursued, but not at an unreasonable and unreasoned cost.