



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

JAN 24 2011

MEMORANDUM

TO: Barbara A. Finazzo  
Director, Division of Environmental Planning and Protection, Region 2

FROM: Deborah G. Nagle   
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Office of Wastewater Management

SUBJECT: 2008 Regional National Pollutant Discharge Elimination System (NPDES)  
Program Review for Region 2

EPA's Office of Wastewater Management, Water Permits Division is pleased to provide you with the findings of the 2008 Regional National Pollutant Discharge Elimination System (NPDES) Program Review conducted for EPA Region 2.

The enclosed report summarizes the discussions held during the EPA Office of Water NPDES Program Review, as well as the Permit Quality Review (PQR), conducted in preparation for the Program Review. These reviews cover topics across the NPDES program as they apply specifically to Region 2. We have included proposed action items for the Region and the States, based on discussions conducted during the Office of Water NPDES Program Review of Region 2, and the findings of the Permit Quality Reviews. These reviews also help EPA Headquarters (HQ) promote national consistency and identify areas where guidance and support is necessary.

The report includes a list of proposed Action Items to serve as the basis for ongoing discussions between Region 2 and your authorized States, as well as between Region 2 and EPA HQ. In order to facilitate these discussions, EPA HQ divided the proposed Action Items into three categories to identify the priority that should be placed on each Item:

- Category One - Most Significant: Proposed Action Items will address a current deficiency or noncompliance with a federal regulation.
- Category Two - Recommended: Proposed Action Items will address a current deficiency with respect to EPA guidance or policy.
- Category Three - Suggested: Proposed Action Items are listed as recommendations to increase the effectiveness of the State's or Region's NPDES permit program.

The Category One and Category Two proposed Action Items should be used to augment the existing list of “follow up actions” currently established as an indicator performance measure and tracked under EPA’s Strategic Plan Water Quality Goals and/or may serve as a roadmap for modifications to Region 10 program management strategies. A complete description of the proposed Action Items is included in Section 4 of the report.

We believe the NPDES Program Review helped us to better understand the Region 2 NPDES program and identify strengths and opportunities for improvement for EPA HQ, Region 2 and its States.

Thank you for your cooperation and for the help of your staff in conducting the reviews, and in the development of the report and its findings. If you have any questions regarding this effort, please call me at (202) 564-9545 or Sharmin Syed of my staff at (202) 564-3052.

# **2008 REGIONAL NPDES PROGRAM REVIEW**

## **EPA Region 2**

January 24, 2011

Water Permits Division  
United States Environmental Protection Agency  
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## 1.0 INTRODUCTION

This report presents findings of an EPA Office of Water (OW) Regional National Pollutant Discharge Elimination System (NPDES) program review and Permit Quality Review (PQR) conducted for EPA Region 2 in March 2008.

On a rotating basis, OW schedules reviews of Regional Water Programs. The Water Permits Division (WPD) in the Office of Wastewater Management (OWM) uses these OW reviews of Regional NPDES programs to focus its oversight responsibilities.

Topics discussed during the review vary by Region, depending on the needs and interests of the Region. EPA Headquarters (HQ) reviews topics such as permit backlog, Priority Permits, Action Items, and watershed-based permits prior to the review. A large component of each review is the PQR, which assesses whether a State is adequately implementing the requirements of the NPDES Program as reflected in the permit and other supporting documents (e.g., fact sheet, calculations). In this report, an entire section is devoted to the results of the PQR.

Through this review mechanism, EPA HQ promotes national consistency and identifies successes in implementation of the base NPDES program, as well as opportunities for improvement in the development of NPDES permits. The findings of the review might be used by EPA HQ to identify areas for training or guidance, and by Region 2 to help identify or assist States in determining any action items needed to improve their NPDES programs.

Region 2 oversees the NPDES Program for New Jersey, New York, Puerto Rico, and the Virgin Islands. New Jersey, New York, and the Virgin Islands are authorized to administer the NPDES Program; Puerto Rico is not authorized to implement the program.

The PQRs were performed during the second and third quarters of FY2008. WPD staff collected NPDES program information and permits from Regional and State staff, and a detailed PQR was performed for New Jersey and New York in January and February 2008. WPD staff and managers traveled to Region 2 for the formal OW Regional Water Program Review on March 25–26, 2008.

This report is organized as follows:

- Section 2 – Region 2 Regional Review Overview
- Section 3 – Permit Quality Review Summaries
- Section 4 – Summary of Findings and Proposed Actions

## **2.0 REGION 2 REGIONAL WATER PROGRAM REVIEW**

Regional Reviews assist in assessing the consistency and effectiveness of the regional and state NPDES programs. The reviews also may include an analysis of the entire permitting workflow, progress on action items, progress on memorandum of understanding (MOU) commitments or other legal arrangements, and progress on Government Performance and Results Act (GPRA)/Program Assessment Rating Tool (PART) measures.

The Region 2 NPDES Regional Program Review explored several NPDES Program accomplishments and issues, which are discussed briefly below.

### **2.1 Select Accomplishments**

Based on the work conducted in preparation for the Regional Program Review, EPA Region 2 deserves specific recognition for accomplishing the following:

- In the State of New York, virtually 100 percent of large Concentrated Animal Feeding Operations (CAFOs) and nearly 60 percent of medium CAFOs are covered under the permit program.
- New Jersey conducted a survey of the Animal Feeding Operations (AFOs) in the State to determine which operations would be defined or designated as CAFOs.
- New York and New Jersey power-generating facility permits include excellent documentation and basis for their decisions on §316(b). Both also include cooling water intake structure permit conditions based on BPJ and a detailed basis for §316(a) thermal variances.
- Region 2 has recently developed an NPDES Whole Effluent Toxicity (WET) Strategy for the Region and its States and has increased regional WET oversight. The Region has been working toward a full NPDES WET implementation by its States. For example, Region 2 has been working with New York State to improve future permits with respect to WET (e.g., incorporating monitoring requirements and WET limits for both acute and chronic criteria, including sublethal endpoints where reasonable potential is demonstrated). Region 2 should continue this effort to ensure regulatory compliance for WET implementation in NPDES permits and perform adequate oversight to ensure the integrity of its States' NPDES WET programs, including compliance with permit requirements.
- The Region has continued to conduct an outreach program, providing annual pretreatment workshops throughout New York. The Region has also chaired and provided continuing support to Pretreatment Regional Council conference calls.

### **2.2 Permit Issuance**

At the end of FY2007, the NPDES permit issuance rates for Region 2 showed mixed performance results. On the positive side, the New York program had an issuance rate greater than 95% for all facilities, primarily due to the Environmental Benefit Permit Strategy (EBPS). EBPS allows nearly all NPDES permits to be administratively renewed independent of the technical evaluation and reissuance process conducted in other NPDES States. Permit issuance

rates were also high (100%) for the two minor permits issued by EPA Region 2 for the St. Regis Mohawk Tribe and the general permit covering facilities in the Atlantic Territories.

Overall permit issuance rates for New Jersey were approximately 75% according to data available in the Permit Compliance System (PCS); however, the State reported that the rate was actually in the 80%–90% range during FY2007. The State attributed the discrepancy to inaccuracies in the PCS database, which the State does not actively update.

Overall permit issuance rates for Puerto Rico and the Virgin Islands continue to be problematic at 73% and 64%, respectively. There appears to be a slight improvement over the past three years, but rates are still well below acceptable levels. The issuance rate for EPA-issued permits in New Jersey is very poor, at approximately 39% (eight of 13 permits were expired at the end of FY2007).

Eighteen permits in Region 2 were expired greater than 10 years at the time of the review: one major and five minors in New York, one major and five minors in New Jersey, and three majors and three minors in Puerto Rico. These numbers reflect very small percentages for New York and New Jersey, but are slightly more significant in Puerto Rico.

### **2.3 Antidegradation**

The New Jersey Surface Water Quality Standards (SWQS) establish antidegradation policies for all State surface waters (see N.J.A.C. 7:9B-1.5(d)). The antidegradation policies require that all existing and designated uses be maintained and protected for all State surface waters, and, where water quality exceeds levels necessary to support designated uses, existing water quality must be maintained and protected unless New Jersey finds that allowing lower water quality is necessary to accommodate important economic or social development. The antidegradation policies provide three "tiers" of antidegradation protection for surface waters of the State.

New York has an antidegradation policy from 1985 with an applicable Great Lakes Basin update (*Technical Operations and Guidance Series (TOGS) 1.3.9*). The 1985 policy appears to address the traditional Tier I and II antidegradation provisions; however, it is not as clear for Tier III waters. The 1985 policy discusses requirements for waters that do not meet applicable standards, maintaining and protecting water uses and quality, and existing waters that exceed applicable standards. The policy also applies the State Environmental Quality Review Act (SEQR) process for waters meeting higher uses or attaining quality higher than the current classification. This issue was not discussed during the site visit. The permit documentation reviewed does not routinely discuss when antidegradation is applicable and how permit conditions meet State policy.

During the regional review, antidegradation was not discussed in detail. However, both EPA HQ and Region 2 previously agreed to work together on this issue.

### **2.4 Sanitary Sewer Overflow Reporting**

According to Region 2, both New Jersey and New York require sanitary sewer overflow (SSO) reporting. In New Jersey, permit language requires SSOs (non-compliance events) to be reported. In addition, all publicly owned treatment works (POTW) permittees are required to

report unauthorized discharges and certain discharges that exceed permit limits (i.e., exceedances that cause injury to persons, pose a threat to human health, cause damage to the environment, or pose a threat to the environment) to a State hotline that notifies the appropriate downstream users, such as drinking water suppliers.

In New York, State NPDES regulations provide that permits require that an SSO (untreated or partially treated sewage) be reported within two hours if the discharge is to sensitive waters and within 24 hours to other areas. In addition, SSOs that discharge to sensitive waters are to be reported to the local health department.

Sewage overflows and bypasses at sewage treatment plants can endanger human health. Permits can establish a process for requiring the permittee or the NPDES authority to notify specified third parties of these events, which can reduce health risks associated with these releases. Third-party notification is appropriate for overflows that might endanger health due to a likelihood of human exposure and for unanticipated bypasses and upsets that exceed any effluent limitation in the permit or might endanger health due to a likelihood of human exposure. During the Regional Review, HQ advised Region 2 to clarify SSO reporting requirements in permits to ensure adequate opportunity and time to close intakes in the event of discharges that might affect drinking water sources. There appeared to be no 24-hour reporting requirement for waters that are not designated as sensitive waters.

In addition, HQ requested that Region 2 provide the number of overflow occurrences and diversion data for New York. The Region will work with HQ to develop a seven-day average limit in the permit for collection system discharges. The Region will work with New York to include “No Feasible Alternative” analyses for wet-weather bypasses.

## **2.5 Combined Sewer Overflows**

HQ advised Region 2 to work with New Jersey to incorporate the combined sewer overflow (CSO) Long-Term Control Plan (LTCP) into an enforcement document by 2010. HQ also recommended that the Region and New Jersey discuss the implementation of potential interim measures until LTCPs are completed. HQ informed the Region that a permit condition modification to incorporate new water quality standards (WQS) may not be issued after the permit has expired and is administratively continued. HQ will provide more information on this issue. New Jersey has mandatory penalties for noncompliance, and the limits cannot be achieved for polychlorinated biphenyls (PCBs).

## **2.6 Clean Water Act §316**

EPA HQ advised the Region to work with its States on reviewing and documenting Clean Water Act (CWA) §316(a) thermal variances when permits are reissued. HQ emphasized the need to assess and determine best technologies available for cooling water intake structures on a case-by-case basis.

## **3.0 PERMIT QUALITY REVIEW**

A Permit Quality Review (PQR) is an evaluation of a select set of NPDES permits to determine whether the permits have been developed in a manner consistent with applicable requirements established in the Clean Water Act (CWA) and National Pollutant Discharge Elimination System (NPDES) regulations.

The Region 2 PQR consisted of two components, a core review and a topic-specific review. The core review focused on core permit quality and included a review of the permit application, limits, monitoring requirements, special conditions, standard conditions, correspondence, documentation, and administrative process, as well as other factors.

Topic-specific reviews target components or types of permits. The scope of a topic-specific review is determined in consultation with States on a case-by-case basis. Region 2 topic-specific reviews focused on the following areas: mercury methods/limits; discharges to impaired waters; total maximum daily load (TMDL) implementation; use of *E. coli* and enterococcus requirements; antidegradation and use of mixing zones; implementation of CWA §316(a) and (b); stormwater permitting; implementation of Concentrated Animal Feeding Operation (CAFO) requirements; implementation of Long-Term Control Plans (LTCPs) for combined sewer overflows (CSOs); reporting of sanitary sewer overflows (SSOs); and implementation of whole effluent toxicity (WET) requirements. The results of these reviews provide important information to the Office of Water (OW) on CWA program implementation.

EPA has conducted NPDES PQRs since the mid-1980s and has revisited the review process periodically to promote permit quality and ensure a reasonable degree of national consistency with regard to core program requirements. Such reviews also ensure that NPDES permits keep pace with developments in the NPDES program. Information developed during PQRs informs broader Regional Water Program Reviews being conducted by EPA headquarters (HQ).

### **Objectives and Scope for the Region 2 PQR**

The Region 2 PQR consisted of both comprehensive core permit reviews in New Jersey and New York to provide an overall review of a sample of NPDES permits and topic-specific reviews of a sample of permits from the two States and two Territories within Region 2 to assess specific areas of concern. The results of the PQR serve as a mechanism to provide information on the integrity of the NPDES Permit Program and to promote national consistency, in accordance with EPA's Permitting for Environmental Results (PER) initiative. Recommended action items are identified in Section 4 of this report.

Details of the Region 2 PQR process and review results are provided below.

### **3.1 Core Permit Reviews**

EPA conducted comprehensive core reviews with onsite visits in New Jersey and New York. The review team consisted of HQ, regional, and contractor personnel.

The core permit review process involves evaluating select permits and supporting materials against basic NPDES program criteria. Reviewers complete the core review by examining select permits and supporting documentation, assessing these materials using basic PQR tools, and talking with permit writers regarding technical questions related to the permit development process. The following tools were primarily used for review, and they are attached as Appendices A and B, respectively: 1) Central Tenets of the NPDES Permitting Program (developed during the 2000/2001 PQR) and 2) Core Review Checklists (developed during the 2000/2001 PQR). Materials reviewed as part of the Region 2 core review include NPDES permits; state water quality standards (including mixing zone provisions, pathogen standards, mercury standards and methods, and reasonable potential procedures); and various State permitting polices and guidance. In addition, discussions with Region 2 and State staff included program status, the permitting process, relative responsibilities, organization, and staffing.

In general, permits for review were chosen randomly from a list of permits issued after December 31, 2005, to ensure a review of recently issued permits. Additional permits were selected on the basis of discussions with Region 2 and State staff, with an effort to include major facilities and to reflect an equal distribution of industrial and municipal permits. Six permits from New Jersey and six permits from New York were selected for the core reviews.

### **3.1.1 New Jersey**

The New Jersey Department of Environmental Protection (NJDEP) is based in Trenton, and the Division of Water Quality is responsible for issuing New Jersey NPDES (NJPDES) permits. The Division of Water Quality's Watershed Permitting Element is divided into four bureaus, two point source permitting groups, a nonpoint pollution control bureau, and a pretreatment and residuals bureau. NJDEP is responsible for issuing 155 major and 446 minor individual permits for discharges to surface water, including individual stormwater permits. The point source permitting bureaus are divided by watershed. The Passaic Basin has the highest density of dischargers. NPDES permit writers work on both municipal and non-municipal permits. There has been progress on reducing the number of expired (backlogged) permits. Over the past seven years, the number of expired permits classified as minor facilities has decreased from about 40% to 20%. The goal for major facilities is to have no more than 10% expired NJPDES permits by the end of the calendar year.

#### **Permitting Process**

A reminder letter is sent to the discharger 180 days plus one month prior to permit expiration. The letter contains links to the NJDEP website, where all permit application forms and checklists are located. Permit applications are received, date-stamped, and compared to a checklist to ensure they are complete. A letter indicating that the administrative requirements of the application process have been satisfied is then sent to the permittee to notify the permittee that the application was received. If the permit application is incomplete, a deficiency letter is sent to the discharger. If the application is submitted late, the enforcement group handles follow-up activities.

Once the permit application is deemed administratively complete, it is forwarded to the permit writer. The permitting supervisors balance assignments among permit writers, who are assigned

approximately 25 to 30 facilities each. Permitting priorities are determined based upon several factors, including EPA's PER Priority Permit process, the age of the permit, TMDL implementation needs, and the size of the facility. Preliminary choices are made each December about which permits to issue the following calendar year.

NJDEP uses a permit-writing tool and database called the New Jersey Environmental Management System (NJEMS). The system has been used since July 2000 and has provided structure and consistency in permit writing. Any NPDES permit written since early 2000 is in NJEMS. NPDES permits for existing facilities can be retrieved and edited as necessary from NJEMS. The system also allows for merging documents and other components that can be retrieved and edited from the various databases. Boilerplate language and regulatory citations are updated as necessary for permit consistency. Once the permit reaches a certain stage in the issuance process, it is locked and cannot be edited.

Data are stored in NJEMS and processed through spreadsheets, and permit writers have access to hardcopies of the State water quality standards (WQS). Receiving water ambient data come primarily from U.S. Geological Survey (USGS) data and site-specific studies. The water quality section within the NPDES permitting group reviews required and optional site-specific studies and models conducted and submitted by the permittees. For new and/or expanding dischargers, or for existing facilities requesting new outfalls, studies are required to assess possible impacts. NJDEP also requires existing, non-expanding permittees to conduct studies to calculate water-quality-based effluent limits (WQBELs), including those for ammonia toxicity. The majority of the freshwater dischargers have completed these ammonia toxicity studies, and NJDEP is in the process of receiving the data previously collected to establish ammonia-toxicity-based limits on the saltwater dischargers.

A reasonable potential analysis is used to determine whether criteria are being met, whether a potential for criteria to be exceeded exists, and whether a WQBEL is needed. New Jersey typically requires a minimum of 10 data points for conducting a reasonable potential analysis (with four detections).

