

**REGION 2 NPDES  
PROGRAM AND PERMIT QUALITY REVIEW**

**NEW YORK STATE**

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United States Environmental Protection Agency  
Region 2  
290 Broadway  
New York, New York 10007

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## Executive Summary

EPA Region 2's National Pollutant Discharge Elimination System Program and Permit Quality Review (PQR) for New York State found that permits issued in the state were generally sufficiently stringent to protect water quality and adhere to applicable state and federal regulations. The majority of the areas of improvement identified in the Program and Permit Quality Review were in regard to ensuring a complete and robust administrative record and fact sheet to ensure that the basis of the decisions made during the permit development process are documented and explained.

The PQR examined 15 individual permits and 1 draft general permit issued by the New York State Department of Environmental Conservation. As part of the review, EPA reviewed the draft permit and fact sheet, final permit, administrative records, and other permit development documents. The PQR also focused on several national and regional priority areas including:

- Permit Controls for Nutrients in Non-TMDL Waters,
- Effectiveness of Publicly-owned Treatment Works Permits with Food Processor Contributions,
- Small Municipal Separate Storm Sewer System (MS4) Permit Requirements,
- Mercury in the Great Lakes, and
- Combined Sewer Overflows.

The PQR recognized the many state and region-specific challenges faced by New York State, including limited staff and an onerous public hearing process. New York State is working to identify ways to increase the efficiency of the permitting process by developing a state-specific permit writers' manual, developing a new fact sheet template, piloting a rotating source water protection approach to permitting, and investigating ways to streamline the permit hearing process.

Although the permits reviewed commonly conformed to the applicable state and federal requirements, EPA identified several concerns, including the discussion of the basis for permitting decisions in the fact sheet and permitting for mercury in the Great Lakes. Since many of the deficiencies seem to stem from the fact sheet, EPA believes they can be resolved through the development of an improved fact sheet template – which New York has recently completed and started using for newly drafted permits.

Based on this PQR, EPA is recommending improvements to the:

- Discussion of limitation development, limitation expression, and other permit decisions in the fact sheet,

- Documentation of the reasonable potential analysis in the administrative record,
- Inclusion of the general condition specific to publicly-owned treatment works in applicable permits,
- Description of the process for hearings included in the public notice for draft permits,
- Process for deriving nitrogen limitations that are protective of water quality,
- Draft MS4 permit,
- Process for permitting for mercury in the Great Lakes system, and
- CSO permitting program.

EPA and NYSDEC are committed to working closely together to address these concerns, strengthen permit language, improve the documentation of permits, and establish a stronger permit program.

New York State Department of Environmental Quality reviewed a draft of this report dated February 12, 2019 and provided comments to EPA on April 11, 2019. NYSDEC's comments were generally requesting clarification, identifying where actions are planned or already in progress to address a concern, or providing additional details. EPA revised the report to respond to NYSDEC's comments and ensure accuracy. Where NYSDEC identified a planned or in-progress action to address a concern, EPA noted as such with a footnote.

## Commonly Used Acronyms

<b>Acronym</b>	<b>Definition</b>
BAT	Best Available Technology
BCC	Bioaccumulative Contaminants of Concern
BCT	Best Conventional Technology
BOD	Biochemical Oxygen Demand
BMP	Best Management Practices
BPJ	Best Professional Judgement
CAFO	Concentrated Animal Feeding Operation
CBOD	Carbonaceous Biochemical Oxygen Demand
CEDR	Centralized Electronic Document Repository
CFR	Code of Federal Regulation
CORMIX	Cornell Mixing Zone Expert System
CSO	Combined Sewer Overflow
CWA	Clean Water Act
DART	Department Application Review Tracking
DEP	NYSDEC Division of Environmental Permits
DMR	Discharge Monitoring Report
DOW	NYSDEC Division of Water
EBPS	Environmental Benefit Permit Strategy
ELG	Effluent Limitation Guideline
ENB	Environmental Notice Bulletin
EPA	United States Environmental Protection Agency
GIS	Geographic Information System
GLI	Great Lakes Initiative
ICIS	Integrated Compliance Information System
LTCP	Long Term Control Plan
MDV	Multiple Discharger Variance
MS4	Municipal Separate Storm Sewer System
NMC	Nine Minimum Controls
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
PCBs	Polychlorinated biphenyls
POTW	Publicly Owned Treatment Works
PQR	Program and Permit Quality Review
R2	United States Environmental Protection Agency Region 2
RP	Reasonable Potential
SIS	SPDES Information System
SPDES	State Pollutant Discharge Elimination System

