DRAFT MEMORANDUM

FROM: Benjamin H. Grumbles, Assistant Administrator
Office of Water

TO: Regional Administrators, Region I-X
Granta Y. Nakayama, Assistant Administrator
Office of Enforcement and Compliance Assurance

SUBJECT: National Pollutant Discharge Elimination System Permit Requirements for Peak Wet Weather Discharges from Publicly Owned Treatment Works Treatment Plants Serving Separate Sanitary Sewer Collection Systems

Introduction

Many municipalities currently have situations in which high peak influent flows during significant wet weather events exceed the treatment capacity of existing secondary treatment units. In these situations, wet weather flows are sometimes diverted around secondary treatment units and then either recombined with flows from the secondary treatment units or discharged directly into waterways from the treatment plant. This policy only applies to peak wet weather diversions around secondary treatment units that occur at publicly owned treatment works (POTW) treatment plants serving separate sanitary sewer systems that are recombined with flow from the secondary treatment unit. The process by which wet weather diversions can be approved in National Pollutant Discharge Elimination System (NPDES) permits for POTW treatment plants serving combined sewer systems was previously outlined in the 1994 CSO Policy, 59 Fed Reg. 18,693-18,694 (April 19, 1994). Nothing in this policy addresses the requirements for POTW treatment plants serving combined sewer systems.

While EPA recognizes that peak wet weather flow diversions around secondary treatment units at POTW treatment plants serving separate sanitary sewer conveyance systems may be necessary in some circumstances to prevent temporary loss of function of secondary treatment units, the Agency and stakeholders have been concerned for some time that peak wet weather flow diversions could have adverse environmental or public health impacts because of the higher expected pollutant load of diverted flows.

Accordingly, EPA strongly discourages reliance on peak wet weather flow diversions around secondary treatment units as a long-term wet weather management approach at a POTW treatment plant serving separate sanitary sewer conveyance systems and that such diversions should be minimized to the maximum extent feasible taking into account the factors discussed in this policy. EPA anticipates that, over time, the need to undertake peak wet weather flow diversions at POTW treatment plants serving separate sanitary sewer conveyance systems can be eliminated from most systems in a variety of ways, such as by enhancing storage and treatment capacity and reducing sources of peak wet weather flow volume. EPA expects that aggressive efforts by POTW treatment plant operators in consultation with NPDES authorities can lead to dramatic reductions in the volume and duration of peak wet weather flows and can improve the treatment and quality of peak wet weather flow discharges. EPA also believes that the involvement of the general public will improve the assessment of various options to minimize peak wet weather flow diversions.

In recent years there has been substantial confusion regarding the regulatory status of peak wet weather flow diversions around secondary treatment units at POTW treatment plants serving separate sanitary sewer conveyance systems. In some cases, such diversions have been considered a bypass and held to the criteria of the NPDES bypass regulation (40 CFR 122.41(m)). In other cases, diversion scenarios around secondary treatment units at POTW treatment plants have been constructed and permitted at facilities without consideration of the bypass regulation criteria.

In 2003, EPA proposed a policy to clarify the regulatory status of peak wet weather flows that are combined with secondary effluent, a practice known as blending. 68 Fed. Reg. 63,042 (Nov. 7, 2003). In that proposed policy, EPA stated that if certain procedures were followed, peak wet weather flow blending would not be considered a bypass under 40 CFR 122.41(m). The Agency received over 98,000 comments on the proposed policy and on May 19, 2005 indicated that it no longer intended to pursue further action on the proposal.

Applicability of the Bypass Regulation to Blending

This policy provides the Agency's interpretation that the 40 CFR 122.41(m), the bypass regulation, applies to peak wet weather diversions at POTW treatment plants serving separate sanitary sewer conveyance systems that are recombined with flow from the secondary treatment units. If the criteria of 40 CFR 122.41(m)(4)(i)(A)-(C) are met, NPDES authorities can approve peak wet weather flow diversions around secondary treatment units in a NPDES permit for

discharges from a POTW treatment plants as an anticipated bypass under 40 CFR 122.41(m)(4)(ii).