The establishment of effluent limitations for nutrients has resulted in a number of permit appeals by dischargers, primarily municipal facilities. NJDEP has been focusing on phosphorus, for which there is a conditional statewide freshwater instream criterion of 0.1 milligrams per liter (mg/L) and a lake impoundment criterion of 0.05 mg/L. A number of TMDLs for phosphorus are being developed for many watersheds in the State. These TMDLs will cover about 80% of the surface water dischargers in New Jersey. Nitrogen is not driving many WQBELs.

TMDLs are being developed for PCBs in the Delaware Estuary, and a large TMDL effort is underway in the New York-New Jersey Harbor for nutrients, pathogens, and approximately 15 to 17 toxic pollutants. NJDEP is seeking to control mercury discharges, the largest source being dental offices. The New Jersey regulations have been amended, and dentists have been required to implement best management practices (BMPs) for dental amalgam, including the installation of amalgam separators. NJDEP issued the State equivalent of 308 letters to all major municipal dischargers in the State at the beginning of 2008 requiring the collection of effluent quality data for mercury using Method 1631E. This testing is being required both before and after the dentists implement their dental amalgam program. These data will be used to evaluate the effectiveness

of the dental amalgam program, to document the magnitude of the expected significant reductions in mercury in municipal treatment plants, and to encourage analytical laboratories in New Jersey to become certified for Method 1631E. Currently, no analytical laboratories in New Jersey are certified for Method 1631E. The Department will determine the need and means to further roll out the use of Method 1631E.

State water quality criteria have recently been revised with respect to pathogens. Most NPDES permits with pathogen requirements limit fecal coliform. Monitoring is required for *E. coli*. The *E. coli* criteria became effective in October 2007; NJDEP has stated it intends to implement *E. coli* effluent limitations during the next permitting cycle for facilities.

Watershed Permitting Element staff at NJDEP are responsible for development and implementation of WET. Any facility with wastewater discharges is required to have WET monitoring requirements and, when deemed necessary, water-quality-based acute or chronic limitations based on the dilution available for the discharge. In addition, there are a number of permits with effluent limitations for chronic WET. NJDEP uses the basic EPA Technical Support Document for Water Quality-based Toxics Controls (TSD) approach, and a toxicity reduction evaluation (TRE) provision is included in NPDES permits.

Draft NPDES permits are circulated to the permitting supervisor and then issued for public comment. When comments are received, they are directed to the permit writer, who prepares responses to comments. The responses are delivered to the supervisor and the bureau chief, and then the final permit is issued unless it needs to be public-noticed again due to major modifications to the tentative permit. Usually non-municipal facilities are not appealed; however, approximately 95%–100% of municipal permits are appealed. NJDEP stated that issues concerning WQBELs primarily drive the appeals. If upgrades to the treatment system are necessary and costs are significant, some permit conditions may be stayed and compliance schedules may be included in permits. State regulations contain the criteria the bureau chief uses to determine whether to stay a permit condition. Formal appeals are handled jointly with the Attorney General's Office and the administrative law judge. NJDEP stated that the majority of appeals are settled.

### **Water Quality Standards and Use Attainability**

As stated on the NJDEP website, the Surface Water Quality Standards (SWQS), N.J.A.C.7:9B, establish designated uses, classify streams based on uses, designate antidegradation categories, and develop water quality criteria to protect those uses. Designated uses include drinking water supply, fish consumption, shellfish resources, propagation of fish and wildlife, recreation, and agricultural and industrial water supplies. In addition, the SWQS specify general, technical, and interstate policies, and policies pertaining to the establishment of WQBELs.

Under the SWQS, all existing and designated uses must be maintained and protected for all surface waters of the State. Surface water quality that is better than the applicable criteria must also be maintained and protected. These protections apply to all surface waters of the State, which include rivers, lakes, streams, wetlands, estuaries, and nearshore coastal waters.

## **New Jersey Core Review Findings**

A total of six NPDES permits were reviewed—four municipal and two non-municipal facilities. Overall, the NPDES permits were of good quality and the fact sheets were generally well developed. Most issues focused on the need for a more detailed discussion of items and policies in the fact sheets, as described below:

### *Fact Sheets*

- Core reviews highlighted a lack of discussion in the fact sheets describing ambient water quality conditions. The designated uses of receiving waters are listed in the fact sheets as the corresponding citation to State WQS; a narrative description of what the citation describes (e.g., cold water habitat, contact recreation) would be helpful for outside parties and the general public.
- A more robust discussion of the health of the receiving water and thorough discussion of dilution/mixing zone assumptions would also be informative.
- The fact sheets could provide a more detailed explanation as to how the list of pollutants to be evaluated for reasonable potential is developed.

### *Water Quality Calculations*

- The State assesses ambient conditions using special studies or USGS data. In the absence of these data, however, New Jersey typically uses a background concentration of zero in the calculation of WQBELs, except for 303(d)-listed waters, where the background concentration of the impairing pollutant is set at the surface water quality criterion. NJDEP uses low flow values from USGS that are as close to natural “base flow” as possible and do not include effluent flow, so most of the pollutants are assumed to be naturally zero unless listed on the current 303(d) list as a cause of impairment. If a permittee wishes to conduct a study to obtain site-specific metals translators, NJDEP uses the actual ambient upstream data to calculate the WQBEL.
- New Jersey typically requires a minimum of 10 data points for conducting a reasonable potential analysis (with four detections) to ensure that the limit is legally defensible and ensure that the pollutant assumed present in the effluent is truly representative. EPA guidance does not generally recognize the need for a “minimum” data set, and the TSD provides specific procedures for dealing with small data sets.

### *Other Issues*

- Compliance schedules for new WQBELs were frequently included in permits; however, the compliance schedules did not appear to meet the requirements of 40 CFR 122.47, as discussed in a memo from the Director of EPA OWM to Region 9, dated October 31, 2007.

## **3.1.2 New York**

The New York Department of Environmental Conservation (NYDEC), Office of Water Resources, Division of Water, manages the Bureau of Water Permits. Within the Bureau of Water Permits, sections address general permits, nonpoint source, and wastewater permits. The Bureau of Water Resource Management supports permitting through conducting water quality

and TMDL analyses. NYDEC has one central office in Albany and nine regional offices. The Bureau of Water Permits in the central office drafts and issues significant (i.e., larger facilities, more complex) State Pollutant Discharge Elimination System (SPDES) permits and general permits. The Bureau of Water Permits in the regional offices issues permits for smaller facilities, performs inspections, and facilitates compliance actions. The central office works with the regional offices on significant permit actions. NYDEC manages 1,550 individual permits, including approximately 346 major permits.

NYDEC uses a watershed-based approach under which water quality regulations are implemented by applying a TMDL process to watersheds, drainage basins, or waterbody segments on a pollutant-specific basis. In this manner, water-quality-based limits are developed using a TMDL process, which considers other sources of target pollutants and the assimilative capacity of the receiving water. Water quality engineers conduct water quality analyses and develop TMDLs, which are then provided to the permit writer.

### **Permitting Process**

NYDEC uses an administrative permit renewal process to reissue permits and an Environmental Benefit Permit Strategy (EBPS) process to modify permits.

For a typical permit renewal, a package is sent out nine months prior to permit expiration. This packet contains a short-form renewal application, a checklist/questionnaire about changes at the facility, and a request for SPDES application forms. The renewal packet is very short and does not include the application information required by Federal regulations, including information about current operations and effluent screening data assessing pollutants present in the discharge.

*Administrative Permit Renewal:* In cases where no significant changes have occurred, a facility submits only the renewal application form and the renewal questionnaire. Unless such a facility is identified as being in serious non-compliance, no long-form permit application (i.e., including sampling data) is required.<sup>1</sup> A facility also could be required to submit more complete permit application information if it has been identified as a high-priority facility under the EBPS process described below.

The Division of Environmental Permits reviews the short-form application materials and notifies the permittee if an application is incomplete. The Division publishes a consolidated notice of completed applications for renewal and provides a 30-day comment period. If there are no substantive or significant comments, the Division issues a cover sheet that renews the existing permit; the cover sheet is stapled to the top of the existing permit. A copy of the permit is sent to the Bureau of Water Permits. Substantive comments, if any, are factored into the priority permit scoring (see EBPS section below) or addressed through a permit modification.

In cases of serious non-compliance, NYDEC may require long-form applications for permit renewal. Class 02 non-significant minor Private/Commercial/Institutional facilities are sent short-form renewal application materials that are slightly different from those for other classes of

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<sup>1</sup> New York municipal application form 2A (NY-2A) and industrial application form 2C (NY-2C) are required for a new municipal or new industrial permit or a modification to an existing municipal or industrial SPDES permit, respectively.

facilities. Discussions with NYDEC staff indicated that Class 02 and 04 (non-significant minor industrial facilities) with no changes are administratively renewed; however, other classes of dischargers may proceed under the administrative renewal process and also have EBPS scores that may require full renewal/evaluation. New York State's SPDES backlog has been low because the State uses this streamlined permit renewal process.

*Technical Review and Permit Modifications:* For a permit that is not administratively renewed, including an EBPS priority permit, a request for information is sent to the permittee, including a checklist of information that must be submitted (including required sampling based on the type of facility and information about stormwater, which NYDEC has been attempting to incorporate into permits). The facility has three months to complete the application. Following submittal of the application information, materials are reviewed for completeness. The permit writer then starts developing the permit summary table (a central part of the fact sheet), which at this stage includes a summary of existing discharge monitoring report (DMR) data and technology-based limits.

The water quality team then considers the need for WQBELs. A water quality engineer develops such limits. The water quality data are developed based on a drainage basin (i.e., watershed) approach to the State's diverse waters, including saline waters, freshwater rivers, lakes, and Great Lakes. NYDEC performs biological assessments and collects ambient data through both fixed and mobile sampling. The water quality engineer uses best professional judgment (BPJ) to determine which water quality data are most relevant and how much data is necessary. In general, these engineers look at each parameter for which they have data unless a parameter clearly appears to be of no concern. Mixing zones are applied pursuant to State *Technical Operations and Guidance Series* (TOGS) 1.3.1(s), which addresses complete mixing and incomplete mixing for acute and chronic criteria, as well as certain categories of waterbodies. The result of these water quality analyses (i.e., a table of final WQBELs) is then provided to the permit writer, who compares the technology-based and water quality-based limits and selects the more stringent of the two. It appears that WQBELs are included in the permit summary table only when such limits are more stringent than the technology-based limit. When this is not the case, documentation of the water quality analyses does not appear to be standardized.

The fact sheet is subsequently developed. It includes a discussion of changes to the permit as well as the portions of the existing fact sheet that remain relevant. If there is insufficient data, NYDEC requires the submittal of three months of data to develop a limit. Finally, other relevant permit conditions are added, using the most current template language.

The regional office section chief and the Division of Environmental Permits review new or modified permits. A notice is published in the *Environmental Notice Bulletin* with a 30-day comment period, and a copy is provided to Region 2, which also receives a copy of the final permit. In addition, the permittee must publish a notice in its local paper with a 30-day comment period. Permit writers respond to any comments received by NYDEC. A hearing may be requested. Under the NYDEC system, an administrative appeal on the draft permit may be filed. A final permit may also be appealed. Within 15 days of filing, an appeal may be filed through an administrative process; interested parties may then sue in State court.

The Bureau of Water Permits is developing an automated system for developing and managing permits.

*Environmental Benefit Permit Strategy:* New York State uses its EBPS process to prioritize Department-initiated permit modifications. The purpose of the EBPS is to ensure that permits whose discharges pose the greatest potential risk to the environment, are significantly overdue for modification, or are otherwise in substantial need of modification receive expedient attention. Permits are scored based on 13 specific criteria, which may be adjusted on the basis of water quality enhancement multipliers, and the top five percent undergo full review.

The EBPS is an ongoing process that takes place throughout the year, based on information provided by the applicant in the renewal application, received in the form of public comments following a notice to renew or modify a permit, and collected by NYDEC. The priority ranking list is published each April in the *Environmental Notice Bulletin*. The State recently revised the criteria it uses to determine when a permit should be re-scored under the EBPS process. Permits for facility discharges that are subject to a TMDL, affect 303(d)-listed waters, include CSOs, or violate the CWA are moved out of their existing status and re-scored for the purposes of EBPS.

### **Water Quality Standards and Use Attainability**

State Regulations at Title 6, Chapter X, Parts 700-706 contain the State's Surface and Ground Water Classifications and Standards. The regulations contain water quality criteria and the classifications of receiving waters. The State has an antidegradation policy from 1985, with an update applicable to the Great Lakes Basin.

### **New York Core Review Findings**

Six permits issued by NYDEC were reviewed as part of the core review. Although permit terms and conditions appeared to be appropriate, a lack of clear documentation presented significant concerns and multiple errors were identified. Many specific issues were identified in HQ's review, and inconsistent documentation hampered the evaluation.

The State's *Technical and Operational Guidance Series* (TOGS) appeared to be a good-quality resource, but potential administrative and precision issues were identified in the reviewed permits. One permit did not include all requested data and included limits for only 10 of 62 required parameters. In one permit, a technology-based limit was used where no reasonable potential analysis had been conducted for that limit, despite the fact that if the pollutant were discharged at the specified limit concentration, it would result in a violation of WQS. Some permits had pH listed as 6–9, not 6.0–9.0. One permit used “suggested” dates in a pretreatment compliance schedule; this appeared to be template language that was not replaced. Two POTW permits were expired (according to their cover sheets).

The practical quantitation limits (PQL) were used in lieu of calculated limits (where the calculated limit would be below the PQL). It is not appropriate to use the PQL as a limit in such circumstances because it is not protective of water quality. The use of PQLs may be considered separately as part of determining compliance. This issue typically affects total residual chlorine, mercury, and PCBs.

The permit fact sheet and record did not contain clear documentation of the decision-making process and the basis for the permit conditions:

- Documentation of reasonable potential and water quality analysis—Although the fact sheet standard language and State procedures appeared correct, documentation of the process was limited, inconsistent, and not always part of permit file. In some cases, a spreadsheet was identified in the file; in others, notes were part of the file; and in other cases, it was not clear what documentation exists at all. Discussions with State staff indicated that some of this documentation might reside in the personal files of the person who conducted the reasonable potential analysis.
- Pollutants of concern—Given the limited documentation, it was difficult to track how the pollutants of concern had been determined. Discussions with State staff indicated that a reasonable potential analysis is conducted for any pollutant identified in screening data (unless it is clearly not a problem); however, this process was not well documented.
- Several fact sheets were quite brief (e.g., five pages) and appeared to include only the minimum amount of information, with no clear reference to supporting documentation such as the reasonable potential analysis. Fact sheets tended to rely heavily on the Outfall Data and Permit Limit Table (Table 3 in the fact sheets). Some fact sheets did not include any discussion of the facility or permit; they included only tables, template language, and definitions.

New York State uses a streamlined administrative permit renewal process to reissue permits. Permits for facilities with no significant changes may be administratively renewed in a quick and simple manner. The short-form application does not require the same level of permit application information as that required on Federal permit applications (e.g., effluent data). Permit conditions are not reviewed as part of administrative renewal, and some permits could potentially go for a prolonged period without being reevaluated. Although public comment is provided for the consolidated renewal notice, whether this provides an opportunity for meaningful public participation is unclear (i.e., the public would need to know whether changes at the facility have occurred and whether changed permit conditions are warranted).

The State uses an EBPS process to prioritize permit modifications. Permits are scored based on 13 specific criteria, and the top five percent undergo full review and modification. The EBPS process focuses State permitting resources on the most environmentally significant permits. However, EBPS and the permit renewal process are not fully consistent with Federal requirements (e.g., renewal application timing and sampling information, evaluation of permit conditions, five-year terms). NYDEC is working with Region 2 to address existing concerns and has recently revised criteria used to determine when permits are re-scored regarding their environmental priority for modification. (EBPS criteria now include TMDL, 303(d) listed, CSO, and CWA violations.) Region 2 should work with New York to improve the EBPS prioritization system and require permittees to submit priority pollutant scans once every permit term. Although opportunity for public comment is provided regarding the EBPS priority list, whether this provides an opportunity for meaningful public participation or whether technical comments from the public comment process are permitted is not clear.

## 3.2 Topic-Specific Reviews

Similar to the selection process from the core review, most of the permits for the topic-specific reviews were chosen randomly from a list of permits issued after December 31, 2005, developed by HQ to ensure a review of recently issued permits. Additional permits were selected based on discussions with the States and Region 2, with an effort to include facilities appropriate for each of the topics.

### 3.2.1 Mercury Methods

EPA's regulations require that measurements included on NPDES permit applications and on reports required to be submitted under the permit must generally be made using analytical methods approved by EPA under 40 CFR 136. Four analytical methods for mercury in wastewater have been approved for use under Part 136: Method 245.1, Method 245.2, Method 245.7, and Method 1631E. Methods 245.1 and 245.2, approved by EPA in 1974, can achieve measurement of mercury to 200 nanograms per liter (ng/L). Method 245.7, approved March 12, 2007, has a quantitation level of 5.0 ng/L. EPA also approved Method 1631, Revision E, in 2002, with a quantitation level of 0.5 ng/L. The sensitivity of Methods 245.1 and 245.2 are well above most State mercury water quality criteria adopted for the protection of aquatic life and human health, which generally fall in the range of 1 to 50 ng/L. In contrast, Methods 245.7 and 1631E do support the measurement of mercury at these low levels.

Although several different methods for the analysis of mercury are currently approved under 40 CFR 136, some of these methods have greater sensitivities and lower quantitation levels than others. An August 23, 2007, memorandum from James A. Hanlon to the Water Division Directors clarifies and explains that, in light of existing regulatory requirements for NPDES permits, only the most sensitive methods, such as Methods 1631E and 245.7, are appropriate in most instances for use in deciding whether to set a permit limitation for mercury and for sampling and analysis of mercury pursuant to the monitoring requirements in a permit. See *Analytical Methods for Mercury in National Pollutant Discharge Elimination System (NPDES) Permits*, which is available at [http://www.epa.gov/npdes/pubs/mercurymemo\\_analyticalmethods.pdf](http://www.epa.gov/npdes/pubs/mercurymemo_analyticalmethods.pdf).