SSM	Sufficiently Sensitive Methods
TBEL	Technology-based Effluent Limitation
TMDL	Total Maximum Daily Loads
TOGS	Technical and Operational Guidance Series
TSS	Total Suspended Solids
WET	Whole Effluent Toxicity
WQBEL	Water Quality-based Effluent Limitation
WQS	Water Quality Standard

## I. PQR BACKGROUND

### A. 2018 New York PQR

National Pollutant Discharge Elimination System (NPDES) Program and Permit Quality Reviews (PQRs) are an evaluation of a select set of NPDES permits to determine whether permits are developed in a manner consistent with applicable requirements established in the Clean Water Act (CWA) and NPDES regulations. Through this review mechanism, the EPA promotes national consistency, highlights successes in the implementation of the NPDES program and identifies opportunities for improvement in the development of NPDES permits.

The EPA's review team, consisting of EPA Region 2 and a contractor, conducted a review of the New York State Pollutant Discharge Elimination System (SPDES) permitting program which included a kick-off meeting at the New York State Department of Environmental Conservation (NYSDEC) Regional office in New Paltz, NY on August 28, 2018 and an on-site, file review visit to the NYSDEC Central office in Albany, NY on September 26 and 27, 2018.

The 2018 New York PQR consisted of three components: core permit reviews, national topic area reviews, and regional focus area reviews. The permit reviews focused on core permit quality and included a review of the permit application, permit, fact sheet, and any correspondence, reports or documents that provide the basis for the development of the permit conditions.

The core permit reviews involved the evaluation of selected permits and supporting materials using basic NPDES program criteria. Reviewers completed the core review by examining selected permits and supporting documentation, assessing these materials using standard PQR tools, and talking with NYSDEC management and staff regarding the permit development process. The core review focused on the Central Tenets of the NPDES Permitting<sup>1</sup> program to evaluate the NY SPDES program. In addition, discussion between EPA and NYSDEC staff address a range of topics including program status, the permitting process, responsibilities, organization, and staffing.

The national topic area reviews are conducted to evaluate specific issues or types of permits in all states. The national topic areas reviewed as part of the 2018 NY PQR were nutrients in receiving waters without a total maximum daily load (TMDL), publicly-owned treatment works (POTWs) permits with food processor contributions, and the small municipal separate storm sewer system (MS4) general permit.

The regional topic areas target regionally-specific permit types or aspects of permits. The regional topic areas selected by EPA Region 2 for the 2018 NY PQR were mercury in the Great Lakes Basin and combined sewer overflows (CSO). These reviews provide important information to NYSDEC, EPA Region 2, and the public on specific program areas.

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<sup>1</sup> Available online at <https://www.epa.gov/npdes/central-tenets-npdes-permitting-program>.

It is infeasible to review all of the thousands of SPDES permits issued by NYSDEC. Instead, a small selection of permits is reviewed to provide a snapshot view of the NY SPDES program. A total of 16 permits (all issued since the 2012 NY PQR) were reviewed as part of the 2018 NY PQR. Nine of these permits were reviewed for the core review—and 13 of them were reviewed for the national and regional topic areas. Some permits were reviewed for both the core permit review and the national or regional topic areas. Permits were selected for review based on the issuance date and the review categories that they fulfilled (Section VIII).

Based on the review, EPA has identified action items to improve the NY SPDES permit program. The proposed action items are identified within Section VII of this report and are divided into two categories to identify the priority that should be placed on each item.

- **Essential Action Items** – Essential action items address noncompliance with respect to a federal regulation, which EPA has cited. NY must address these items to be in compliance with applicable federal regulations.
- **Recommended Action Items.** Recommended action items are recommendations to increase the effectiveness of NY's SPDES permitting program.

The essential action items are used to augment the existing list of follow up actions currently tracked by EPA HQ on an annual basis and reviewed during subsequent PQRs.