This policy:

- Interprets the provisions of 40 CFR 122.41(m)(4) as they apply to peak wet weather flow diversions around secondary treatment units at POTW treatment plants serving separate sanitary sewer systems where the diverted flow is recombined with flow from the secondary treatment units prior to discharge;
- Interprets the term "no feasible alternatives" in 40 CFR 122.41(m)(4)(i)(B) as it applies to such peak wet weather flow diversions;
- Does not apply to discharges or overflows prior to the headworks of a POTW treatment plant; dry weather diversions; diversions around primary or tertiary treatment units; or diverted flow that is not recombined with flow from the secondary treatment units prior to discharge;
- Promotes use of measures to provide the highest possible treatment to the greatest possible peak wet weather flow; and
- Promotes reporting and public notification of peak wet weather diversion events.

A combination of approaches can be used to achieve the goals of this policy. These approaches include:

- ensuring full utilization of available secondary treatment capacity;
- reducing infiltration and inflow (I/I);
- maximizing the use of the collection system for storage;
- providing off-line storage; and
- providing sufficient secondary treatment capacity.

EPA recognizes that these approaches, alone or in combination, may not be sufficient in some cases to enable a POTW treatment plant to process its peak wet weather flows through its secondary treatment units. In such cases, a POTW treatment plant operator may have no feasible alternative to peak wet weather flow diversions around secondary treatment units. This policy sets forth a process for determining whether or not such feasible alternatives to peak wet weather flow diversions exist. If the NPDES authority determines that there are no feasible alternatives to peak wet weather flow diversions around secondary treatment units at the treatment plant using the analysis set forth in this policy, then the NPDES authority may approve peak wet weather flow diversions around secondary treatment units at a POTW treatment plant serving separate sanitary sewer conveyance systems as an anticipated bypass in accordance with 40 CFR 122.41(m) in a new or renewed NPDES permit. The only flow that can be approved as an anticipated bypass around secondary treatment units is flow that is anticipated to exceed the peak flow capacity of the secondary treatment unit(s) even after implementation of the feasible technologies and approaches identified via the process outlined in this policy. NPDES authorities should include an implementation schedule in the permit for the feasible technologies and approaches that would need to be implemented and the associated flow volumes. In NPDES permits with such implementation schedules, the approval of any anticipated bypass would be

contingent upon the permittee's performance of the implementation schedule. This implementation schedule would be considered a permit condition as opposed to a schedule of compliance under 40 CFR 122.47.

A thoughtful public planning process at the local level is important to minimize or eliminate overflows in the collection system, minimize I/I into the collection system, maximize treatment of all flows, and improve wet weather flow management. EPA recommends that POTW treatment plant operators work with their NPDES authorities and local communities to proactively minimize peak wet weather influent flow volume and improve effluent quality, reduce the frequency and volume of diversion events, and improve the structural integrity and capacity of collection systems and the reliability of POTW treatment plants.

The use of diversions around secondary treatment units at POTW treatment plants serving separate sanitary sewer conveyance systems to manage peak wet weather flows is not necessary in many cases and cannot be approved if feasible alternatives are identified through the analysis described herein. Accordingly, on permit renewal, the presumption by the NPDES authority would be against the utility's continued use of diversions to manage peak wet weather flows. This presumption could be overcome by the POTW treatment plant operator again demonstrating that there are no feasible alternatives to such diversions through updating and resubmission of the utility analysis described in this policy, ensuring that the submission identifies any changes at the facility, progress made in relevant areas, any new circumstances, the timing of ongoing projects or construction, or I/I reduction schedules. Timely permit renewals for facilities that employ peak wet weather diversions around secondary treatment units at the POTW treatment plant should be a priority. Because of the importance of regular analysis of the ongoing need to utilize diversions at a particular facility, NPDES permits for facilities that employ or seek to employ peak wet weather diversions around secondary treatment units at their treatment plant should be timely renewed rather than administratively continued.

The determination of what constitutes a 'peak wet weather event, during which the use of a peak wet weather diversion may be approved by a NPDES authority as an anticipated bypass, will be a site-specific determination. Certainly, EPA does not expect diversions at POTW treatment plants serving separate sanitary sewer conveyance systems to be used for routine rain events. EPA also cannot reasonably estimate or endorse an 'acceptable' number of anticipated bypasses (e.g., five per year). Such a one-size-fits all approach would not recognize the site-specific nature of peak wet weather diversions and could lead to excessive use of diversions in some communities. Rather, it is EPA's intention through this policy to ensure that POTW treatment plant operators, NPDES authorities, and the general public evaluate what constitutes a peak wet weather event for a POTW treatment plant for which there is no feasible alternative to a peak wet weather diversion, based upon past diversions, opportunities for eliminating or reducing diversions, and future considerations. Where such peak wet weather diversions at a POTW treatment plant cannot be feasibly avoided, additional technologies (e.g., providing supplemental biological or physical/chemical treatment) and approaches should be used to maximize treatment of diverted flows where feasible. EPA does not support the use of peak wet weather diversions

around secondary treatment units at POTW treatment plants when the peak flows are largely due to poor (or lack of) collection system maintenance or the lack of investment in or upgrades to treatment capacity.