This portion of the review looked at the analytical methods and/or quantitation levels specified for monitoring requirements in permits following promulgation of the more sensitive methods and whether permits provide consideration of method quantitation levels for analytical methods approved by EPA under 40 CFR 136.

EPA examined two permits in each Region 2 State to determine whether justification for the limits, monitoring conditions, and appropriate analytical methods are provided in the permit or fact sheet.

#### New Jersey

Two permits issued after the publication of Method 1631E that PCS identified as containing mercury limits were reviewed. The permit for Clinton Wastewater Treatment Plant (WWTP) (NJ0020389) listed mercury monitoring and reporting requirements based on N.J.A.C. 7:14A-13.5(k)3, but it did not include a specific analytical detection method as a permit condition. In the fact sheet, it was noted that there were no effluent limits for mercury because the effluent

discharge did not have “quantifiable amounts.” The second permit, NJ0022675 (Roxbury), did not list a specific method or any specific permit limitations for mercury. For this facility, the fact sheet was not available at the time of the review.

## **New York**

Two permits identified in PCS as containing mercury limits were reviewed. The Jamaica Water Pollution Control Plant (WPC) permit (NY0026115) was issued after promulgation of Method 1631, and a permit limit, based on a PQL of 0.8 ug/L; Method “245.1 or 245.2” was listed in both the permit and the fact sheet.

The other permit, NY0206644 (Suffolk Co. SD21 SUNY), issued after promulgation of Method 1631E, listed a total daily maximum effluent limit for mercury of 0.0774 micrograms per liter (ug/L) and 0.0016 pounds per day (lb/day). The method listed in the permit was Method 245.1 or 245.2. In the Compliance Schedule section of the permit and in the fact sheet narrative, it was also noted that a one-year study of mercury using EPA Method 1631E should be conducted. During the study, if one of the samples has no detectable mercury, a second sample should be analyzed using Method 1631E.

## **Puerto Rico**

Two permits identified in PCS as containing mercury limits were reviewed. Permit PR0000477 (Rimco Inc.) was listed in PCS as including mercury requirements, but the permit and fact sheet did not contain any limitations. Permit PR0023744 (Prasa Camuy) listed 0.051 ug/L as the daily maximum. No specific method was listed in the permit, but the permit stated that samples should be analyzed using the analytic method with the lowest possible detection limit, in accordance with §6.8 of the Puerto Rico Water Quality Standards Regulations (PRWQSR). The fact sheet did not list any limits, but stated that effluent limits for mercury are based on the Commonwealth of Puerto Rico Environmental Quality Board’s (EQB) Water Quality Certificate.

## **Virgin Islands**

PCS did not identify any permits with mercury limitations issued after December 31, 2005.

### **3.2.2 Impaired Waters**

For impaired waters, EPA examined six permits, two each from New Jersey, New York, and Puerto Rico. The focus of this inquiry was to assess whether each State considers any impairment of a receiving waterbody and, if so, how such impairments are addressed. NPDES regulations prohibit new or expanded discharges to impaired waters (40 CFR 122.4(i)). In addition, Federal regulations require in part that effluent limits be established for pollutants that cause or contribute to an exceedance of WQS and prohibit the issuance of any permit “[w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States” (40 CFR 122.4(d)). If a waterbody is already impaired by a certain pollutant, WQBELs must ensure that a discharge does not cause or contribute to a violation of a numeric or narrative standard. The review looked for discussion in the fact sheets of the impaired status of the receiving water, as well as for effluent limits that reflect State policy and Federal restrictions applicable to impaired waters.

## **New Jersey**

For 303(d)-listed waters, New Jersey assumes background pollutant concentrations exceed criteria and applies criteria at the point of discharge. For both permits, given the available data, it was difficult to determine whether the relevant discharges are located in an area of impairment, and therefore additional information is needed to complete this assessment.

The first New Jersey permit reviewed for impaired waters was Permit NJ0022675 (Roxbury Township, Black River). This facility discharges into Lamington River, portions of which are listed on the State's 2006 303(d) list for temperature, phosphorus, and pH. The permit included, in part, WQBELs for phosphorus that reflect the relevant WQS and limits for pH. For Roxbury, statements in the response to comments indicate that the phosphorus limits were set to ensure no exceedance of surface WQS. The fact sheet was not available at the time of the review.

The second New Jersey permit reviewed, NJ0029386 (Two Bridges Sewerage Authority), permitted discharges into Pompton River, portions of which are listed on the State's 2006 303(d) list for chlordane, diadinoxanthin (DDX), lead, mercury, PCBs, phosphorus, and unknown toxic substances. EPA watershed data indicate that Pompton River at Lincoln Park was impaired for mercury (2004 303(d) list). The permit included limits for phosphorus that appeared to be above the WQS. The permit also included a reporting recommended quantification limit (RQL) for mercury, but no discharge limit, because the facility is not a direct source of mercury. The fact sheet was not available at the time of the review.

## **New York**

NYDEC prohibits discharges from contributing to a water quality violation and, thus, in impaired waters, typically applies criteria at the point of discharge. New York has 13 categories of surface waters, each with specified uses (eight categories of freshwaters and five categories of saline waters). Given the available data, it was difficult to determine whether the relevant discharges are located in an area of impairment.

The first New York permit reviewed for impaired waters, NY0005151 (Hudson Avenue Station), permitted discharges to the East River, which is impaired for PCBs. The permit prohibited the discharge of PCBs. The available fact sheet did not discuss the permit conditions addressing PCBs.

The second New York permit reviewed, NY0021750 (Port Jefferson STP), permitted discharges to Port Jefferson Harbor, which is impaired for PCBs and pathogens. The permit includes limits for fecal coliform; limits for (and discussion of) nitrogen based on the Long Island Sound TMDL; and WQBELs for total residual chlorine, cyanide, and mercury. The limit for total coliform (i.e., monthly median 700/100 mL) appears to be less stringent than the applicable State water quality standard (i.e., 70/100 mL) although the permit includes monthly fecal coliform limits that are consistent with other water categories (i.e., 200/100 mL). The fact sheet for this permit was not reviewed.

## **Puerto Rico**

Region 2 implements the NPDES permit program within Puerto Rico, pursuant to Federal requirements. Puerto Rico also implements antidegradation requirements through its 401

certification process. In the case of Tier 1 waters (Protection of Existing and Designated Uses), a determination is made as to whether a discharge would lower water quality such that it would no longer be sufficient to protect and maintain the existing and designated uses of that waterbody. When the assimilative capacity of a waterbody is determined to be insufficient to protect existing and designated uses with an additional load to the waterbody, the Commonwealth of Puerto Rico's EQB does not allow a discharge increase by requiring that the applicable WQS be met at the point of discharge. To allow the lowering of water quality in Tier 2 waters, EQB evaluates the existing and protected quality of the receiving water on a parameter-by-parameter basis. In those cases where a potential increase in loading from a discharge might result in the lowering of water quality, the applicant must show and justify the necessity for such lowering of water quality. As part of the Tier 2 antidegradation review process (High-Quality Waters), EQB provides a public comment period of at least 30 days. In the case of Tier 3 waters (Outstanding Natural Resource Waters; SA or SE classifications in PRWQSR, or as designated by EQB), no point source discharge is allowed.

The Prasa Utuadorio Arecibo facility (permit PR0020915) is a WWTP that discharges to the Río Grande de Arecibo. Portions of the Río Grande de Arecibo are impaired for arsenic, copper, cyanide, fecal coliform, and lead. The permit included limits for all of these parameters, based on EQB's Water Quality Certificate (not attached to the permit or otherwise available for review). The permit also indicated that the WQS for fecal coliform and lead are exceeded downstream of the discharge. The limit for lead in the permit appeared to be more stringent than the applicable water quality standard for lead, and the limit for fecal coliform appeared to be equal to the water quality standard for fecal coliform. Thus, these limits appeared to be consistent with applicable impaired water requirements. The fact sheet explained that the limits for arsenic, copper, cyanide, fecal coliform, and lead (as well as others) were based on the EQB's Water Quality Certificate.

The Thames-Dick Superaqueduct (permit PR0026123) is a potable water distribution pipeline that may discharge drinking water (during emergency events) at several points into the following waterbodies: Raw Water Reserve of Río Grande de Arecibo, Quebrada La Regadera, Río Grande de Manatí, Río Cibuco, Río La Plata, Río Hondo and Río Bayamón. These waters are listed as impaired for the following pollutants:

<b>Waterbody</b>	<b>303(d) Impairments (2002/ 2004)</b>
Raw Water Reserve of Río Grande de Arecibo	Arsenic, copper, cyanide, fecal coliform, lead
Quebrada La Regadera	No impairments identified
Río Grande de Manatí	Arsenic, copper, fecal coliform, mercury
Río Cibuco	Arsenic, copper, surfactants
Río La Plata	Arsenic, copper, selenium, surfactants
Río Hondo	Ammonia, arsenic, fecal coliform, surfactants
Río Bayamón	Arsenic, copper, cyanide, fecal coliform, surfactants

The Thames-Dick Superaqueduct facility does not appear to discharge these pollutants, and the permit did not include limits for these parameters. Thus, the permit appeared consistent with impaired waters requirements. The fact sheet did not discuss the condition of the receiving waters.

## **Virgin Islands**

PCS did not identify any permits discharging to impaired waters issued after December 31, 2005.

### **3.2.3 Total Maximum Daily Loads**

A TMDL is a calculation of the maximum quantity of a given pollutant that may be added to a waterbody from all sources without exceeding the applicable water quality standard for that pollutant. States must establish TMDLs for all impairing pollutants— those pollutants that prevent waters from attaining water quality standards after implementation of applicable technology-based requirements. Where a TMDL has been established for a waterbody, effluent limits should be consistent with the assumptions and requirements of any waste load allocation (WLA) for the discharge and approved by EPA.

For the TMDL review, EPA examined five permits, two each from New Jersey and New York and one from the Virgin Islands. The focus of this inquiry was to verify that final TMDL requirements applicable to point sources are being implemented in NPDES permits. Fact sheet discussion and permit limits were reviewed to determine whether they reflect final applicable wasteload allocations.

#### **New Jersey**

NJDEP employs a process under which TMDLs are proposed, established, approved by Region 2, and adopted as water quality management plan amendments. To date, numerous TMDLs have been approved, but many of them have not been adopted in water quality plans. The State permitting staff works closely with the TMDL group so that they are aware of TMDLs under development. The permitting staff also coordinates with relevant intrastate agencies, such as the Delaware River Basin Commission.

Two New Jersey permits were reviewed. Permit NJ0024872 (TNSA STP) permitted discharges to the Atlantic Ocean. NJDEP has established 46 TMDLs for pathogens in coastal shellfish-impaired waters. The permit reviewed included limits for fecal coliform and monitoring requirements for enterococci. The applicable TMDL (addressing Watershed Management Area 12; 9/27/06) does not alter these limits because permit limits reflect State WQS and discharges from POTWs are considered *de minimis* under the TMDL, based on required year-round disinfection (N.J.A.C. 7:14A-12.5(a)). For Permit NJ0004171 (Tube Drawing Facility), no applicable TMDL was identified.

#### **New York**

NYDEC implements TMDLs based on a relative priority basis. For example, TMDLs that protect drinking water are implemented on a high-priority basis. Some TMDLs are phased in over time. In each case, the approach to implementation is tailored to the situation in a manner

consistent with State requirements and guidance. The State's watershed approach to permitting supports the TMDL process and promotes a broad understanding of water quality.

Two New York permits were reviewed for consistency with applicable TMDLs, Coney Island Water Pollution Control Plant (WPCP) (NY0026182) and Oakwood Beach WPCP (NY0026174). The limits in the two permits reviewed did not appear to fully implement a 1994 final TMDL for copper, mercury, nickel, and lead in New York-New Jersey Harbor. Mercury limits in both permits appeared to be based on a PQL of 0.8 ug/L and a Department policy that states that where mercury cannot be reliably detected at the WQBEL, the pollutant will be subject to a PQL-based limit. Both fact sheets acknowledged the mercury WLA from the TMDL, and both included the TMDL WLA for mercury as the WQBEL. In both permits, however, a technology-based effluent limit (TBEL) less stringent than the WLA/WQBEL was used to address mercury. Both permits clearly indicated that these limits were based on a PQL of 0.8 ug/L, using EPA Method 245.1 or 245.2. In addition, each fact sheet explained that the water quality-based mercury limits are lower than the PQL-based limits and that where mercury cannot be detected at such low levels, Department policy is to use PQL-based limits.

The Oakwood Beach permit, which became effective in 2001 and was modified in 2002, 2003, and 2005, also appeared to be subject to the final TMDL wasteload allocations for copper (3.1114 lb/day), nickel (2.8418 lb/day), and lead (0.4625 lb/day) under the 1994 New York-New Jersey Harbor final TMDL. The permit did not include limits for these parameters but included monitoring action levels for them that are less stringent than the respective WLAs (i.e., copper – 7.0 lb/day; nickel – 5.3 lb/day; lead – 1.3 lb/day). The 2005 fact sheet, which indicated it reflected changes made to the permit in 2003, stated that these action levels were based on a review of several years of discharge data. No other discussion of the TMDL was identified, and prior permits were not obtained for review. (These might be informative given that the TMDL was final in 1994.)

## **Virgin Islands**

The Vessup Bay WWTP (VI0020133) is identified in two TMDLs, one that addresses dissolved oxygen and one that addresses pathogens. Both TMDLs were published “final” nine days before the permit was signed. Neither TMDL requires changes in the relevant permit conditions.

## **Puerto Rico**

PCS did not identify any permits discharging to a waterbody with TMDLs issued after December 31, 2005.

### **3.2.4 Use of *E. coli* and *Enterococcus* Bacteria Standards**

In its 1986 *Ambient Water Quality Criteria for Bacteria* document, EPA determined that *Escherichia coli* (*E. coli*) and *Enterococcus* are the most reliable indicators of bacteria in surface waters and recommended that these two indicators serve as the basis for bacterial water quality standards. *E. coli* is recommended as an indicator criterion for freshwaters, and *Enterococcus* is recommended as an indicator criterion for freshwaters and marine waters.

The EPA-recommended recreational WQS for *E. coli* is based on two criteria: 1) a geometric mean of 126 organisms/100 mL based on several samples collected during dry weather conditions or 2) a single-sample maximum based on designated use (e.g., 235 organisms/100 mL for designated beach) (EPA 1986). The EPA-recommended recreational WQS for enterococci is based on two criteria: 1) a geometric mean of 33 organisms/100 mL (freshwater) or 35 organisms/100 mL (marine waters) and 2) a single-sample maximum based on designated use. EPA published approved test methods for *E. coli* and enterococci in wastewater on March 26, 2007 (72 FR 14220). These methods were added to 40 CFR 136.

All Region 2 States and territories are subject to the BEACH Act (2000). Under the Beaches Environmental Assessment and Coastal Health Act of 2000 (BEACH Act), States with coastal recreation waters must incorporate EPA's published criteria for pathogens or pathogen indicators, or criteria EPA considers equally protective of human health, into their State WQS by April 4, 2004. EPA published a final rule on November 16, 2004, promulgating its 1986 WQS for *E. coli* and enterococci for the 21 States and Territories with coastal recreational waters that had not adopted water quality criteria as protective of human health as EPA's approved criteria. New York, the Virgin Islands, and Puerto Rico are subject to 40 CFR 131.41; these requirements apply until the State adopts requirements that are consistent with Federal criteria.

This portion of the review examined whether the States have water quality standards for *E. coli* and/or *Enterococcus* and, if so, whether they are being implemented when appropriate in permits.

New Jersey has WQS for enterococci, *E. coli*, and fecal coliform that are consistent with Federal criteria (N.J.A.C. 7:9B-1.14). The State uses enterococci for permits that discharge to saline waters. The *E. coli* standards for freshwater became effective in October 2007.

New York has water quality criteria for total and fecal coliform for different water classes, but these criteria do not address *E. coli* and enterococci (NYSCRR Title 6, Chapter X, §703.4). New York does have Department of Health (DOH) criteria for fecal coliform, *E. coli*, and enterococci at bathing beaches. These criteria, which otherwise appear to be consistent with Federal water quality criteria, are not implemented through NPDES permits. Rather, the DOH criteria are implemented through separate beach permits, placarding, and closing of contaminated beaches (see New York State Sanitary Code for Bathing Beaches, Chapter I, Subpart 6-2).

The Virgin Islands has WQS for fecal coliform and enterococci that are consistent with Federal criteria (Title 12 V.I.R.R. §§186-3 and 186-4).

Puerto Rico is not authorized to implement the NPDES program, and therefore NPDES permits in Puerto Rico are subject to Federal water quality criteria.

Two permits from New Jersey and one permit from New York were reviewed to determine whether the permits reflect the most current bacteria water quality indicator. In addition, the bacteria limits for certain core permits were reviewed.

## **New Jersey**

Both the permit for the Rockaway Valley Regional Sanitation Authority (NJ0022349) and the permit for the Mountain View Sewage Treatment Plant (NJ0028002) permitted discharges to freshwater, and both included limits for fecal coliform and require monitoring for *E. coli*. The fact sheets for each indicated that *E. coli* monitoring was included because *E. coli* criteria were adopted for freshwater in the State's 2006 WQS. The State will use the monitoring data to help establish appropriate limits as it transitions to implementing the recent *E. coli* freshwater criteria.

The core permit review found that two New Jersey POTW permits included fecal coliform limits; one of them included monitoring for *E. coli*.

With regard to analytical methods, New Jersey permits typically require that analyses be performed in accordance with procedures specified in 40 CFR 136, unless otherwise specified.

## **New York**

The New York permit for the Springwater Wastewater Treatment Facility (NY0246450) included limits for fecal coliform consistent with the State's WQS. This permit did not implement 40 CFR 131.41, but the facility may not discharge to coastal recreational waters (State DOH criteria may meet CWA requirements). In addition, the core permit review found that three New York POTW permits included limits for fecal coliform consistent with the State's WQS.