## B. 2012 New York PQR

The previous NY PQR was conducted in 2012<sup>2</sup>. As part of the 2018 NY PQR, EPA requested updates from NY regarding progress on the action items identified in 2012. Of the 19 essential action items<sup>3</sup> identified in the 2012 NY PQR, 11 have been resolved.

NYSDEC has resolved the bulk of the essential action items from the 2012 PQR. The remaining unresolved essential action items from the 2012 PQR are either in the process of being addressed or represent actions that are long-term or low-priority actions.

In addition to the essential action items, EPA identified 12 recommended action items<sup>4</sup> to improve the NY SPDES permitting program. At the time of the 2018 PQR, NY has implemented 8 of those recommendations. Section VI of this report contains a detailed review of the progress on the action items identified in 2012.

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<sup>2</sup> The resulting report is available online at <https://www.epa.gov/npdes/regional-and-state-npdes-pqr-reports>.

<sup>3</sup> In the 2012 NY PQR, these action items were known as category 1 action items and identified deficiencies or noncompliance with respect to federal regulations. EPA is now referring to these as essential action items.

<sup>4</sup> In the 2012 NY PQR, these action items were known as either category 2 or category 3 action items and identified recommendations and best practices. EPA has consolidated these items into a single category referred to as recommended action items.



## II. STATE PROGRAM BACKGROUND

### A. Program Structure

The NYSDEC, Office of Water Resources, Division of Water manages the Bureau of Water Permits. The Bureau of Water Permits is organized by sections that develop and issue general permit and individual wastewater permits. NYSDEC has one central office in Albany, New York and nine regional offices throughout the state. The central office administers the Division of Water programs including developing SPDES policy, providing technical support for regional offices, and drafting permits for major dischargers. Bureau of Water Permits staff in the regional offices are responsible for drafting permits for minor discharges, conducting inspections, and responding to complaints. The Bureau of Water Permits has 20 permits writers, 4 Section Chiefs, and 3 support staff in the central office; although some positions are vacant due to reassignment or retirement. The NYSDEC regional offices do not have dedicated personnel for permit writing but work plans project approximately 1-2 per region (or 11 person-days total).

The NY SPDES permit program is administered across two divisions – the Division of Water (DOW), within the Office of Water Resources, and the Division of Environmental Permits (DEP), within the Office of Regional Affairs and Permitting (see Figure 1). The DOW is responsible for reviewing the application for completeness, developing permit conditions and finalizing draft permits. The DEP is responsible for conducting an initial review of the permit application, publishing public notices, and issuing finalized permits.