Under this policy, NPDES authorities and POTW treatment plant operators need to ensure that all flows that will be diverted from the secondary treatment units in peak wet weather events receive a minimum of primary treatment and any supplemental treatment or technology shown feasible using the factors outlined in this policy. All discharges from POTW treatment plants serving separate sanitary sewer conveyance systems must meet effluent limitations, including the 85 percent removal requirement (unless the discharge from the POTW treatment plant meets the requirements of 40 CFR 133.103(d) (less concentrated influent wastewater for separate sanitary sewers)) and other secondary treatment requirements and any more stringent limitations necessary to meet water quality standards. Failure to meet effluent limitations is a permit violation. NPDES authorities should ensure that the facility, including when diverting, does not have the reasonable potential to cause or contribute to non-attainment of any water quality standards.

EPA recognizes that some POTW treatment plants may be implementing technologies more advanced than or supplementary to secondary treatment. The Agency encourages the use and permitting of such technologies (e.g., membrane, tertiary) where they produce a higher quality effluent. In the case where a POTW treatment plant is using, or plans to use, technology that is more effective in baseline pollutant removal than is required to meet secondary treatment-based permit limits, the NPDES authority should take that improved baseline performance into consideration when determining whether peak flow diversions at a POTW treatment plant are approved and under what conditions.

No Feasible Alternatives Analysis Process

An authority's determination as to whether or not there is a feasible alternative to peak wet weather diversions at a POTW treatment plant serving a separate sanitary sewer collection system should be made using the following inputs and criteria, which are based on 40 CFR 122.41(m)(4)(i)(A)-(C) and 40 CFR 122.21(j). At the time of NPDES permit application or NPDES permit renewal:

1. POTW treatment plant operators seeking approval of peak wet weather diversions at a treatment plant as an anticipated bypass should submit a comprehensive analysis (utility analysis) to the NPDES authority that:

a. documents current treatment plant design capacity for all treatment units, the maximum flow that can be processed through those units, and the feasibility of increasing such treatment capacity and related costs;
b. estimates the frequency, duration, and volume of current wet weather diversions, and evaluates alternatives to reduce the frequency, duration, and volume of such occurrences and related costs;

c. estimates the potential for future peak wet weather diversions based upon information such as predicted weather patterns, population growth, and projected treatment plant and collection system changes (e.g., upgrades, extensions, deterioration) and evaluates options for reducing diversions based on these variables;

d. assesses existing storage within the collection system or on-site and options for enhanced utilization or expansion (taking into account physical and technological considerations) of storage to reduce the frequency, duration, and volume of peak wet weather diversions, and the related costs;

e. assesses other ways to reduce peak wet weather flow volumes, such as limiting collection system extensions or slug loadings from indirect dischargers;

f. evaluates technologies (such as supplemental biological treatment, physical chemical treatment, ballasted flocculation, deep bed filtration, or membrane technology) that are or could be used to provide additional treatment to peak wet weather flows or peak wet weather diversions at the POTW treatment plant and the costs of implementing those technologies;

g. evaluates the extent to which the permittee is maximizing its ability to reduce I/I throughout the entire collection system (i.e., not only the portions operated by the utility, but also portions operated by any municipal satellite community), including the use of existing legal authorities, potential improvements in the timing or quality of such efforts, and options for obtaining or expanding legal authorities to reduce I/I from satellite collection systems;

h. evaluates peak flow reductions obtainable through implementation of existing Capacity, Management, Operations, and Maintenance (C-MOM) programs and potential improvements in the timing or enhancement of those programs and the related costs; or, if no such program exists, reductions obtainable through the development and implementation of a C-MOM program and the related costs;