With regard to analytical methods, New York permits typically required that analyses be performed in accordance with the procedures specified in 40 CFR 136 unless otherwise specified. The New York permits also specified that fecal and total coliform sampling must use the most probable number method using the multiple fermentation tube technique.

### **3.2.5 Antidegradation and Mixing Zones**

Provisions for antidegradation were reviewed for consistency with State and Federal program requirements. A similar analysis was conducted to examine the application of mixing zones for each State. Permits from New Jersey and New York were examined.

#### **Antidegradation Findings**

In New Jersey, the State's Surface WQS (SWQS) establish antidegradation policies for all State surface waters (see N.J.A.C. 7:9B-1.5(d)). The antidegradation policies require that all existing and designated uses be maintained and protected for all State surface waters and, where water quality exceeds levels necessary to support designated uses, that existing water quality is maintained and protected unless NJDEP finds that allowing lower water quality is necessary to accommodate important economic or social development. The antidegradation policies provide three "tiers" of antidegradation protection for surface waters of the State.

In New York, the State has an antidegradation policy (1985), with an applicable Great Lakes Basin update (TOGS 1.3.9). The 1985 policy appears to address the traditional Tier 1 and 2 antidegradation provisions; however, it is not as clear with regard to Tier 3 waters. The 1985 policy discusses requirements for waters that do not meet applicable standards, maintaining and

protecting water uses and quality, and existing waters that exceed applicable standards. It also applies the State Environmental Quality Review Act (SEQR) process for waters meeting higher uses or attaining quality higher than current classification. This issue was not discussed during the site visit. The permit documentation reviewed did not routinely discuss when antidegradation is applicable and how the permit conditions meet State policy.

### **Mixing Zone Findings**

With respect to New Jersey's approach to mixing zones, for freshwater dischargers, rapid and complete mixing is assumed in most cases unless a site-specific mixing zone study has been completed. For ocean dischargers, each facility has performed a site-specific mixing zone study and has been assigned individual dilution credit numbers.

In New York, mixing zones are applied pursuant to State TOGS, which address complete and incomplete mixing for acute and chronic criteria (as well as several specific categories of waterbodies). To the extent that documentation was available, the permits reviewed appeared consistent with the State approach. However, additional documentation of the water quality analysis, including the use of mixing zones and explanation of the State approach in the fact sheet, would be useful.

### **3.2.6 Thermal Variances and Cooling Water Intake Structures (CWA §316(a) and (b))**

CWA §316(a) addresses thermal variances from effluent limitations, and §316(b) addresses impacts from cooling water intake structures (CWISs). The goal of this permit review was to identify how the permitting authority incorporated §316 provisions into permit requirements.

The universe of potential NPDES permits for review was determined using EPA's PCS database. A query of PCS produced a list of NPDES permits in Region 2 under Standard Industrial Classification (SIC) codes 4911 and 4931. Both are steam electric generator categories, which are industry sectors that typically use large volumes of cooling water and are often subject to both §316(a) and §316 (b). Based on discussions with Region 2 staff, it was determined that there are no facilities subject to §316(b) Phase I (new facilities) in the Region. EPA selected 12 permits from all States and Territories in the Region (four in New Jersey, four in New York, two in Puerto Rico, and two in Virgin Islands).

Note that as a result of litigation, on July 9, 2007 (72 FR 37107), EPA suspended parts of the Phase II §316(b) regulation and announced that, pending further rulemaking (currently ongoing), permit requirements for cooling water intake structures at Phase II facilities should be established on a case-by-case, BPJ basis (see 40 CFR 125.90(b)). In addition, facilities with cooling water intake structures not currently subject to a national regulation under §316(b) (e.g., manufacturing facilities) must also include permit requirements on a case-by-case, BPJ basis (see 40 CFR 401.14 and 125.90(b)).

#### **New Jersey**

§316(a): Permits for the Hudson Generating Station (NJ0000647) and the Mercer Generating Station (NJ0004995) both contained §316(a) variances that were evaluated within the past five

years; fact sheets for both facilities included excellent documentation of the bases for variances. The Valero Refining permit (NJ0005029) contained a temperature limitation based on State regulations and a thermal water quality study submitted in 1995, but no mention of §316(a) was included. The permit for the Fibermark paper mill facility (NJ0004448) contained temperature limits based on State WQS and regulations.

§316(b): The permits for the Hudson and Mercer power plants both had §316(b) provisions that were thoroughly described in fact sheet documentation. The permit for the Hudson Generating Station required installation of coarse mesh traveling screens with spray wash and fish return. The permit for the Mercer Generating Station required the selection of one of two options: 1) design and construct one of the following: modify existing screens for continuous operation, install new coarse mesh Ristroph screens, or install new fine mesh Ristroph screens, or 2) conduct additional studies as part of the comprehensive demonstration study and use restoration measures in addition to technologies. The fact sheets for both facilities clearly explained the consideration of multiple alternative technologies and the basis for the §316(b) requirements. The permits were based on BPJ but referenced the Phase II rule.

The permits for the manufacturing facilities (Fibermark paper mill and Valero Refining) lacked §316(b) documentation and permit conditions.

## **New York**

§316(a): The Danskammer Generating Station permit (NY0006262) discussed the facility's thermal discharge limits, but not a §316(a) thermal variance. The Astoria Generating Station (NY0005118) permit's §316(a) variance (established in its demonstration study) had been continued in the permit. Astoria's interim permit limits established a mixing zone and required the facility to conduct a thermal discharge study; the final permit limits for discharge temperature were more stringent than the interim limits. The International Paper permit (NY0004413) noted that the thermal limit was based on a 1974 settlement agreement, but it did not discuss a thermal variance. The permit for Bethlehem Steel (ISG Lackawanna) (NY0001368) had a temperature limit based on WQS.

§316(b): The Danskammer permit contained an extensive §316(b) discussion: impacts from the use of cooling water intake structures require analyses of technologies to reduce those impacts, and a definition of best technology available (BTA). The Astoria permit and fact sheet also discussed impingement and entrainment impacts, current technologies in use, additional technologies and operational measures to reduce impingement and entrainment, and requirements for future technology feasibility analyses. Astoria's interim permit requirements included a number of studies, some of which were very similar to (or cited) elements of the now-remanded Phase II rule; final permit requirements included the operation of specific intake technologies to reduce impingement and entrainment impacts. Both the International Paper permit and Bethlehem Steel permits lacked §316(b) documentation and permit conditions.

## **Puerto Rico**

§316(a): EcoElectrica Liquid Natural Gas Terminal (PR0025984) uses a closed-cycle recirculating system and its thermal discharge does not exceed the WQS. The facility conducted monitoring during the previous permit term to confirm that there were no impacts on aquatic

populations; no thermal variance is necessary. The Puerto Rico Electric Power Authority (PREPA) permit (PR0000698) allowed for a continuation of a thermal variance due to the results of studies to date. Additional studies are required during this permit cycle to ensure the variance is protective of a balanced indigenous population.

§316(b): EcoElectrica uses a closed-cycle recirculating system and was considered compliant with any §316(b) requirements. The PREPA permit required the facility to comply with regulations for §316(b) Phase II facilities, but no BPJ permit conditions were included.

## **Virgin Islands**

§316(a): The Hovensa Petroleum Refinery and Manufacturing facility permit (VI0000019) carried forward a previous thermal limit but did not discuss a thermal variance. The St. Croix Water & Power Authority permit (VI0000051) required only temperature monitoring in the Outfall 1 limits table (temperature limits were missing), as established in a 1985 settlement agreement. Both permits contained the Virgin Islands thermal policy, which establishes a mixing zone, temperature limits, and other requirements.

§316(b): Neither the Hovensa or the St. Croix permit discussed requirements for cooling water intake structures, nor was it clear that either facility uses cooling water.

### **3.2.7 Combined Sewer Overflows (CSOs)**

In 2007 EPA adopted a new definition for the Water Safe for Swimming (SS) Measure, which sets goals to address the water quality and human health impacts of CSOs. The new definition sets a goal of incorporating an implementation schedule with specific dates and milestones for approved projects into an appropriate enforceable mechanism, such as a permit or enforcement order. The cumulative national goal for the SS Measure was 65 percent of the nation's CSO communities.

On the basis of the experience with the FY2007 SS Measure, EPA's OW, Office of Enforcement and Compliance Assurance (OECA), and Regional offices worked together to revise the measure for 2008. The FY2008 revised measure incorporates a revised baseline to account for 59 CSO communities that are not required to develop LTCPs. The resulting measure also ensures that reporting is consistent across all Regions. OW and OECA have provided guidelines describing the various elements of the new SS Measure to promote a better understanding of the measure itself. The revised SS Measure is the number and national percent, using a constant denominator, of CSO permits with a schedule incorporated into an appropriate enforceable mechanism, including a permit or enforcement order, with specific dates and milestones, including a completion date consistent with Agency guidance, which requires one of the following:

- Implementation of an LTCP, which will result in compliance with the technology- and water-quality-based requirements of the CWA
- Implementation of any other acceptable CSO control measures consistent with the 1994 CSO Control Policy
- Completion of separation after the baseline date.

As part of this review, EPA assessed the SS Measure in Region 2 and conducted a review of LTCPs in Region 2. The LTCP review was based on the expectations of the CWA and 1994 CSO Control Policy.

### **Water Safe for Swimming (SS) Performance Measure**

In FY2007 Region 2 States exceeded the Regional commitment of 50 (47 percent) and reached 51 (48 percent) CSO permits or enforceable orders with approved LTCPs. In FY2008, under the revised definition of the CSO measure, the Region's commitment was 64 (60 percent). The Region's commitments have been below the national goals of 65 percent and 75 percent for FY2007 and FY2008, respectively. The Region 2 CSO universe is 106.

### **New Jersey Long-Term Control Plan Review**

Two CSO control alternative analysis documents for New Jersey were reviewed. An EPA LTCP review checklist is typically used for such reviews; however, the two facilities were not reviewed using that checklist because the two New Jersey documents encompassed only part of what is normally included in the review checklist. The general review is summarized below.

*Joint Meeting of Essex and Union County (JMEUC):* The JMEUC Cost and Performance Analysis Report documents generally had clear, concise summaries that complied with requirements of the NPDES General Permit, NJ0105023. The report was written to comply with the requirements of the NPDES General Permit. However, because JMEUC does not own the collection system or experience CSOs, some of the specific requirements of the General Permit did not apply. JMEUC met with NJDEP to determine appropriate ways to comply with the requirements. JMEUC calculated performance values and used them to examine storage and conveyance options for its system, which is in keeping with the spirit of the requirements of the General Permit and appears to comply with NJDEP's requirements. The LTCP Cost and Performance Analysis Report complied with the requirements of the permit and the permit action dated February 24, 2006. This document received a *high* review score.

*North Hudson Sewerage Authority:* The North Hudson Cost and Performance Analysis document contained all elements required by the NPDES General Permit, NJ0105023, and was well-written and well-analyzed. It was unclear, however, how some decisions regarding recommended technologies had been made. (Some statements about what was most costly were true for only some performance values.) In addition, there were several differences in how flow values had been calculated relative to the JMEUC Report (discussed above). For North Hudson, the required treatment capacity (RTC) was taken directly from the permit, whereas for JMEUC, the RTC was calculated using per capita flows and non-excessive inflow. The dry-weather flow was also calculated differently, using different definitions of a wet-weather event. The wet-weather treatment document contained all the elements required by the permit. It was well-written and comprehensive. This document received a *medium-high* review score.

### **New York Long-Term Control Plan Review**

Two CSO control plans from New York were reviewed using an LTCP review checklist, and the reviews are summarized below.

*The Bronx River Waterbody/Watershed Facility Plan:* The review identified a number of items that were well documented. The plan was very comprehensive in its characterization of the watershed and its evaluation of CSO control alternatives. However, the plan did not clearly evaluate scenarios that could result in compliance with WQS and instead focused on the percentage of impairments that could be attributed to upstream sources. The plan does, however, comply with all requirements of the CSO Control Policy. Overall, the plan received a *high-medium* review score.

*Poughkeepsie Facility Plan:* Poughkeepsie is a small community, and therefore it must fulfill only a portion of the LTCP requirements. This was done through discussions of the Nine Minimum Controls; identification of sensitive areas, including public participation; and alternatives analyses, which were adequately completed and thus rated a medium score. However, there appears to be a great deal of information already generated about the Poughkeepsie system that was not summarized or used in the document. For example, there is evidently a sewer system model and possibly a receiving water model that were mentioned, but neither was used in the plan. In addition, the water quality data used to characterize the receiving water and quality of CSOs were collected in 1987, and the system has undergone upgrades since that time. It appears that more information that could have improved the plan was available. This plan received a *medium-low* review score based on EPA's LTCP review checklist.

### **3.2.8 Sanitary Sewer Overflows (SSOs)**

Ensuring reporting of overflows to the NPDES authority is essential to controlling wet-weather discharges from municipal wastewater sources. EPA believes that currently, most CSOs and bypasses at treatment plants are being adequately reported. However, information obtained in developing the 2004 *Report to Congress on the Impacts and Control of CSOs and SSOs* indicates that some NPDES authorities need to improve permittee reporting of SSOs.

Sewage overflows and bypasses at sewage treatment plants can endanger human health. Appropriate third-party notification can reduce health risks associated with these releases. Permits can establish a process for requiring the permittee or the NPDES authority to notify specified third parties of overflows that might endanger health due to a likelihood of human exposure or unanticipated bypasses and upsets that exceed any effluent limitation in the permit or might endanger health due to a likelihood of human exposure.

In April 2005, EPA's Water Permits Division (WPD) distributed draft guidance for NPDES permit requirements for SSOs. The draft guidance addresses how NPDES permits should be clarified to ensure SSOs and unanticipated bypasses and upsets are reported. The draft fact sheet is available at [http://www.epa.gov/npdes/pubs/sso\\_fact\\_sheet\\_model\\_permit\\_cond.pdf](http://www.epa.gov/npdes/pubs/sso_fact_sheet_model_permit_cond.pdf).

EPA's review of SSOs included an evaluation of the reporting of SSOs and notification to drinking water officials, focusing on whether SSO occurrences are being reported and how drinking water facilities are notified of impacts on source water.

According to Region 2, New Jersey and New York are requiring SSO reporting. An overview of specific findings is provided below.

## **New Jersey**

In New Jersey, permit language requires SSOs (non-compliance events) to be reported. In addition, all POTW permittees are required to report unauthorized discharges and certain discharges that exceed permit limits (i.e., exceedances that cause injury to persons, pose a threat to human health, cause damage to the environment, or pose a threat to the environment) to a State hotline that notifies the appropriate downstream users, such as drinking water suppliers.

## **New York**

In New York, State NPDES regulations provide that permits require that an SSO (untreated or partially treated sewage) be reported within two hours if the discharge is to sensitive waters and within 24 hours if it is to other areas. In addition, SSOs that discharge to sensitive waters are to be reported to the local health department. The POTW permit reviewed (Great Neck, Hornell) incorporated the reporting requirements of New York State regulations by reference when it required that "non-compliance [shall be reported] as prescribed by 6 NYCRR 750-1.2(a) and 750-2."

Section 750-2.7(b) of New York State regulations provides that permittees must report bypasses, upsets, or other incidents of non-compliance "for discharges that would affect bathing areas during bathing season, shellfishing or public drinking water intakes . . . to the regional water engineer and the local health department" within two hours of becoming aware of the discharge. Presumably, the regional water engineer or local health department should notify potentially affected drinking water facilities.

The State has approved wet-weather bypasses in six POTW permits. The facilities blend the bypassed flow with flow receiving secondary treatment. Four of the permits currently contain both the 30-day and 7-day averages of secondary treatment regulations. When reissuing these six permits, the State intends to require permittees to submit a "no feasible alternatives" analysis; Capacity, Management, Operation and Maintenance (CMOM) program; and wet weather operations plan. The Region will continue to work with the State on the issuance of these permits.

Four permits were issued to overflow retention facilities located in sanitary sewer collection systems, but the current permits do not contain effluent limitations. New York State is considering reissuing permits to include effluent limits for the 30-day and 7-day discharge limitations of the secondary treatment regulations, and a 400-counts fecal coliform limit, and to require the permittee to submit a "no feasible alternative" analysis and a CMOM program plan.

### **3.2.9 Stormwater**

As part of this PQR, EPA staff reviewed several stormwater permits and certain aspects of program implementation in New Jersey, New York, Puerto Rico, and the Virgin Islands for consistency with Federal and State requirements.

## **New Jersey**

New Jersey implements a strong stormwater program; particularly for its Phase II Municipal Separate Storm Sewer Systems (MS4s); the State has no Phase I MS4s. New Jersey took the bold

step of designating the entire State for MS4 permit coverage. The State issued four MS4 permits for: 1) densely populated and coastal communities, 2) rural communities, 3) public complexes, and 4) highway agencies. For each of these permits, detailed guidance and an electronic annual report form were issued. The State is to be commended for its efforts to increase compliance on these permits, achieved by holding conferences, sending out reminder letters, and performing inspections of the MS4s.

The State issues seven separate industrial stormwater general permits and has one construction general permit, which was recently reissued. The State's seven industrial permits include one basic general permit and six sector-specific permits. New Jersey also has a unique approach that requires facilities to eliminate exposure of industrial activities to stormwater in order to be covered under the basic industrial stormwater general permit. Facilities that cannot eliminate exposure must be covered under an individual permit or one of six sector-specific stormwater general permits that include more industry-specific requirements than the basic permit.

HQ did not review any New Jersey permits as part of this review.

## **New York**

One general finding for the New York stormwater program is its slow authorization and permit process, which can take at least 18 months and hinders the ability of the State to incorporate comments received from the Region during the public notice process. EPA reviewed one New York MS4 permit and the State's construction general permit. Findings are described below.