NYSDEC uses a variety of databases to administer the

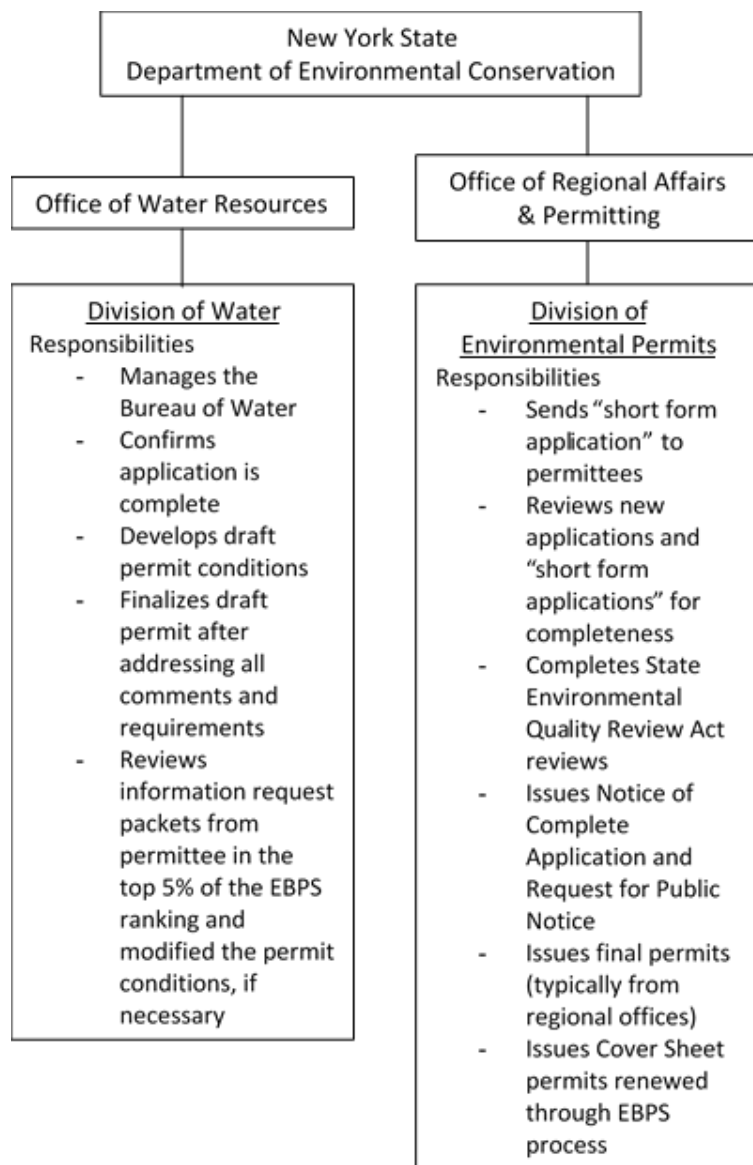


Figure 1 - NYSDEC Division SPDES Permit Responsibilities

SPDES permitting program. Internal databases and tracking sheets are used to assist in prioritizing permitting goals and tracking permits. NYSDEC's Department Application Review Tracking (DART) system is used to track permit issuance and renewals by the DEP. NYSDEC DOW also uses the Water Information System SPDES Tracking to monitor progress in permit development under the EBPS system. NYSDEC relies on geographic information system (GIS) applications during water quality reviews. In addition, NYSDEC is responsible for updating the Integrated Compliance Information System (ICIS) database and uses this information to produce monitoring statistics. Additionally, DEC has developed the DEC Info Locator – a web-based, map which provides access to a variety of public information and documents pertaining to the environmental quality of specific sites in NY State<sup>5</sup>.

NYSDEC ensures consistency and accuracy in permit development by requiring that permit writers use permit page templates and fact sheet templates to draft permits. Permit staff in the central office have been conducting monthly peer review sessions for project reviews to further improve permit quality and consistency. In addition, section chiefs and regional facility inspectors review all draft permits developed in the central office. Permits developed by permit writers in the regional offices are reviewed by management in the regional offices.

The administrative records are maintained in the office in which the permit was developed, either in the region or in the central office, and may be housed in hard copy and/or in electronic format. NYSDEC maintains the Centralized Electronic Document Repository (CEDR) where electronic permit files are housed such as final permits, fact sheets, correspondence, monitoring reports, and compliance records.

## **B. Universe and Permit Issuance**

As of May 15, 2019, NYSDEC was responsible for administering 2,660 individual surface water permits and 1,856 individual ground water permits; totaling 4,516 individual permits. Of the individual surface water permits, 312 are major permits (222 municipal and 90 non-municipal). NYSDEC administers 7 general permits<sup>6</sup> covering approximately 14,100 dischargers. As of March 15, 2019, 3,349 individual surface and ground water permits were backlogged<sup>7</sup> and the NYSDEC SPDES program was 74% current.

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<sup>5</sup> Available online at <https://www.dec.ny.gov/pubs/109457.html>.

<sup>6</sup> NYSDEC's general permits include:

- General Permit for Stormwater Discharges from Construction Activity (GP-0-15-002),
- Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (GP-0-17-004),
- Clean Water Act Concentrated Animal Feeding Operation General Permit (GP-01-19-001),
- Environmental Conservation Law Concentrated Animal Feeding Operations General Permits (GP-0-16-001),
- PCI Groundwater Environmental Conservation Law General Permit (GP-0-15-001),
- Municipal Separate Storm Sewer Systems (MS4) General Permit (GP-0-15-003), and
- Pesticide General Permit (GP-0-16-005).

<sup>7</sup> Permits administratively continued beyond their expiration date for 180 days or more are considered "backlogged", and include 01, 02, 03, 04, 05, 07, and 09 class permits.