i. assesses the community's ability to fund the peak wet weather flow improvements discussed in the utility analysis, taking into consideration: current sewer rates, planned rate increases, and the costs, schedules, anticipated financial impacts to the community of other planned water and wastewater expenditures, and other relevant factors impacting the utility's rate base, using as a guide EPA's CSO Guidance for Financial Capability Assessment and Schedule Development, EPA 832-B-97-004;

j. proposes a protocol for monitoring the recombined flow at least once daily during diversions for all parameters for which the POTW treatment plant has daily effluent limitations or other requirements (e.g., monitoring only requirements) and ensures appropriate representative monitoring for other monitoring requirements of the permit, the total volume diverted, and the duration of the peak wet weather diversion event; and

k. projects the POTW treatment plant effluent improvements and other improvements in collection system and treatment plant performance that could be expected should the technologies, practices, and/or other measures discussed in the utility analysis be implemented.

2. For any POTW treatment plant operator seeking approval in an NPDES permit for an anticipated bypass under this policy, the NPDES authority should:

a. make the utility analysis publicly available with other draft permit information for public review and comment;
b. review and evaluate the utility analysis and require measures to be undertaken to provide the highest possible treatment to the greatest possible peak wet weather flow, taking into account the full range of economic, environmental, public health, and engineering considerations;
c. review and approve or deny the peak wet weather diversions based on the determination of whether there are feasible alternatives to those diversions using the analysis set forth in this policy;
d. include a permit provision recognizing any approved peak wet weather diversions as anticipated bypasses, and specify the conditions for allowing such diversions;
e. include a permit provision requiring any POTW treatment plant operator that has an approved anticipated bypass to provide notice of the peak wet weather diversion event consistent with 40 CFR 122.41(m)(3);
f. include a permit provision requiring the operator of any POTW treatment plant that has an approved anticipated bypass to monitor the recombined flow at least once daily during diversions for all parameters for which the POTW treatment plant has daily effluent limitations or other requirements (e.g., monitoring only requirements), the total volume diverted, and the duration of the peak wet weather diversion event. For parameters for which the permit establishes non-daily effluent limitations, include in the permit monitoring requirements sufficient to yield data representative of the final blended discharge, in order to ensure compliance with applicable effluent limitations. See 40 CFR 122.48(b);
g. describe in the permit Fact Sheet prepared under 40 CFR 124.8(b) how the peak wet weather event was calculated, the reason for allowing peak wet weather diversions, and any requirements for such peak wet weather diversions;
h. ensure that permit load limitations account for the anticipated flow into secondary treatment units during both wet and dry weather conditions;
i. include permit provisions for public notification (e.g., via utility website) of the peak wet weather diversion event within 24 hours of the inception of each event; follow up public notification of the duration and volume of the event within 48 hours of its cessation; and for public review of the POTW treatment plant operator's peak wet weather flow diversion practices upon request;
j. include permit provisions requiring the control authority with an approved pretreatment program to review, and revise if necessary, local pretreatment limits for indirect dischargers to take into account peak wet weather diversion events (e.g., significant industrial users with batch discharging);
k. if the discharge will be to sensitive receiving waters (i.e., waters used for recreation; drinking water; shellfish beds; waters formally designated by state or federal authorities as requiring special consideration or protection; waters with threatened or endangered

species), ensure that the impact of any peak wet weather diversion events on these waters is minimized and additional caution exercised as permit limitations are set; and

l. rigorously review each and every POTW permit renewal request that seeks continued approval of peak wet weather diversions to ensure that a comprehensive utility analysis consistent with section 1 above is submitted and evaluated and that peak wet weather diversions are approved only when no feasible alternatives to them are identified through the process set forth in this policy.

3. EPA will:

a. use this policy in making NDPES permitting decisions for all POTW treatment plants serving separate sanitary sewer conveyance systems in non-authorized states;

b. review permits in NPDES authorized states within the timelines specified in 40 CFR 123.44 for all POTW treatment plant operators seeking approval for diversions pursuant to this policy to ensure that they are consistent with this interpretation of the regulations;

c. ensure that enforcement actions are taken, where appropriate, against POTW treatment plant operators that fail to move forward expeditiously to meet their legal obligations as determined consistent with this policy; and

d. ensure that monitoring data received concerning peak wet weather diversions at POTW treatment plants is available to the public on EPA's website in a searchable and correctable database.