*MS4 Permits:* At the time of the review, New York had issued 14 Phase I MS4 Permits, all to POTWs located in New York City. All had been expired since 2006. As of March 11, 2008, one of the 14 permits, Oakwood Beach, had been reissued; the remaining 13 permits were in administrative hearings. EPA reviewed two of the 14 permits. However, the administrative law judges' issues ruling had been appealed, and the appeal had not been ruled on by the NYDEC Commissioner. Once the issues ruling is finalized, the hearing process may continue.

EPA conducted a review of one New York Phase I MS4 permit. The State has included a number of municipal requirements in the permit, including CSOs, pretreatment, biosolids, peak flows to the POTW, a toxicity program, shoreline screening for dry-weather sewage discharges, and industrial stormwater for the POTW. Approximately 90% of the outfalls are combined sewer outfalls, most likely draining to essentially the same area. However, MS4 requirements appear to be almost an afterthought. The only MS4 requirements in the permit are the following:

- Review sewer use bylaws
- Undertake a discharge characterization study which includes largely conventionals, polycyclic aromatic hydrocarbons (PAHs), and some metals
- Develop and submit for approval a stormwater monitoring plan
- If necessary, conduct follow-up to track down illicit discharges detected during the characterization study
- Inventory industrial facilities
- Assess controls against these aforementioned requirements.

Generally, these requirements do not address any substantive stormwater issues, sources, or causes other than illicit discharge detection and elimination. One consideration is that the CSO enforcement order was not reviewed as part of the stormwater controls assessment, which might have some ancillary benefits not detailed in the permit. Overall, the permit relies primarily on monitoring and lacks implementing controls.

In addition, the State is in the process of reissuing its Phase II MS4 and construction general permits, both of which expired in January 2008. HQ reviewed the draft Phase II MS4 general permit and found it adequate. One strength is the inclusion of information on protection of water quality, including coordinating CWA §303(d)-specific requirements and pollutants of concern.

*Construction Permit:* HQ also reviewed the draft construction general permit, which New York was in the process of renewing at the time of the review, and generally found it adequate. Some elements of the State construction general permit follow:

- Requires a construction permit for projects 5,000 square feet and above (approximately 1/10 of an acre) in sensitive watersheds
- Requires ground water and surface water discharges, with no hydrologic connection demonstration required
- Requires approved Stormwater Pollution Prevention Plans (SWPPPs) by MS4s before Notices of Intent (NOIs) may be submitted
- Provides a five-day waiting period after the NOI is submitted if New York standards are used and a 60-day wait if New York standards are not used
- Requires training in erosion and sediment control for all contractors
- Requires signed certification of construction completion before submitting an NOI
- Includes water quality language for turbidity, solids, oils, and floatables
- Includes post-construction requirements for discharges to impaired waters
- Limits the amount of disturbed area unless prior written authorization is received
- Requires qualified inspectors.

## **Puerto Rico**

Region 2 issues stormwater permits in Puerto Rico; the Phase II MS4 permit for Puerto Rico was issued in November 2006. Most MS4s have submitted NOIs and are authorized to discharge under the permit. The Region has been working on addressing all the submitted NOIs; it sent 32 CWA §308 requests for information in July 2007, followed up with 22 administrative orders to non-responsive MS4s in February 2008, and had one additional administrative order to be issued in March 2008. HQ did not review the Puerto Rico MS4 permit as part of this review.

## **Virgin Islands**

The Virgin Islands recently began implementing a stormwater program (i.e., issued its construction general permit). HQ reviewed the draft permit and provided comments to the Region on the construction general permit. An industrial stormwater general permit is unnecessary; the Virgin Islands issues individual permits for those discharges. In addition, no MS4s are required to obtain permit coverage, although the Virgin Islands plans to assess whether to designate any communities.

### **3.2.10 Concentrated Animal Feeding Operations (CAFOs)**

EPA reviewed general permits issued by the States in Region 2 for CAFOs. These general permits cover all animal sectors in the Region and were chosen because of their widespread applicability. This section includes a brief discussion of each State's procedures and a discussion of findings from the permit review.

#### **New Jersey Background**

CAFOs in New Jersey are regulated under Administrative Code 7:14A-2.13, NJPDES "Specific criteria for concentrated animal feeding operations," by NJDEP. Based upon information provided to EPA by the Region, there are five CAFOs in New Jersey.

NJDEP requires all CAFOs, as defined in 40 CFR 122.23 and 40 CFR 122, Appendix B, that discharge pollutants to obtain permits. Additionally, Administrative Code 7:14A-2.13 provides specific information for determining whether an Animal Feeding Operation (AFO) meets the definition of a CAFO.

NJDEP has prepared a statewide stormwater permitting program for CAFOs and designated AFOs, as required by EPA. To implement this program, NJDEP's Bureau of Nonpoint Pollution Control developed a general permit (NJ0138631) according to NJPDES rules (N.J.A.C. 7:14A-2.13). NJDEP administers the program with assistance from the New Jersey Department of Agriculture (NJDA), State Soil Conservation Committee, U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), and New Jersey Soil Conservation Districts.

NJDA has a nonpoint source pollution program that provides assistance in agricultural conservation planning, using BMPs, and the development of conservation management plans, including animal waste nutrient management. Technical assistance and cost-sharing grants are available to help eligible landowners implement BMPs. NJDA also provides guidance concerning the application of organic materials, including animal waste, on agricultural lands. Management plans for land application of organic materials on farmlands may be developed for eligible farm operations. Assistance for these programs is provided at the local level through Soil Conservation Districts. Conservation publications that provide information on managing animal waste and fertilizers are available.

#### **Findings of New Jersey Permit Review**

The New Jersey general permit (NJ0138631) authorizes new and existing discharges from CAFOs and designated AFOs. It is available to any AFO that voluntarily submits a request for authorization. Facilities with discharges already authorized under another general permit or individual permit (NJPDES-Discharge to Surface Water permit (including an expired permit)) are not eligible for authorization under the CAFO permit, except through a revoke-and-reissue permit action by NJDEP.

The permit applies to all areas of New Jersey, except for new discharges to surface waters classified as the highest quality, such as Category One (C1) waters, Pineland Waters (PL), or Fresh Water One (FW1). New facilities discharging to ground water in areas classified as Class 1-A and Class 1-PL, or discharging to ground water that contributes to surface waters classified

as C1 or FW1, are also ineligible for authorization under the general permit. Facilities in those locations must seek coverage under an individual permit.

The current New Jersey general permit required that the Comprehensive Waste Management Plan be prepared by March 1, 2004, and fully implemented by March 1, 2006. The Comprehensive Waste Management Plan required that interim measures be implemented according to the following schedule:

- Best management practices such as good housekeeping, proper disposal of dead animals, crop rotation, vector control, soil stabilization, and feed management, by March 1, 2004
- Diversion of clean stormwater away from animal confinement maintenance and feeding areas by March 1, 2005.

Failure to obtain a stormwater discharge permit is a violation of the CWA and may result in enforcement action and penalties.

Currently, New Jersey regulates five AFOs under its CAFO general permit. Only one AFO, Meadowlands Racetrack, is regulated under an individual permit.

### **New York Background**

NYDEC is the lead regulatory agency regarding CAFOs in New York. New York's SPDES general permit for CAFOs was reissued on July 1, 2004, and expired on June 30, 2009; it was the current permit at the time of the review. The general permit covers facilities with 1,000 animal units or more and operations with 300 to 999 animal units that discharge into navigable waters through a man-made conveyance or directly to surface water. All CAFOs that apply for coverage will be covered by the general permit. In addition, any AFO that meets the definition of a CAFO is eligible for coverage under the same general permit. Facilities with fewer than 300 animal units are not eligible for coverage.

New York CRR, Title 6, Chapter 10, Article 3, requires Agricultural Waste Management Plans (AWMPs) for each CAFO facility covered by the New York SPDES general permit for CAFOs. The AWMP must be developed or reviewed by a qualified Agricultural Environmental Management (AEM) Planner. The permittee and the AEM Planner must certify that the AWMP was prepared in accordance with NRCS Conservation Practice Standard No. 312-NY. The permittee must amend the AWMP prior to any changes that would affect the potential for discharge. The permittee and an AEM Planner must certify every five years (after the date of the initial AWMP) that the AWMP is in accordance with "NRCS Conservation Practice Standard No. 312-NY."

In addition to New York's permit program, all AFOs are encouraged to participate in an AEM process. The AEM program provides tools to help farmers address various water quality issues voluntarily.

The New York Department of Agriculture is the lead agency for voluntary programs. The Department has instituted a program to train and qualify AEM Planners. One element of the AEM program is an innovative process of tiered evaluation of environmental risks, along with the development and implementation of BMPs to minimize and eliminate those risks.

The New York Department of Agriculture and Markets, along with NRCS, is responsible for implementation of the AEM Planner Certification Program, which was developed by these entities in partnership with NYDEC, New York State Soil and Water Conservation District and Commission, Cornell Cooperative Extension, Certified Crop Advisors, agricultural consultants, and farmers. An AEM Planner is a planner deemed qualified by the Commissioner of Agriculture and Markets, in consultation with the State Soil and Water Conservation Committee, to develop and review AWMPs for CAFOs in New York State. To be certified as an AEM Planner, a person must complete five hours of home study and take a four-day training course. After the home study and training course, the first three AWMPs will be reviewed for adequacy. NRCS will issue AEM Planner certificates. Continuing education programs are being developed.

On July 12, 1999, a new law qualified large livestock operations for funding under the Agricultural Non-Point Source Pollution Control and Abatement Program. This program helps to protect water quality through the implementation of BMPs on agricultural operations. The law helps to ensure clean water in New York by helping farmers who otherwise would be ineligible for funding.

### **Findings of New York Permit Review**

Since 1995, the number of large CAFOs with more than 1,000 animal units operating in New York has nearly doubled. As of September 2007, there were 620 CAFOs permitted under the general permit. Of these, 150 were large CAFOs with more than 1,000 animal units and 470 were medium CAFOs (300 to 999 animal units). All large CAFOs and nearly 60 percent of medium CAFOs are covered under the permit program.

The AWMP must be developed by a planner certified to prepare Comprehensive Nutrient Management Plans. The general permit states that:

- Large existing or expanded facilities (1,000 animal units or more) shall develop and retain onsite an AWMP prepared by a qualified AEM planner within 18 months of the coverage under the SPDES permit
- Medium existing or expanded facilities (more than 300 and fewer than 1,000) shall develop and retain onsite an AWMP prepared by a qualified AEM planner within 24 months
- New facilities shall retain onsite and implement a certified AWMP upon the date of coverage under the SPDES permit.

The CAFO operator must submit a certification form to NYSDEC signed by both the CAFO operator and the certified planner who developed the AWMP. The form must be developed in accordance with the NRCS Standard and within the deadlines specified in the general permit. NYDEC notifies the CAFO operator of the AWMP compliance date in writing at the time of permit coverage.

The following CAFOs are not covered by the general permit:

- CAFOs that the Department has determined, prior to the date of coverage, to be contributing to a violation of a water quality standard
- CAFOs that have been notified by the Department to file for an individual SPDES permit

- CAFOs that discharge all of their process wastewater to a publicly owned sanitary sewer system that discharges in accordance with an SPDES permit.

### **3.2.11 Whole Effluent Toxicity (WET)**

EPA reviewed WET provisions for seven Region 2 permits: one New York permit, two New Jersey permits, two draft Virgin Islands permits, and two draft Puerto Rico permits. Of these seven permits, four industrial permits, and three municipal permits were reviewed.

EPA reviewed the WET water quality standards (WQS) and criteria for each State and Territory carefully prior to reviewing the permits and/or fact sheets to see whether the WQS were adequately and correctly represented in the permit. EPA determined whether the provisions in the permits and fact sheets adequately ensured that aquatic life protection criteria would not be exceeded due to permitted discharges.

EPA specifically checked for obsolete permit provisions or citations (e.g., old WET test method references), whether WQS for each State were met through permit requirements, whether WET reasonable potential determinations were made, and, overall, whether an adequate basis or rationale was provided in the permit and fact sheet for the requirements contained in the permit documentation.

Region 2 is recognized for its recent work on developing an NPDES WET draft strategy for the Region and its States and for an increase in regional oversight. The Region has been working toward full State WET implementation by 2009 and has been working with New York to improve future permits by incorporating monitoring requirements and WET limits for both acute and chronic (including sublethal) endpoints where reasonable potential is demonstrated (40 CFR 122.44(d)(1)(v)). Region 2 should continue to ensure regulatory compliance for WET implementation in NPDES permits and continue oversight to ensure the integrity of the States' NPDES WET programs and compliance with permit requirements.

The general findings from the permit review indicated a need for improved documentation of rationales in the fact sheets to provide transparency regarding the basis for permit limits and monitoring requirements.

Other findings applying specifically to States and territories in Region 2 include the following:

#### **New Jersey**

Documentation in the fact sheet did not substantiate the rationale behind permit requirement decisions. The WET monitoring requirements might not ensure that aquatic life protection WQS are not being exceeded; additional WET monitoring or an increase in monitoring frequency might be necessary.

Improved documentation and rationales in the permit and the fact sheets are needed for a) specifying where limits are acute or chronic, development of final, and b) interim permit WET limits, and monitoring requirements, including requiring monitoring frequency, monitoring frequency reduction, and species selection.

The permit fact sheet did not contain any rationale for why a compliance schedule is necessary to meet the final WET limit, and no rationale was provided to support the permit's basis for extending the compliance schedule beyond the term of the permit. Additionally, clarification is needed on the difference between the permit's interim and final WET limits as part of the compliance schedule (especially because in some cases both the interim and final limits were the same).

New Jersey's toxicity tiered study plans, the Preliminary Toxicity Identification/ Complex Toxicity Investigations (PTI/CTI), appeared to allow permittees the ability to cycle through this process multiple times. When a Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE) study failed, it was not clear whether the permittee could initiate another study without having a permit violation. It appeared that there was no need to comply with permit WET limits in that case.

It was not always clear in the permits reviewed at what point the WET limit became effective and whether it was subject to potential permit violations. The permit was not clear on what constitutes a WET permit violation during the tiered PTI/CTI studies period of the permit and, more specifically, when the permittee must ultimately meet compliance with the permit limit.

## **New York**

Documentation in the permit fact sheet did not substantiate the rationales behind permit requirement decisions. The WET monitoring requirements might not be sufficient to ensure that aquatic life protection WQS are not being exceeded; additional WET monitoring or increased monitoring frequency might be necessary. Improved documentation and rationale in the permit fact sheets are also needed for developing final and interim permit limits (and specifying whether the limits are acute or chronic) and monitoring requirements, including the required monitoring frequency, monitoring frequency reduction, and species selection.

## **Puerto Rico**

Draft permits were reviewed. Region 2's update stated that since the PQR review a permit in Puerto Rico with WET limits was issued to Bacardi.

## **Virgin Islands**

Draft permits were reviewed. Region 2's update confirmed that the U.S. Virgin Islands Department of Planning and Natural Resources is continuing to work on its draft permit, which contains WET limits.

### **3.2.12 Pretreatment Program**

New Jersey has an approved State Pretreatment Program. Region 2 implements the Pretreatment Program for New York with a Memorandum of Understanding (MOU) reflecting shared Pretreatment Program oversight activities. New York is not seeking program approval due to resource constraints. EPA Region 2 also implements the Pretreatment Program for Puerto Rico, which consists of one Pretreatment Program covering all the POTW plants. Region 2 has not implemented the Pretreatment Program in the Virgin Islands because no industrial users that discharge to POTWs have been identified there.

The Region should be commended on its continued outreach program, which provides annual pretreatment workshops throughout New York. The Region should also be commended for chairing and continuing to support Pretreatment Regional Council conference calls.

## **New Jersey**

New Jersey's Pretreatment Program was approved April 13, 1982, and, based on information from January 2005, it oversees 24<sup>2</sup> approved POTW Pretreatment Programs, which cover 30 POTWs with 583 permitted Significant Industrial Users (SIUs). The State directly issues permits and does oversight monitoring and inspections of 36 SIUs<sup>3</sup> discharging to POTWs without approved POTW Pretreatment Programs. A review of New Jersey's Pretreatment Program was not performed as part of this NPDES Program Review.

Required revisions to New Jersey regulations for streamlining 2005 regulation modifications were scheduled to be adopted in fall 2007. Upon completion of State regulation revisions, the Region needs to ensure that the State has a systematic approach for ensuring POTWs similarly comply with legal authority requirements.

## **New York**

Region 2 implements the Pretreatment Program in New York. NYDEC is not seeking program approval due to resource constraints. Region 2 oversees 57 approved POTW Pretreatment Programs, which cover 89 POTWs and 1,136 SIUs.<sup>4</sup>

The State's regulatory language incorporates by reference EPA's General Pretreatment Regulations in effect on October 5, 2001.

Approximately 379 of 605 permitted POTWs have greater than the 5 million gallons per day (MGD) design flow threshold for developing a POTW Pretreatment Program. As of October 2003, 41 SIUs<sup>5</sup> located in POTWs without approved Pretreatment Programs were identified, for which the Region directly conducts oversight. The Region monitors compliance of these SIUs through the issuance of CWA §308 requests for information. A review of New York's Pretreatment Program was not performed as part of this NPDES Program Review.

## **Puerto Rico**

Region 2 implements the Puerto Rico Pretreatment Program. The Puerto Rico Aqueduct and Sewer Authority (PRASA) operates the island's POTWs and implements an approved POTW

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<sup>2</sup> The number of SIUs located in POTWs with approved POTW Pretreatment Programs is reported as a combined value for the Region through GPRA. The most recent number reported in GPRA at the time of the review was 1,888 SIUs combined.

<sup>3</sup> The number of SIUs located in POTWs without approved POTW Pretreatment Programs is reported as a combined value for the Region through GPRA. The most recent number reported in GPRA at the time of the review was 75 SIUs combined.

<sup>4</sup> The number of SIUs located in POTWs with approved POTW Pretreatment Programs is reported as a combined value for the Region through GPRA. The most recent number reported in GPRA at the time of the review was 1,888 SIUs combined.

<sup>5</sup> The number of SIUs located in POTWs without approved POTW Pretreatment Programs is reported as a combined value for the Region through GPRA. The most recent number reported in GPRA at the time of the review was 75 SIUs combined.