## ***1. Environmental Benefit Permit Strategy***

NYSDEC currently uses the Environmental Benefit Permit Strategy (EBPS) to renew permits. EBPS is described in detail in NYSDEC's Technical and Operational Guidance Series (TOGS) 1.2.2 – *Administrative Procedures and the Environmental Benefit Permit Strategy for Individual Permits*<sup>8</sup>. EBPS was designed to establish a system that provides for timely renewal of SPDES permits, avoids a backlog of pending permit renewal applications, and identifies and prioritizes permits which have the greatest potential for causing significant environmental harm. Only permits in the top 5% of the EBPS priority ranking, published annually in the Environmental Notice Bulletin (ENB)<sup>9</sup>, receive a full technical review by the DOW when renewed. Permits that are not in the top 5% of the EBPS ranking are administratively renewed by the DEP with very little review. As of late 2012, NYSDEC implemented a practice that only permits designated as EPA minor permits are eligible for EBPS administrative renewal. All permits designated as EPA-majors are placed on the No Administrative Renewal List (List) which means that they are ineligible for administrative renewal. Upon submission of a timely permit application, permits are administratively extended under the State Administrative Procedure Act (SAPA) and remain administratively extended until the permit reaches the top 5% of the EBPS list, at which time NYSDEC sends a request for a full application.

## ***2. Permit Processing Procedures***

NYSDEC permit processing procedures are currently described in detail in TOGS 1.2.2. NYSDEC has three separate processes for specific types of permits issuance: new permits, administrative renewals, and full technical reviews.

Applications for new permits are received by DEP and reviewed by DEP and DOW for completeness. If more information is required, DEP contacts the applicant. Once the application is deemed complete, DOW can begin to develop the draft permit.

For permits that are eligible for administrative renewal, DOW sends an application packet, known as the “short form application”, to the permittee approximately 10 months before the expiration date of the permit. When the application is submitted to DEP by the permittee, DEP performs a completeness review. If the application is incomplete, DEP contacts the permittee for the remainder of the information. Once the missing information has been provided and the application has been deemed complete, a notice is published in the ENB stating that DEP intends to issue a renewed permit with no substantive changes to the permit provisions and provides the public with a 30-day comment period. If no substantive comments are received, DEP issues a cover sheet that renews the existing permit and is intended to be stapled on top of the existing permit. DEP provides a copy of the cover sheet to DOW.

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<sup>8</sup> NYSDEC TOGS are available online at <https://www.dec.ny.gov/regulations/2652.html>.

<sup>9</sup> Available online at <https://www.dec.ny.gov/enb/enb.html>.

When a permit requires a full technical review, the permit is often given a department-initiated permit modification. The department-initiated modification process begins when DOW or the regional office sends an information request packet to the permittee. This packet includes the NYSDEC permit renewal application forms and requires much more detailed responses than the short form application. The information request packet is returned directly to DOW (central or regional office) who then conducts a full technical review and develops the draft permit. A copy of the draft permit and fact sheet is forwarded to DEP who then transmits the draft permit to the permittee and EPA and publishes a public notice in the NYSDEC's ENB webpage. The permittee is responsible for publishing the public notice in a newspaper of local circulation. At the close of the public comment period, DOW addresses all comments received, if any. After all comments have been addressed, DOW finalizes the permit and DEP issues the modified permit.

### **C. State-Specific Challenges**

The challenges facing NYSDEC are common to many states. Decreases in staffing levels have required NYSDEC to look for new efficiencies in the SPDES program. To add to the many priorities staff are responsible for, the NYSDEC permit hearing process is onerous. Permittees may request a hearing on either the draft or final permit for innumerable reasons and the process is time-intensive and lengthy—making it difficult to issue final permits, especially for complex facilities.

### **D. Current State Initiatives**

NYSDEC has a variety of initiatives underway to continue to improve the efficiency and effectiveness of the SPDES permitting program. The first initiative is a revised fact sheet for all permits, both major and minor. This effort has recently been completed. NYSDEC revised the fact sheet with two goals in mind—to improve the readability and level of detail contained and to improve the ease of use for the permit writer and reviewing manager during permit and fact sheet development. The new fact sheet is expected to more clearly identify what is standard language and what is facility-specific language. It is also planned to consolidate and expand discussion of TBEL and WQBEL development into a Permit Summary Table which is expected to reduce inconsistencies within the fact sheet and between the fact sheet and permit. The expanded discussion will also include calculations for limitations based on federal effluent limitation guidelines (ELGs) and provide more discussion about action levels. Additionally, the revised fact sheet template will include fields for both the short- and long-term effluent limitations so that, in instances where only the short-term limitation is established in the permit, the reader can clearly identify that the short-term limitation is protective of the long-term criterion. To continue this effort, NYSDEC is also beginning to update the permit template to better align with the improved fact sheets and is developing a permit quality checklist for use when supervisors review draft permits.

NYSDEC is also in the process of developing a permit writers' manual which will be a comprehensive document guiding NYSDEC staff through the process of drafting a SPDES permit. NYSDEC policy will be developed or updated through the required public process and will be synthesized for permit writers in the Permit Writers' Manual. The manual will be an internal document that will provide a step-by-step guide to permit development which will help to

ensure consistency of the permits, and permit compliance with all applicable federal and state regulations and guidance.

Another initiative currently underway at NYSDEC is a rotating source water protection pilot project that is a geographically based approach to permit renewals. NYSDEC has identified a specific geographic area used for source water and is planning to provide a full technical review and renewal of the bulk of the SPDES permits within that geographic area this year. If successful, a new geographic area and set of permits will be selected each year.

In addition to the initiatives already discussed, NYSDEC is also in the process of updating the Disinfection Policy and has also made significant progress with targeted modifications of all POTWs to incorporate appropriate disinfection requirements in the permits. NYSDEC expects to complete this effort in 2019. NYSDEC is also investigating ways to streamline the permit hearing process while continuing to provide opportunities for permittees to appeal.

### **III. CORE REVIEW FINDINGS**

#### **A. Basic Facility Information and Permit Application**

##### **1. Facility Information**

###### *Background*

Basic facility information is necessary to properly establish permit conditions. For example, information regarding facility type, location, process, and other factors are required by NPDES permit application regulations (40 Code of Federal Regulations (CFR) §122.21) because they are essential for developing technically sound, complete, clear and enforceable permits. Similarly, fact sheets must include a description of the type of facility or activity subject to a draft permit.

###### *Program Strengths*

The permits selected for the core review that had been finalized, including modified permits, include permit issuance, effective, and expiration dates, authorized signature, and contain specific authorization-to-discharge information. While the fact sheets for publicly owned treatment works (POTWs) generally contain a sufficient description of the treatment process, the fact sheets for industrial facilities generally do not include a clear description of the activities and treatment operations at the facility.

###### *Areas for Improvement*

The core review identified some areas where outfall location and receiving water should be more clearly identified. In multiple permits reviewed, the latitude and longitude of the outfalls is transposed or the negative sign is present/absent and mistakenly identifies locations in the Middle East.<sup>10</sup> Also, for some permits, only the primary outfall was identified with coordinates

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<sup>10</sup> In response to a draft of this permit, NYSDEC noted that the North and West designator are being included with the coordinates to reduce errors.

and only a verbal description was used to describe the additional outfalls.<sup>11</sup> The receiving water is generally described using a stream or lake name however using the stream segment number would provide additional accuracy and clarity.<sup>12</sup>

The fact sheets for the industrial permits reviewed generally do not include a sufficient description of the activities and the treatment operations as required by 40 CFR §124.8(b). It is difficult to determine if the appropriate effluent limitations and permit conditions have been established in the permit without a complete understanding of the activities, operations, and treatment at the facility.<sup>13</sup>

Additionally, the major/minor designation in NYSDEC SPDES permits is identified using a state-specific numeric discharge class code on the first page of the permit. Specifically stating whether the permit is a major or minor in the fact sheet or permit would also provide additional clarity.<sup>14</sup>

### *Action Items*

#### Essential

- NYSDEC must ensure fact sheets include a sufficient description of the activities and treatment operations at industrial facilities (40 CFR §124.8).

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<sup>11</sup> In response to a draft of this report, NYSDEC noted that new permit template pages are being developed that will provide a full listing of outfalls and coordinates. NYSDEC also noted that the new fact sheet template provides a summary of this information for each outfall.

<sup>12</sup> In response to a draft of this report, NYSDEC noted that the new fact sheet templates instruct the permit writers to include the stream segment number.