Pretreatment Program, providing oversight of 169 SIUs.<sup>6</sup> A review of Puerto Rico's Pretreatment Program was not performed as part of this NPDES Program Review.

### **Virgin Islands**

Region 2 implements the Pretreatment Program in the Virgin Islands and was not aware of any SIUs.<sup>7</sup> It is unclear when the most recent EPA survey was conducted. A review of the Virgin Islands' Pretreatment Program was not performed as part of this NPDES Program Review.

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<sup>6</sup> The number of SIUs located in POTWs with approved POTW Pretreatment Programs is reported as a combined value for the Region through GPRA. The most recent number reported in GPRA at the time of the review was 1,888 SIUs combined.

<sup>7</sup> The number of SIUs located in POTWs without approved POTW Pretreatment Programs is reported as a combined value for the Region through GPRA. The most recent number reported in GPRA at the time of the review was 75 SIUs combined.

## **4.0 SUMMARY OF FINDINGS AND PROPOSED ACTION ITEMS**

The NPDES Regional Program and Permit Quality Reviews (PQRs) identified areas where the Region and its States were doing well and recommended areas where improvement is needed. This section provides a summary of the main findings of the review and provides proposed Action

Items to improve Region 2's NPDES permit programs. This list of proposed Action Items will be the basis for ongoing discussions between Region 2 and its authorized States, as well as between Region 2 and EPA HQ. These discussions should focus on eliminating program deficiencies to improve performance by enabling good-quality, defensible permits issued in a timely fashion.

The proposed Action Items are divided into three tiers to identify the priority that should be placed on each Item and facilitate discussions between the Region and States.

- Category 1 - Most Significant: Proposed Action Items will address a current deficiency or noncompliance with a Federal regulation.
- Category 2 - Recommended: Proposed Action Items will address a current deficiency with EPA guidance or policy.
- Category 3 - Suggested: Proposed Action Items are listed as recommendations to increase the effectiveness of the State's or Region's NPDES permit program.

The Category 1 and Category 2 proposed Action Items should be used to augment the existing list of follow-up actions currently established as an indicator performance measure and tracked under EPA's Strategic Plan Water Quality Goals and/or may serve as a road map for modifications to Region 2 program management.

It should be noted that the NPDES Program Review for Region 2 took place in late 2007 and early 2008, and steps for improvement in deficient areas might have already occurred. For Action Items that have been or are currently being addressed by the Region or its States, the Action Item is followed by a description of the progress that has been made since Headquarters conducted its review.

### **4.1 NPDES Regional Program Review**

#### **4.1.1 Water Quality Standards**

Region 2 has two existing Action Items that focus on nutrient water quality standards (WQS) currently tracked under EPA's Strategic Plan Water Quality Goals for Puerto Rico and the Virgin Islands:

- Puerto Rico should continue collecting data to support nutrient criteria development. Because the FY2008 deadline will most likely not be met, it is recommended that the goal in the Action Item database be moved to FY2009. (Category 3)

- In May 2008 Puerto Rico developed a Nutrient Criteria Plan that contains milestones for criteria development in two years and is tracked under Government Performance and Results Act measure WQ-1.
- Region 2 is in the preliminary stages of research for Virgin Islands nutrient criteria and does not anticipate meeting the FY2009 goal. The Region should work with HQ in creating milestones and moving the goal to a later date. (Category 3)
  - The Virgin Islands has a Nutrient Criteria Plan (November 2007) that calls for the adoption of criteria within five years and is tracked under GPRA measure WQ-1.

#### **4.1.2 Permit Issuance**

With regard to permit issuance, Region 2 should work with its States to complete the following actions:

- New Jersey should more actively update the Permit Compliance System (PCS) to avoid additional discrepancies and inaccuracies in its permit issuance data. (Category 2)
- Region 2 should work with New York to ensure permits are sufficiently reviewed by New York prior to permit issuance. (Category 1)

#### **4.1.3 Antidegradation**

New York's antidegradation policy does not adequately address all tiers of waters, and documentation was consistently absent from the permit fact sheet.

- Antidegradation in New York permits should be more clearly documented in the permit record and discussed when antidegradation is applicable, including how permit conditions meet State policy. (Category 2)
  - Since the PQR, New York has developed general antidegradation language for its permitting program and currently conducts antidegradation analysis during permit development.

#### **4.1.4 Sanitary Sewer Overflow (SSO) Reporting**

Region 2 should clarify SSO reporting requirements in permits and work to complete the following actions:

- Provide the number of overflow occurrences and diversion data for New York. (Category 2)
- Work with EPA headquarters (HQ) to develop a 7-day average limit in the New York permit for collection system discharges. (Category 2)
  - Since the review, a 7-day average limit has been developed and has been included in recent permits.
- Region 2 should work with New York to implement a "no feasible alternative" analysis during wet-weather bypasses. (Category 2)
  - Region 2 is continuing to work with New York State's Department of Environmental Conservation (NYDEC) regarding "no feasible alternative" analysis and associated permit language.

#### **4.1.5 Combined Sewer Overflows (CSOs)**

With regard to CSOs, Region 2 should work to complete the following actions:

- Work with New Jersey to incorporate the CSO Long-Term Control Plan (LTCP) into an enforcement document by 2010, and also discuss potential interim measures until all LTCPs are completed. (Category 2)
  - Region 2 has had discussions (February 2009) with the New Jersey Department of Environmental Protection (NJDEP) to incorporate development and implementation of LTCPs and continues to discuss this with the State. New Jersey is making progress in completing a harbor-wide plan that will result in TMDLs for pathogens, toxics, and nutrients.

#### **4.1.6 Stormwater**

With regard to construction stormwater permitting, Region 2 should work to complete the following action:

- Region 2 should consider the requirement that preconstruction flow volume be maintained. (Category 2)

### **4.2 Permit Quality Review**

#### **4.2.1 Core Permit Review**

##### **New Jersey Core Review Findings:**

The core review determined that New Jersey's permitting program was generally sound but could benefit from additional documentation regarding ambient water quality and the use of ambient/background data in the development of water-quality-based effluent limits (WQBELs). The review also identified several implementation issues that could use improvement, including the use of compliance schedules, use of data in the reasonable potential process, and documentation of antibacksliding and antidegradation.

Proposed Action Items to improve implementation of the New Jersey NPDES program include the following:

- The fact sheets should more fully discuss the designated uses of receiving waters and the overall health of ambient water quality. (Category 2)
- The fact sheets should provide a more thorough explanation of any ambient data that were available and used, along with any dilution/mixing assumptions used in the reasonable potential analysis and development of WQBELs. (Category 2)
- The fact sheets should more fully explain how parameters were chosen for conducting the reasonable potential analysis. (Category 2)
- New Jersey typically uses a background concentration of zero in the calculation of WQBELs. The rationale for doing this should be more fully explained in the fact sheets. (Category 2)

- New Jersey should use all relevant information (e.g., type of industry or publicly owned treatment works [POTW], compliance history, type of receiving water and designated use) and representative, verifiable data on effluent quality in its reasonable potential determinations rather than the current practice of requiring a minimum of 10 effluent monitoring data points. (Category 1)
- When establishing compliance schedules for new WQBELs in NPDES permits, the State must ensure that it meets the requirements of 40 CFR 122.47. Additional information regarding the 40 CFR 122.47 requirements is provided in a memorandum from the Director of EPA's Office of Wastewater Management to EPA Region 9, dated October 31, 2007. (Category 1)
  - Since the PQR, New Jersey has received the October 2007 memorandum and is currently ensuring that reissued permits with compliance schedules comply with Federal requirements.

### **New York Core Review Findings:**

The core review identified several significant areas of concern with respect to the NPDES program implemented by the State of New York. NYDEC should work toward building more robust fact sheets that reflect permit development work being conducted. Such documentation is required by Federal regulations and should include standard language on how the various NPDES requirements are fulfilled. In particular, NYDEC should more clearly and consistently document all reasonable potential analyses and limit calculations in the fact sheet. Further, permit limits must ensure compliance with applicable WQS. Substituting quantitation levels or establishing technology-based effluent limits that authorize the discharge of pollutant concentrations that could result in an exceedance of WQS or TMDL wasteload allocations is inappropriate. Finally, New York should continue to work with Region 2 to ensure that the State's streamlined application and Environmental Benefit Permit Strategy (EBPS) processes meet all applicable Federal permitting and administrative procedure requirements.

Proposed Action Items to improve implementation of the New York SPDES program include the following:

- Fact sheets should be enhanced to ensure that they meet all the requirements of 40 CFR 124.8 and 124.56. Specifically, fact sheets should include: (Category 1)
  - A more detailed characterization of the receiving water, including its general health, background concentrations, impairments, and application of TMDLs, if appropriate
  - A more detailed discussion on the determination of pollutants of concern for analysis
  - Calculations used to determine reasonable potential for WQBELs
  - Calculations establishing the final limits.

Since the PQR, New York has convened a workgroup to modify the State's fact sheet template to ensure that appropriate documentation is included. Region 2 staff have reviewed the modified fact sheet template and are satisfied with the changes made by the State.

- Limits must ensure compliance with all applicable water quality standards. (Category 1)
  - Establishing the analytical practical quantitation level (PQL) as the permit limit, where the PQL is above the calculated WQBEL, is inappropriate.
  - Establishing technology-based effluent limits that are not protective of water quality is inappropriate.
- Permit limits must be established using the appropriate level of precision with respect to significant figures. For example, where secondary treatment (or water quality) standards for pH are expressed as 6.0 to 9.0 SU, the permit limits should also be expressed as 6.0 to 9.0 SU, rather than 6 to 9 SU, in accordance with 40 CFR 133.102. (Category 1)
- Region 2 must ensure that the New York State Pollutant Discharge Elimination System (SPDES) program follows Federal regulations for permit issuance, especially those regarding the appropriateness of the administrative renewal process and permit modification approach used under the EBPS. (Category 1)

#### **4.2.2 Mercury Methods**

The permits reviewed to assess implementation of the new mercury methods indicated that consistent procedures were not yet established in New Jersey, New York, or Puerto Rico regarding the use of specific (high-precision) mercury methods. Proposed Action Items for more stringent mercury method implementation in permits include the following:

- All permitting authorities should reassess their procedures for establishing monitoring requirements for mercury and should identify which dischargers would be required to use Method 1631E or 245.7, versus Method 245.1 and 245.2. These procedures should include the need for using higher-precision methods for permit applications, as well as screening and compliance monitoring required in NPDES permits, to ensure that each permit includes the necessary requirements to achieve WQS (40 CFR 122.44(d)(1)). (Category 1)

#### **4.2.3 Impaired Waters and TMDLs**

New Jersey and New York both indicate that, for discharges to impaired waters, they seek to establish limits that reflect water quality criteria at end-of-pipe. The permits reviewed provided some indication that this approach is being implemented; however, one New York permit appeared inconsistent. For all four permits reviewed, given the available data, it was difficult to determine whether the relevant discharges are located in an area of impairment, and therefore additional information is needed to complete this assessment. With regard to TMDLs, both States make efforts to coordinate TMDLs and permits. The New Jersey permit reviewed appeared to be consistent with the relevant TMDL, whereas the New York permits did not implement the TMDL (one permit explained that limits were based on the PQL).

Proposed Action Items to address impaired waters and improve implementation of TMDLs include the following:

- Document in the fact sheet whether a receiving water is impaired and whether the facility discharges pollutants of concern. (This might require that States make impairment data available to permit writers on a location-specific basis.) (Category 2)

- Clarify State policy regarding consideration of background water quality data in developing water quality-based limits. (Category 2)
- Document in the fact sheet whether a relevant TMDL is final or is under development, and how that TMDL has been or will be addressed in the permit.
- (Category 2)
- For New York, reevaluate existing policy with regard to the use of PQLs as a basis for permit limits to ensure State policy is consistent with Federal policy. (Category 1)
- For Puerto Rico, the discussion in the permits and fact sheets should be strengthened regarding whether a facility discharges a pollutant of concern to a waterbody segment listed on the State's 303(d) list for that pollutant, and whether and how the permit addresses the discharge. (Category 2)

#### **4.2.4 *E. coli* and *Enterococcus* Bacteria Standards**

New Jersey has pathogen WQS that appear to be consistent with Federal criteria, and the permit review indicated NJDEP is in the process of implementing these standards. New York has implemented and is implementing WQS for fecal coliform and is subject to 40 CFR 131.41 (bacteriological criteria for those States not complying with CWA §303(i)(1)(A)).

Proposed Action Items to improve implementation of current pathogen limits in permits include the following:

- New Jersey should complete its implementation of recently revised pathogen criteria (e.g., move from monitoring for *E. coli* to putting *E. coli* limits in permits) in accordance with 40 CFR 122.44(d)(1) and §303 of the CWA. Region 2 should help oversee this process. (Category 1)
- New York should implement all applicable pathogen requirements (including 40 CFR 131.41) in accordance with 40 CFR 122.44(d)(1) and §303 of the CWA. (Category 1)
- Both States should document in fact sheets the appropriate application of their respective pathogen standards. (This is important for New York because it has three sources of such standards with distinct applicability.) (Category 2)

#### **4.2.5 Antidegradation and Mixing Zones**

The PQR identified several issues related to the States' documentation of antidegradation and the determination of mixing zones. Proposed Action Items to improve antidegradation and mixing zones in permits include the following:

- Both New Jersey and New York should more clearly document, in their fact sheets or administrative record, how dilution and mixing are considered in the determination of reasonable potential and limit calculations. Documentation should include a discussion of complete versus incomplete mixing and, for incomplete mixing situations, the size and appropriateness of mixing zones. (Category 2)
- When the issuance or reissuance of an NPDES permit allows a new or increased loading of a pollutant, both New Jersey and New York should more clearly document, in the fact sheet or administrative record, their determination of whether and how the State antidegradation policy applies. In accordance with 40 CFR 124.56, if the policy applies,

the fact sheet should describe how the new or increased discharge complies with the State policy. (Category 1)

#### **4.2.6 Thermal Variances and Cooling Water Intake Structures (CWA §316(a) and (b))**

Decisions regarding thermal discharge variances authorized under CWA §316(a) were not well documented in many of the Region 2/State NPDES permits. Permit requirements for cooling water intake structures in accordance with CWA §316(b) were missing from some permits. Region 2 should implement the following Action Items to improve implementation of §316(a) and (b) requirements in permits:

- Region/State permits and fact sheets should explicitly address and document the basis (including the use of mixing zones) for any §316(a) thermal variances. (Category 1)
- Region/States should include §316(b) cooling water intake structure permit conditions for existing facilities on a best professional judgment basis, and the basis should be documented in the permit fact sheet. (Category 1)
- Region/States should ensure that §316(b) is applied to all applicable facilities, not just power-generating facilities. (Category 1)
- Region/State permits should reevaluate any §316(a) variances and §316(b) requirements at each permit renewal and document the basis in the permit fact sheet. Prior determinations should also be documented in the fact sheet and reflected in the current permit, as appropriate. (Category 1)

#### **4.2.7 Stormwater**

Proposed Action Items for improving Region 2 stormwater permits are as follows:

##### **New York:**

- The New York Phase I Municipal Separate Storm Sewer System (MS4) permit does not appear to address appropriate stormwater issues, relies heavily on monitoring, and lacks implementing controls. Region 2 should work toward improving these issues in the New York Phase I MS4 permit. (Category 1)
  - Region 2 is working with New York to address this deficiency. The deficiency has been identified as an item in the New York State CWA §106 Workplan for SFY2009–2010.

#### **4.2.8 Combined Sewer Overflows**

EPA HQ advises all CSO communities in Region 2 to submit LTCPs that meet the applicable CSO criteria. In addition, greater effort is needed by Region 2 and its States to improve compliance with the Water for Safe Swimming goals. Proposed Action Items to improve CSO implementation in Region 2 include the following:

- Region 2 should discuss with HQ its “water safe for swimming” goals and work toward meeting the national goals. (Category 2)

- In New Jersey, 21 of the 30 CSO communities are in the New York-New Jersey Harbor; the development of TMDLs will set the reduction levels for these communities, which will result in upgrading water quality classification. Unfortunately, this planning effort has been delayed due to issues that EPA is in the process of resolving. Region 2 anticipates having a draft TMDL completed in 2009. In New York State, 64 of 76 CSO permittees—or 84% of New York’s universe of CSO communities—will have an approved LTCP and implementation language in an enforceable mechanism. In 2009 that number will be 73 permittees, or 96%.
- Region 2 should work with New York toward making CSO plans comply with all requirements of the CSO Control Policy and LTCP requirements. (Category 1)
  - New York CSO permittees are required to develop LTCPs and submit them for approval by a scheduled date in either a permit or an order. Twenty-two CSO permittees are developing an LTCP or have submitted an LTCP for approval. By the end of 2009, 13 permittees will remain (63 will either be in the process of implementing or have implemented their approved LTCP). By the end of 2010, only three CSO permittees will remain, and they are required to submit an LTCP during FY2011 and will be required to implement it by 2011.

#### **4.2.9 Sanitary Sewer Overflows**

Region 2 believes New York and New Jersey are requiring that SSOs be reported. Proposed Action Items to improve SSO implementation in Region 2 include the following:

##### **New Jersey:**

- In New Jersey, permit language requires that all non-compliance events be reported. New Jersey should work with permittees to ensure potentially impacted drinking water suppliers are notified of CSOs, SSOs, and bypasses at the treatment plant. (Category 2)
  - Region 2 believes that adequate notification of the necessary agencies is already in place. When incidents have occurred in the past, all pertinent agencies were notified.

##### **New York:**

- State NPDES regulations provide that NPDES permits require that discharges of untreated or partially treated sewage be reported to the local health department. The Region should make sure that this is occurring. (Category 2)
- New York has required some POTWs with wet-weather bypasses to submit a no feasible alternatives analysis; Capacity, Management, Operation and Maintenance (CMOM) program, and wet-weather operations plan. The Region should continue to work with New York on the issuance of these permits. (Category 1)

#### **4.2.10 Concentrated Animal Feeding Operations**

New Jersey regulates five AFOs under its CAFO general permit, and one Animal Feeding Operation (AFO) is regulated under an individual permit. Virtually 100% of large CAFOs and nearly 60% of medium CAFOs are covered under the permit program. No Action Items were identified for the New Jersey or New York CAFO programs.