<sup>13</sup> In response to a draft of this report, NYSDEC noted updates instructions and trainings are being developed to ensure permit writers provide enough detail so that fact sheets are clear that the effluent limitations were appropriately developed.

<sup>14</sup> In response to a draft of this report, NYSDEC noted that this information will be included in the fact sheet template as recommended.

## Recommended

- NYSDEC should ensure the coordinates provided for each outfall identify the correct location.
- NYSDEC should include the coordinates of each outfall in the permit.
- NYSDEC should consider using stream segment numbers to identify receiving waters more clearly.
- NYSDEC should consider specifically stating whether a facility is a major or minor discharger in the permit or fact sheet.

## 2. Permit Application Requirements

### *Background and Process*

Federal regulations at 40 CFR §122.21 and §122.22 specify application requirements for permittees seeking NPDES permits. Although federal forms are available, authorized states are also permitted to use their own forms provided they include all information required by the federal regulations. This portion of the review assesses whether appropriate, complete, and timely application information was received by the state and used in permit development.

### *Program Strengths*

Generally, the permit applications for permittees seeking department-initiated modifications were easily located in the administrative record and the information included was complete.

### *Areas for Improvement*

NYSDEC's implementation of a streamlined administrative permit renewal process allows for permittees to submit a "short application form" that does not require submittal of the same type of data as required by EPA permit application forms. Additionally, NYSDEC's process for administrative renewals does not require submission of a complete application, as described by 40 CFR 122.21(a)(2), prior to the expiration of the permit which does not comply with federal regulations.

In order to comply with federal regulations regarding the timeliness of renewal applications (40 CFR §122.21(d)(1)) and complete applications (40 CFR §122.21(e)), NYSDEC should ensure that a complete application, rather than a short application form, is submitted by the permittee prior to the administrative continuance of any permit. Currently, complete applications are only requested when NYSDEC plans to work on the permit so that it is developed with the most up-to-date data possible.



Additionally, NYSDEC does not require results from three priority pollutant scans and quarterly whole effluent toxicity (WET) testing for a period of one year for permit applications for POTWs with design flows  $\geq 1$  MGD or with an approved pretreatment program, as specified by 40 CFR §122.21(j)(4)(iv) and §122.21(j)(4)(vi).

### *Action Items*

#### Essential

- NYSDEC must ensure that a complete application, as described by 40 CFR §122.21(a)(2), is submitted prior to the administrative continuance of any permit (40 CFR §122.21(d) and §122.21(e)).
- NYSDEC must ensure that applications for POTWs with a design flow  $\geq 1$  MGD or with an approved pretreatment program include test results from 3 priority pollutant scans and quarterly WET testing for the period of one year (40 CFR §122.21(j)(4)(iv) and §122.21(j)(4)(vi)).

## **B. Developing Effluent Limitations**

### **1. Technology-based Effluent Limitations**

NPDES regulations at 40 CFR §125.3(a) require that permitting authorities develop technology-based effluent limitations (TBELs) where applicable. Permits, fact sheets, and other supporting documentation for POTWs and non-POTWs were reviewed to assess whether TBELs represent the minimum level of control that must be imposed in a permit.

#### *TBELs for POTWs*

##### *Background and Process*

POTWs must meet secondary or equivalent to secondary standards (including limitations for biochemical oxygen demand (BOD) or carbonaceous biochemical oxygen demand (CBOD), total suspended solids (TSS), pH, and percent pollutant removal, and must contain numeric limitations for all these parameters (or authorized alternatives) in accordance with the secondary treatment regulations at 40 CFR Part 133. A total of five POTW permits were reviewed as part of the PQR core review.

##### *Program Strengths*

During the core permit review, the EPA found that the fact sheets provided a brief, but sufficient, description of wastewater treatment processes and the discussion of the basis of TBELs for POTW permits.