#### 4.2.11 Whole Effluent Toxicity in Permits

General findings from reviewing permits indicated a need for improved documentation and more rationale in both the permit and the fact sheets when developing interim permit limits, final permit limits, and monitoring requirements. Region 2 should continue its NPDES program oversight activities to ensure the overall integrity of the States' NPDES WET programs, the regulatory compliance of State permits with regard to WET implementation, and that permittees comply with NPDES permit WET requirements. Region 2 has provided updates on the Region's and States' progress, including New York State's WET Implementation Strategy *Technical Operations and Guidance Series* (TOGS) status, as well as updates on the Region's interim 2008 milestones and its 2009 milestones for New York, Puerto Rico, and the Virgin Islands toward full implementation of WET in these States for national program oversight work. Region 2 continues to work with New Jersey on identified issues outlined below.

Proposed Action Items for improving WET implementation in Region 2 and its States and Territories include the following:

##### **New Jersey:**

- New Jersey needs to improve documentation and the rationale in permits on requirements such as WET limits (acute or chronic, such as interim and final permit limits) and monitoring requirements (including monitoring frequencies, monitoring frequency reductions, and species selection) so that these requirements will ensure protection of the State's aquatic life protection criteria (WET WQS). (Category 2)
- Permit clarity in New Jersey needs to be improved, specifically when the interim and final permit limits are the same. Further, interim limits under a compliance schedule should lead up to compliance with a final limit as soon as possible, as specified in 40 CFR 122.47. (Category 1)
- More and better explanation is needed regarding the strategy behind using Preliminary Toxicity Identification/ Complex Toxicity Investigations (PTI/CTI) and Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE) studies, including permits with compliance schedules up to and possibly beyond the term of New Jersey permits. (Category 2)
- More explanation is needed for the decisions for WET monitoring frequencies and specifications (e.g., species selection). It is recommended that WET monitoring frequency requirements in permits be increased to ensure the amount and kind of WET data collected are representative of the effluent discharge(s) to support an adequate WET reasonable potential (RP) determination in compliance with 40 CFR 122.44(d)(1)(ii) regulations (e.g., adequate for assessing effluent variability and species sensitivity). Also, monitoring frequencies established in the permit should yield data that are representative of the monitored activity (40 CFR 122.48(b)), and that are sufficient to assess compliance with permit requirements (i.e., limitations) (40 CFR 122.44(i)(1)). (Category 2)
- New Jersey should conduct monitoring in advance of permit issuance or during a permit term (if no WET RP was determined at permit issuance) that ensures that the minimum number of valid WET data points is generated to support New Jersey's policy, which requires a minimum of 10 WET data points before the State can determine WET RP. Therefore, at a minimum, permits must include requirements for pollutant monitoring

that are commensurate with New Jersey's policy of determining RP during or at permit issuance, in addition to meeting the requirements of 40 CFR 122.44(d)(1). The Federal regulations require that WET RP be determined for all permitted discharges regardless of the amount of WET data that is or is not available prior to permit issuance. In addition, EPA's *Technical Support Document for Water Quality-based Toxics Control* provides guidance on how to determine RP even if no data exist. (Category 1)

### **New York:**

- Region 2 should discuss with New York whether any permits have been issued to date with WET limits—acute or chronic (including sublethal endpoints)—and, if not, what basis the State is using for not requiring WET limits where WET RP has been demonstrated (40 CFR 122.44(d)(1)(v)). New York is currently implementing its January 2008 TOGS for WET. As part of the TOGS for WET, New York is currently requiring WET monitoring requirements in permits and, when necessary, will include WET limits to be consistent with Federal requirements. (Category 1)
- New York needs to improve documentation and the rationale in permits on requirements such as WET limits (acute or chronic, such as interim and final permit limits) and monitoring requirements (including monitoring frequencies, monitoring frequency reductions, and species selection) so that these requirements will ensure protection of the State's aquatic life protection criteria (WET WQS). (Category 2)
- Region 2 should work with New York to increase WET monitoring frequency requirements in permits to ensure the amount and kind of WET data collected are representative of effluent discharges in order to support an adequate RP determination in compliance with 40 CFR 122.44(d)(1)(ii) regulations (e.g., adequate for assessing effluent variability and species sensitivity), to yield data that are representative of the monitored activity (40 CFR 122.48(b)), and to assess compliance with permit requirements (i.e., limitations) (40 CFR 122.44(i)(1)). (Category 2)

### **Puerto Rico and Virgin Islands:**

At the time of the PQR, only draft permits were available. As an update since that time, Region 2 has indicated that a permit in Puerto Rico was issued with WET limits (Bacardi) and that the U.S. Virgin Islands Department of Planning and Natural Resources is developing a draft permit with WET limits. (Category 2)

## **4.2.12 Pretreatment Program**

Overall, Region 2 States have commendable Pretreatment Programs. Proposed Action Items to improve Pretreatment Program implementation in Region 2 include the following:

- Region 2 should provide HQ with an update of New Jersey's streamlining 2005 regulation modifications, which were due to be adopted fall 2007. (Category 2)
  - Since the PQR, and effective January 5, 2009, New Jersey has adopted changes to its New Jersey Pollutant Discharge Elimination System regulations that incorporate the 2005 pretreatment streamlining modifications. New Jersey adopted provisions to allow for POTWs to:

1. Grant sampling waivers to categorical indirect users, consistent with 40 CFR 403.12(e)(2)
2. Develop and use best management practices in lieu of numeric local limits, consistent with 40 CFR 403.5(c)(4) and 403.8(f)(1)(B)(3)
3. Use equivalent concentration limits, consistent with 40 CFR 403.6(c)(6)
4. Use equivalent mass limits, consistent with 40 CFR 403.6(c)(5)
5. Define and classify non-significant categorical indirect users, including the criteria, reporting, and oversight conditions consistent with 40 CFR 403.3(v), 403.8(f)(2)(v)(B), and 403.12(q), respectively.

The New Jersey rule change also adopted EPA's revised definition of *significant noncompliance* by reference.

- Region 2 needs to ensure that New Jersey has a systematic approach to ensuring that POTWs comply with legal authority requirements. (Category 2)
  - New Jersey regulations require each approved Pretreatment Program to submit to NJDEP for review a draft local sewer use ordinance that includes the streamlining changes no later than July 4, 2009—180 days from the effective date of these amendments to the State's regulations.
- Region 2 is encouraged to continue to work with New York regarding authorization of the State Pretreatment Program. (Category 3)
  - New York has disinvested in the Pretreatment Program and, with likely budget cuts due to the economy, is not in a position currently to take over the Pretreatment Program in the near future.
- Region 2 needs to continue to track the compliance of New York industries without approved Pretreatment Programs (the number of IUs within this group are reported via GPRA). (Category 2)
- Region 2 should ensure that the Puerto Rico Aqueduct and Sewer Authority's legal authority (PRASA) incorporates the required provisions from the 2005 streamlining regulation modification. (Category 2)
  - Region 2 has notified PRASA by letter (April 2009) that it should adopt the clarification, when practicable.

## **APPENDICES**

**APPENDIX A: CENTRAL TENETS OF THE NPDES PERMITTING PROGRAM**

**APPENDIX B: CORE REVIEW CHECKLISTS**

**APPENDIX A: CENTRAL TENETS OF THE NPDES  
PERMITTING PROGRAM**

## APPENDIX A: CENTRAL TENETS OF THE NPDES PERMITTING PROGRAM

I. Permit Administration	
CWA/NPDES Requirements	Conditions Subject to Disapproval
<p>The Clean Water Act (CWA) and NPDES regulations specify that no point source may discharge pollutants to Waters of United States without explicit authorization provided by an NPDES permit. Complete applications must be submitted at least 180 days prior to discharge or expiration. Additionally, NPDES permit terms may not exceed five years. NPDES permits must clearly state the permit term and may not be modified to extend the permit term beyond five years. The NPDES regulations also require “fact sheets” for all major facilities, general permits, and other permits that might be subject to widespread public interest or raise major issues. Fact sheets <b>must</b> contain all of the elements prescribed at 40CFR124.8 AND 40CFR124.56.</p>	<ul style="list-style-type: none"> <li>- Any facility that fails to submit a complete permit application at least 180 days prior to discharge or expiration</li> <li>- Any permit that does not clearly identify the permitted facility and describe the authorized discharge location(s)</li> <li>- Any permit with a term of more than five years</li> <li>- Any permit modification that extends the permit term beyond five years</li> <li>- Any permit (for a major facility, general permit, etc.) that is not accompanied by a fact sheet developed in accordance with the requirements of 40 CFR 124.8 and 40 CFR 124.56</li> </ul>

II. Technology-Based Effluent Limits	
Municipal Dischargers - Publicly Owned Treatment Works (POTWs)	
CWA/NPDES Requirements	Conditions Subject to Disapproval
<p>The CWA requires publicly owned treatment works (POTWs) to meet secondary or equivalent-to-secondary standards (including limits for BOD, TSS, pH, and percent removal). Permits issued to POTWs, therefore, <b>must</b> contain limits for <b>all</b> of these parameters (or authorized alternatives) in accordance with the Secondary Treatment Regulations at 40 CFR 133.</p>	<ul style="list-style-type: none"> <li>- Any permit that does not contain specific numerical limits for BOD (or an authorized alternative; e.g., CBOD), TSS, pH, and percent removal</li> <li>- Any permit that contains limits less stringent than those prescribed by the Secondary Treatment Regulation at 40 CFR 133, unless authorized by the exceptions noted in this regulation. Any permit that applies these exceptions must clearly document the basis</li> <li>- Any permit that contains a compliance schedule that extends a statutory deadline for meeting secondary treatment requirements</li> </ul>

Non-Municipal Dischargers	
CWA/NPDES Requirements	Conditions Subject to Disapproval
<p>The CWA requires that permits issued to non-municipal dischargers require compliance with a level of treatment performance equivalent to “Best Available Technology Economically Achievable” (BAT) or “Best Conventional Pollutant Control Technology” (BCT) by July 1, 1989, for existing sources, and consistent with “New Source Performance Standards” (NSPS) for new sources. Where effluent limitations guidelines (ELGs) have been developed for a category of dischargers, the technology-based effluent limits <b>must</b> be based on the application of those guidelines. In addition, if pollutants are discharged at treatable levels and ELGs are not available, or for pollutants that were not considered during the development of an applicable ELG, the permit must include requirements at least as stringent as BAT/BCT. The performance level equivalent to BAT/BCT <b>must</b> be developed on a case-by-case basis using the permit writer’s best professional judgment (BPJ) in accordance with the criteria outlined at 40 CFR 125.3(d).</p>	<ul style="list-style-type: none"> <li>- Any permit that does not include a specific numerical limit (or other requirement) for any pollutant parameter that is part of an ELG applicable to a discharger</li> <li>- Any permit that misapplies or miscalculates an applicable limit required by an ELG (<i>e.g., improper categorization, improper new source/existing source determination, inappropriate production or flow data used to calculate limits, failure to adjust limits to account for unregulated wastestreams such as non-contact cooling water or stormwater</i>)</li> <li>- Any permit that does not contain a limit at least as stringent as that required by 40 CFR 125.3(c)(2) where ELGs are inapplicable (<i>e.g., where a pollutant is discharged at treatable levels, but there is no applicable ELG, or the applicable ELG did not consider the pollutant of concern</i>)</li> <li>- Any permit that contains a compliance schedule that extends a statutory deadline for meeting a technology-based effluent limit</li> </ul>

### III. Water Quality-Based Effluent Limits

CWA/NPDES Requirements	Conditions Subject to Disapproval
<p>The CWA requires every State to develop water quality standards to protect receiving water, including designated uses, water quality criteria, and an antidegradation policy. The NPDES regulations at 40 CFR 122.44(d) require that limits <b>must</b> be included in permits where pollutants will cause, have reasonable potential to cause, or contribute to an exceedance of the State’s water quality standards. States will likely have unique implementation policies for determining the need for and calculating water quality-based effluent limits; however, there are certain tenets that may not be waived by these State procedures:</p> <ul style="list-style-type: none"> <li>- Where valid, reliable, and representative effluent data or instream background data are available, they <b>must</b> be used in applicable reasonable potential and limits derivation calculations. Data may not be arbitrarily discarded or ignored.</li> <li>- Where calculations indicate reasonable potential, a specific numeric limit <b>must</b> be included in the permit. Additional “studies” or data collection efforts may not be substituted for enforceable permit limits where “reasonable potential” has been determined.</li> <li>- Where the preponderance of evidence clearly indicates the potential to cause or contribute to an exceedance of State water quality standards (even though data might be sparse or absent), a limit <b>must</b> be included in the permit (e.g., a new POTW plans to chlorinate its effluent and instream chlorine toxicity is anticipated).</li> <li>- Where a technology-based limit is required (due to an ELG or BPJ) <b>and</b> the limit is not protective of water quality standards, a WQBEL <b>must</b> be developed and included in the permit regardless of whether data indicate reasonable potential (i.e., a technology-based limit may not authorize a discharge that would result in a violation of water quality standards).</li> <li>- Where the permit authorizes the discharge of a pollutant that results in a new or increased load to the receiving water, the State must ensure that the new or increased load complies with the antidegradation provisions of the State’s water quality standards.</li> <li>- The final calculated limit placed in the permit <b>must</b> be protective of water quality standards and <b>may not</b> be adjusted to account for “treatability” or analytical method detection levels.</li> </ul>	<ul style="list-style-type: none"> <li>- Any permit where the State fails to use all valid, reliable, and representative effluent or instream background data in reasonable potential and limits calculations</li> <li>- Any permit where the State fails to include a final enforceable limit in a permit where the discharge of a pollutant will cause, have reasonable potential to cause, or contribute to an exceedance of a State water quality standard</li> <li>- Any permit that fails to incorporate wasteload allocations (WLAs) from an approved total maximum daily load (TMDL), or that contains a limit that is not consistent with the WLA prescribed in an approved TMDL</li> <li>- Any permit that contains technology-based limits that are not protective of water quality standards</li> <li>- Any permit that modifies a properly developed water quality-based effluent limit (WQBEL) to account for the ability of treatment to achieve the WQBEL or the availability of an analytical procedure to measure the presence of the pollutant</li> <li>- Any permit that authorizes new or increased loading of a pollutant that is not in compliance with the State’s antidegradation policy</li> <li>- Any permit that contains a limit less stringent than a limit in the previous permit, unless specifically authorized under the antibacksliding provisions of the CWA</li> <li>- Any permit that allows a variance from a State water quality standard, unless the variance has been approved by the EPA Region</li> <li>- Any permit that allows a new or increased loading of a pollutant to a receiving water that has not been evaluated for and shown to be in compliance with the antidegradation provisions of the State’s water quality standards regulations</li> <li>- Any permit that includes a compliance schedule for meeting a WQBEL, unless the State standards specifically allow for compliance schedules and the standard was established or modified after July 1, 1977</li> </ul>

<b>IV. Monitoring and Reporting Conditions</b>	
<b>CWA/NPDES Requirements</b>	<b>Conditions Subject to Disapproval</b>
<p>The CWA and NPDES regulations require permitted facilities to monitor the quality of their discharge and report data to the permitting authority. Each State will have unique policies and procedures to establish appropriate frequencies, procedures, and locations for monitoring; there are, however, certain tenets that may not be waived by these procedures.</p>	<ul style="list-style-type: none"> <li>- Any permit that does not require at least annual monitoring for all pollutants limited in the NPDES permit, unless the permittee has applied for and been granted a specific monitoring waiver by the permitting authority and this specific waiver is included as a condition of the permit</li> <li>- Any permit that does not require monitoring to be performed at the location where limits are calculated and applied (i.e., the monitoring location may not be at a location that includes flows that were not accounted for in limits development; e.g., cooling water, stormwater)</li> <li>- Any permit that does not require that the results of all monitoring of permitted discharges conducted using approved methods be submitted to the permitting authority</li> </ul>

<b>V. Special Conditions</b>	
<b>Municipal Dischargers - Publicly Owned Treatment Works (POTWs)</b>	
<b>CWA/NPDES Requirements</b>	<b>Conditions Subject to Disapproval</b>
<p>In general, special conditions will be established on the basis of the unique characteristics of the permitted facility. The appropriateness of these conditions, therefore, must be assessed on a case-by-case basis. There are, however, certain elements of special conditions that may be the basis of an objection.</p>	<ul style="list-style-type: none"> <li>- <u>Pretreatment</u>: Any permit for a POTW required to implement a pretreatment program that does not contain specific pretreatment conditions [State/Regional-specific language]</li> <li>- <u>Municipal Sewage Sludge/Biosolids</u>: Any permit that does not contain conditions addressing the facility's use/disposal of biosolids consistent with Federal requirements [State/Regional-specific language]</li> <li>- <u>Combined Sewer Overflows (CSOs)</u>: Any permit for a facility authorized to discharge from CSOs that does not comply with the State's CSO control policy and, at a minimum, contain requirements for:                             <ul style="list-style-type: none"> <li>• Requiring compliance with all of the "Nine Minimum Controls"</li> <li>• Requiring development and implementation of a "Long- Term Control Plan"</li> </ul> </li> <li>- <u>Sanitary Sewer Overflows (SSOs)</u>: Any permit that authorizes the discharge of untreated effluent from SSOs under any circumstances</li> </ul>
<b>Municipal and Non-Municipal Dischargers</b>	
<b>CWA/NPDES Requirements</b>	<b>Conditions Subject to Disapproval</b>
<p>In general, special conditions will be established on the basis of the unique characteristics of the permitted facility. The appropriateness of these conditions, therefore, must be assessed on a case-by-case basis. There are, however, certain elements of special conditions that may be the basis of an objection.</p>	<ul style="list-style-type: none"> <li>- Any permit that contains a compliance schedule that extends a CWA deadline or otherwise modifies or postpones CWA or NPDES requirements unless specifically provided for in the statute or regulations</li> <li>- Any permit that uses special studies or management plans to replace or modify limits or conditions that are required by the CWA or NPDES regulations, unless specifically provided for in the CWA or NPDES regulations (<i>e.g., the permit requires a monitoring program in lieu of establishing a permit limit where available data indicate reasonable potential</i>)</li> </ul>

<b>VI. Standard Conditions</b>	
<b>CWA/NPDES Requirements</b>	<b>Conditions Subject to Disapproval</b>
<p>The NPDES regulations at 40 CFR 122.41 and 122.42 require that certain “standard conditions” be placed in all NPDES permits. The regulations allow States to omit or modify these standard conditions <b>only</b> where the omission or modification results in more stringent requirements. For example, the standard condition that allows “bypass” under certain circumstances or the standard condition that allows “upset” to be used as an affirmative defense may be omitted because the result of the omission is a more stringent permit requirement.</p>	<ul style="list-style-type: none"> <li>- Any permit that does not contain <b>all</b> of the standard conditions at 40 CFR 122.41 (unless the omission results in a more stringent condition)</li> <li>- Any permit that modifies the language of the standard conditions (unless the modification results in language that is more stringent than the 122.41 requirement)</li> <li>- Any permit for an existing non-municipal discharger that does not include the notification requirement of 40 CFR 122.42(a)</li> <li>- Any permit for a POTW that does not include the notification requirement of 40 CFR 122.42(b)</li> <li>- Any permit for a Municipal Separate Storm Sewer System (MS4) that does not include the annual reporting requirement of 40 CFR 122.42(c)</li> </ul>

## **APPENDIX B: CORE REVIEW CHECKLISTS**

**APPENDIX B: CORE REVIEW CHECKLISTS**  
**NPDES Permit Quality Review Checklist—For POTWs**

**Pre-Site Visit Review Information**

		Response	Comment
1.	NPDES permit number of facility:		
2.	Name of facility:		
3.	Permit reviewer (last name):		
4.	Date of pre-site visit review (MM/DD/YYYY):		
5.	Is the draft permit complete? (Y/N)		
6.	Is the fact sheet complete? (Y/N)		

**Site Visit Review Information**

		Response	Comment
7.	Date of site visit review (MM/DD/YYYY)		
8.	Is the file copy of the permit the same as the pre-site visit review version? (Y/N)		
9.	Is the file copy of the fact sheet the same as the pre-site visit review version? (Y/N)		
10.	Does the file (administrative record) contain appropriate supporting information (e.g., permit application, permit rationale, limit calculations)? (Y/N)		
11.	Does the file indicate that the permit writer obtained and reviewed DMR/compliance data? (Y/N)		
12.	Does the file indicate that the permit writer obtained and reviewed water quality data (e.g., pollutant concentrations, stream flows) for the receiving water (Y/N/NA)		

**Facility Information**

		Response	Comment
13.	Does the record or permit describe the physical location of the facility (e.g., address, lat/long)? (Y/N)		
14.	Does the record or permit provide the name of the receiving water body(ies) to which the facility discharges? (Y/N)		
15.	Are all outfalls (including combined sewer overflow points) from the POTW treatment facility properly identified and authorized in the permit? (Y/N)		
16.	Does the record or permit contain a description of the wastewater treatment process? (Y/N)		

**Permit Cover Page/Administration**

		Response	Comment
17.	Does the permit term exceed 5 years? (Y/N)		
18.	Does the permit contain specific authorization-to-discharge information (from where to where, by whom)? (Y/N)		
19.	Does the permit contain appropriate issuance, effective, and expiration dates and authorized signatures? (Y/N)		

## Effluent Limits

### General Elements

		Response	Comment
20.	Does the record describe the basis (technology or water quality) for each of the final effluent limits? (Y/N)		
21.	Does the record indicate that any limits are less stringent than those in the previous NPDES permit? (Y/N)		
21a.	If yes, does the record discuss whether “antibacksliding” provisions were met? (Y/N)		

### Technology-Based Effluent Limits (POTWs)

		Response	Comment
22.	Does the permit contain numeric limits for ALL of the following: BOD (or an alternative; e.g., CBOD, COD, TOC), TSS, pH, and percent removal? (Y/N)		
23.	Are percent removal requirements for BOD (or BOD alternative) and TSS included, and are they consistent with secondary treatment requirements (generally 85%; or modified in accordance with 40 CFR 133 allowances)? (Y/N)		
24.	Are technology-based permit limits expressed in appropriate units of measure (i.e., concentration, mass, SU)? (Y/N)		
25.	Are permit limits for BOD and TSS expressed in terms of both 30-day (monthly) average and 7-day (weekly) average limits? (Y/N)		
26.	Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/L BOD5 and TSS for a 30-day (monthly) average and 45 mg/L BOD5 and TSS for a 7-day (weekly) average)? (Y/N)		
26a.	If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter) for the alternate limitations? (Y/N/NA)		
27.	Does the permit contain any <u>technology-based</u> limits for parameters other than those required by secondary treatment (e.g., chlorine, ammonia, nutrients)? (Y/N)		

### Water Quality-Based Effluent Limits

		Response	Comment
28.	Does the record clearly identify the name of the receiving water(s) and the location within the receiving water(s) where the discharge(s) occur? (Y/N)		
29.	Does the record describe (list) the designated uses of the receiving water(s) to which the facility discharges (e.g., contact recreation, aquatic life use)? (Y/N)		
30.	Does the record describe the characteristics of the receiving water(s) (e.g., background pollutant concentrations) in the vicinity of the discharge(s)? (Y/N)		
31.	Does the record indicate that the receiving water(s) is/are impaired for any uses (i.e., that the receiving water(s) is/are listed on the State’s 303(d) list)? (Y/N)		
31a.	If yes, does the record indicate that a TMDL has been <u>completed</u> for the pollutant(s) causing the impairment(s)? (Y/N/NA)		
31b.	If yes, does the record indicate that WQBELs based on applicable WLAs from the completed TMDL(s) were included in the permit? (Y/N/NA)		
32.	Does the record document that a <b>water quality impact assessment</b> (i.e., RP/WQBEL calculations or other WQ model) was performed for this discharger? (Y/N) <b>NOTE: If “NO,” skip to question #44.</b>		

		Response	Comment
33.	Does the record show that a WQ impact assessment was performed for all relevant outfalls at this facility? (Y/N)		
34.	Does the record show that the WQ impact assessment was performed in accordance with the State/Region implementation procedures? (Y/N/NA)		
35.	Does the record describe how "pollutants of concern" were selected for the WQ impact assessment? (Y/N)		
36.	Does the record indicate that any pollutants were missing from the WQ impact assessment (e.g., detected in the effluent or otherwise regulated by TBELs, but no WQ impact assessment performed)? (Y/N)		
37.	Did the WQ impact assessment (i.e., calculations/WQ model) provide an allowance for dilution? (Y/N)		
37a.	If yes, does the record describe how the dilution allowance was determined (e.g., complete/incomplete mixing, critical flow assumptions, mixing zone size)? (Y/N)		
37b.	If yes, did the WQ impact assessment account for contributions from other sources (e.g., ambient/background concentrations)? (Y/N/NA)		
38.	Based on the WQ impact assessment, does the permit contain numeric effluent limits for all pollutants that have a reasonable potential to cause or contribute to an excursion of applicable WQ standards? (Y/N/NA)		
39.	Does the record provide WQBEL calculations for all pollutants that were found to have "reasonable potential"? (Y/N/NA)		
39a.	If yes, are the calculation procedures consistent with the State's implementation procedures? (Y/N/NA)		
40.	Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the record? (Y/N/NA)		
41.	For all final WQBELs, are both long-term (e.g., average monthly) and short-term (e.g., maximum daily, instantaneous) effluent limits established? (Y/N/NA)		
42.	Does the record indicate that the permit will allow new or increased loadings to the receiving water? (Y/N)		
42a.	If yes, does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy? (Y/N/NA)		

#### Monitoring and Reporting Requirements

		Response	Comment
43.	Does the permit require at least annual monitoring for all limited parameters? (Y/N)		
44.	Does the record describe the rationale for monitoring location(s) and frequency(s)? (Y/N)		
45.	Does the permit require influent monitoring for BOD (or alternative) and TSS? (Y/N)		
46.	Does the permit require testing for Whole Effluent Toxicity? (Y/N)		

### Special Conditions

		Response	Comment
47.	Does the permit include appropriate pretreatment program requirements? (Y/N/NA)		
48.	Does the permit include appropriate biosolids use/disposal requirements? (Y/N/NA)		
49.	If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements? (Y/N/NA)		
50.	Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations? (Y/N/NA)		
51.	Does the permit allow discharges from combined sewer overflows (CSOs)? (Y/N)		
51a.	If yes, does the permit require implementation of the "Nine Minimum Controls"? (Y/N/NA)		
51b.	If yes, does the permit require development and implementation of a "Long-Term Control Plan"? (Y/N/NA)		
51c.	If yes, does the permit require monitoring and reporting for CSO events? (Y/N)		
52.	Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., sanitary sewer overflows (SSOs)]? (Y/N)		

### Standard Conditions

		Response	Comment
53.	Does the permit contain all 40 CFR 122.41 standard conditions? (Y/N)		
	<p>List of Standard Conditions – 40 CFR 122.41</p> <ul style="list-style-type: none"> <li>Duty to comply</li> <li>Duty to reapply</li> <li>Need to halt or reduce activity not a defense</li> <li>Duty to mitigate</li> <li>Proper O &amp; M</li> <li>Permit actions</li> <li>Property rights</li> <li>Duty to provide information</li> <li>Inspections and entry</li> </ul>		<ul style="list-style-type: none"> <li>Monitoring and records</li> <li>Signatory requirement</li> <li>Reporting requirements               <ul style="list-style-type: none"> <li>Planned change</li> <li>Anticipated noncompliance</li> </ul> </li> <li>Transfers</li> <li>Monitoring reports</li> <li>Compliance schedules</li> <li>24-hour reporting</li> <li>Other non-compliance</li> <li>Bypass</li> <li>Upset</li> </ul>
54.	Does the permit contain the additional standard condition for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]? (Y/N)		

## NPDES Permit Quality Review Checklist—For Non-Municipals

### Pre-Site Visit Review Information

		Response	Comment
1.	NPDES permit number of facility:		
2.	Name of facility:		
3.	Permit reviewer (Last Name):		
4.	Date of pre-site visit review (MM/DD/YYYY):		
5.	Is the draft permit complete? (Y/N)		
6.	Is the fact sheet complete? (Y/N)		

### Site Visit Review Information

		Response	Comment
7.	Date of site visit review (MM/DD/YYYY)		
8.	Is the file copy of permit the same as the pre-site visit review version? (Y/N)		
9.	Is the file copy of the fact sheet the same as the pre-site visit review version? (Y/N)		
10.	Does the file (administrative record) contain appropriate supporting information (e.g., permit application, permit rationale, limit calculations)? (Y/N)		
11.	Does the file indicate that the permit writer obtained and reviewed DMR/compliance data? (Y/N)		
12.	Does the file indicate that the permit writer obtained and reviewed water quality data (e.g., pollutant concentrations, stream flows) for the receiving water (Y/N/NA)		

### Facility Information

		Response	Comment
13.	Does the record or permit describe the physical location of the facility (e.g., address, lat/long)? (Y/N)		
14.	Does the record or permit provide the name of the receiving water body(ies) to which the facility discharges? (Y/N)		
15.	Are all outfalls from the facility properly identified and authorized in the permit? (Y/N)		
16.	Does the record or permit contain a description of the wastewater treatment process? (Y/N)		

### Permit Cover Page/Administration

		Response	Comment
17.	Does the permit term exceed 5 years? (Y/N)		
18.	Does the permit contain specific authorization-to-discharge information (from where to where, by whom)? (Y/N)		
19.	Does the permit contain appropriate issuance, effective, and expiration dates and authorized signatures? (Y/N)		

## Effluent Limits

### General Elements

		Response	Comment
20.	Does the record describe the basis (technology or water quality) for each of the final effluent limits? (Y/N)		
21.	Does the record indicate that any limits are less stringent than those in the previous NPDES permit? (Y/N)		
21a.	If yes, does the record discuss whether “antibacksliding” provisions were met? (Y/N)		

### Technology-Based Effluent Limits (Effluent Guidelines and BPJ)

		Response	Comment
22.	Is the facility subject to a national effluent limitations guideline (ELG)? (Y/N)		
22a.	If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source? (Y/N/NA)		
23.	For all limits that are based on production or flow, does the record indicate that the calculations are based on a “reasonable measure of ACTUAL production” for the facility (not design)? (Y/N/NA)		
24.	Does the permit contain “tiered” limits that reflect projected increases in production or flow? (Y/N)		
24a.	If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained? (Y/N/NA)		
25.	Does the record indicate that any limits were developed based on best professional judgment (BPJ)? (Y/N/NA)		
25a.	If yes, does the record indicate that the limits were developed considering all of the criteria established at 40 CFR 125.3(d)?		
26.	Does the record adequately document the calculations used to develop both ELG and/or BPJ technology-based effluent limits ? (Y/N)		
27.	Are technology-based permit limits expressed in appropriate units of measure (i.e., concentration, mass, SU)? (Y/N)		
28.	Are all technology-based limits expressed in terms of both maximum daily and monthly average limits? (Y/N)		
29.	Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ? (Y/N)		

### Water Quality-Based Effluent Limits

		Response	Comment
30.	Does the record clearly identify the name of the receiving water(s) and the location within the receiving water(s) where the discharge(s) occur(s)? (Y/N)		
31.	Does the record describe (list) the designated uses of the receiving water(s) to which the facility discharges (e.g., contact recreation, aquatic life use)? (Y/N)		
32.	Does the record describe the characteristics of the receiving water(s) (e.g., background pollutant concentrations) in the vicinity of the discharge(s)? (Y/N)		
33.	Does the record indicate that the receiving water(s) is/are impaired for any uses (i.e., that the receiving water(s) is/are listed on the State's 303(d) list)? (Y/N)		
33a.	If yes, does the record indicate that a TMDL has been <u>completed</u> for the pollutant(s) causing the impairment(s)? (Y/N/NA)		
33b.	If yes, does the record indicate that WQBELs based on applicable WLAs from the completed TMDL(s) were included in the permit? (Y/N/NA)		
34.	Does the record document that a <b>water quality impact assessment</b> (i.e., RP/WQBEL calculations or other WQ model) was performed for this discharger? (Y/N) <b>NOTE: If "NO," skip to question #44</b>		
35.	Does the record show that a WQ impact assessment was performed for all relevant outfalls at this facility? (Y/N)		
36.	Does the record show that the WQ impact assessment was performed in accordance with the State/Region implementation procedures? (Y/N/NA)		
37.	Does the record describe how "pollutants of concern" were selected for the WQ impact assessment? (Y/N)		
38.	Does the record indicate that any pollutants were missing from the WQ impact assessment (e.g., detected in the effluent or otherwise regulated by TBELs, but no WQ impact assessment performed)? (Y/N)		
39.	Did the WQ impact assessment (i.e., calculations/WQ model) provide an allowance for dilution? (Y/N)		
39a.	If yes, does the record describe how the dilution allowance was determined (e.g., complete/incomplete mixing, critical flow assumptions, mixing zone size)? (Y/N)		
39b.	If yes, did the WQ impact assessment account for contributions from other sources (e.g., ambient/background concentrations)? (Y/N/NA)		
40.	Based on the WQ impact assessment, does the permit contain numeric effluent limits for all pollutants that have a reasonable potential to cause or contribute to an excursion of applicable WQ standards? (Y/N/NA)		
41.	Does the record provide WQBEL calculations for all pollutants that were found to have "reasonable potential"? (Y/N/NA)		
41a.	If yes, are the calculation procedures consistent with the State's implementation procedures? (Y/N/NA)		
42.	Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the record? (Y/N/NA)		
43.	For all final WQBELs, are both long-term (e.g., average monthly) and short-term (e.g., maximum daily, instantaneous) effluent limits established? (Y/N/NA)		
44.	Does the record indicate that the permit will allow new or increased loadings to the receiving water? (Y/N)		
44a.	If yes, does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy? (Y/N/NA)		

**Monitoring and Reporting Requirements**

		Response	Comment
45.	Does the permit require at least annual monitoring for all limited parameters? (Y/N)		
45a.	If no, does the record indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver? (Y/N)		
46.	Does the record describe the rationale for monitoring location(s) and frequency(s)? (Y/N)		
47.	Does the permit require testing for Whole Effluent Toxicity? (Y/N)		

**Special Conditions**

		Response	Comment
48.	Does the permit require development and implementation of a best management practices (BMP) plan or site-specific BMPs? (Y/N)		
48a.	If yes, does the permit adequately incorporate and require compliance with the BMPs? (Y/N/NA)		
49.	If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements? (Y/N/NA)		
50.	Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations? (Y/N/NA)		

**Standard Conditions**

		Response	Comment
51.	Does the permit contain all 40 CFR 122.41 standard conditions? (Y/N)		
	<p>List of Standard Conditions – 40 CFR 122.41</p> <ul style="list-style-type: none"> <li>Duty to comply</li> <li>Duty to reapply</li> <li>Need to halt or reduce activity not a defense</li> <li>Duty to mitigate</li> <li>Proper O &amp; M</li> <li>Permit actions</li> <li>Property rights</li> <li>Duty to provide information</li> <li>Inspections and entry</li> </ul>		<ul style="list-style-type: none"> <li>Monitoring and records</li> <li>Signatory requirement</li> <li>Reporting requirements                             <ul style="list-style-type: none"> <li>Planned change</li> <li>Anticipated noncompliance</li> <li>Transfers</li> <li>Monitoring reports</li> <li>Compliance schedules</li> <li>24-hour reporting</li> <li>Other non-compliance</li> </ul> </li> <li>Bypass</li> <li>Upset</li> </ul>
52.	Does the permit contain the additional standard condition for non-municipals regarding notification levels [40 CFR 122.42(a)]? (Y/N)		