##### *Areas for Improvement*

Some POTW permits do not establish secondary treatment standards that are consistent with federal regulations. Secondary treatment standards at 40 CFR §133.102 include a numeric 30-



day average, a numeric 7-day average, and a numeric 30-day average percent removal limitation for BOD or CBOD and TSS. However, in some cases, NYSDEC does not establish a numeric 30-day average effluent limitation for BOD/CBOD and TSS and relies solely on a 7-day average effluent limitation to meet water quality standards. In these instances, the established 7-day average limitation is sufficiently stringent to ensure compliance with the 30-day average secondary treatment standard. While EPA does not explicitly condone this practice, it is a reasonable approach when the established effluent limitation is sufficiently stringent to ensure compliance with both the 7-day and 30-day average secondary treatment standard. However, to ensure transparency and that the intent of the federal regulations is understood and complied with, NYSDEC must clearly state in the fact sheet that the established 7-day average limitation is sufficiently stringent to ensure compliance with the 30-day average secondary treatment standard in each instance where this approach is taken.<sup>15</sup>

### *Action Items*

#### Essential

- NYSDEC must ensure that when the 30-day average secondary treatment standard is not established in a POTW permit, the established 7-day average effluent limitation is sufficient to ensure compliance with the secondary treatment standards (40 CFR §133.102).
- NYSDEC must ensure that the fact sheet includes a clear discussion of how the established BOD/CBOD and TSS limitations ensure compliance with secondary treatment standards (40 CFR §124.56).

### *TBELs for Non-POTW Dischargers*

#### *Background and Process*

Permits issued to non-POTWs must require compliance with a level of treatment performance equivalent to Best Available Technology Economically Achievable (BAT) or Best Conventional Pollutant Control Technology (BCT) for existing sources, and consistent with New Source Performance Standards (NSPS) for new sources. Where federal effluent limitations guidelines (ELGs) have been developed for a category of dischargers, the TBELs in a permit must be based on these guidelines. If ELGs have not been established, a permit must include requirements at least as stringent as BAT/BCT developed on a case-by-case using best professional judgment (BPJ) in accordance with the criteria outlined at 40 CFR §125.3(d). A total of five non-POTW permits were reviewed as part of the PQR core review.

<sup>15</sup> In response to a draft of this report, NYSDEC noted that improved fact sheet language and training for permit writers will be established to ensure that fact sheet includes a more robust discussion of BOD/CBOD and TSS limitations to clearly show that the permit requirements are sufficient to meet secondary treatment standards.

### *Program Strengths*

Generally, ELGs are appropriately established in permits. NYSDEC is clearly aware of the federal ELGs, reviews whether facilities fall within the eligibility criteria of an ELG, and correctly calculate and establish effluent limitations that conform with the appropriate ELG.

### *Areas for Improvement*

While permits seem to correctly include limitations based on applicable ELGs, the core permit review identified a lack of discussion regarding the applicability of ELGs in the fact sheet. In some instances, the fact sheet states that an ELG is applicable but does not explain why. Without a discussion of ELG applicability and with limited to no discussion of facility operations and wastewater treatment in the fact sheet, it is impossible to evaluate the determination of ELG applicability. In cases where an ELG was evaluated and deemed inapplicable, EPA recommends stating as such in the fact sheet to confirm that the ELG was considered so that NYSDEC considered the possibility and determine the facility was not eligible.<sup>16</sup>

Additionally, the fact sheet should include any necessary production information, raw material usage or flow rates needed to calculate the effluent limitations based on the ELG.<sup>17</sup> If an applicable ELG includes NSPS, EPA recommends including the facility construction date or the date of the last major facility modification so that the applicability of the NSPS can also be evaluated.

The core permit review also identified a lack of discussion regarding effluent limitations developed using BPJ. More details about how NYSDEC determines that a limitation is appropriate using BPJ would help ensure transparency and consistency among permits.

The core permit review identified instances where TBELs were not consistently expressed as both monthly average and maximum daily limitations in the permit, unless impracticable, as required by 40 CFR §122.45(d). Many TBELs in NYSDEC SPDES permits are expressed as either monthly average or daily maximum limitation but not both. If NYSDEC has determined that it is impracticable to establish both monthly average and daily maximum limitations, the fact sheet should include a discussion of that decision.<sup>18</sup>

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<sup>16</sup> In response to a draft of this report, NYSDEC noted that further improvements to the fact sheet template are being developed to improve the discussion of applicable ELGs.

<sup>17</sup> In response to a draft of this report, NYSDEC noted that the new fact sheet template includes a table for the production basis and calculation of TBELs.

<sup>18</sup> In response to a draft of this report, NYSDEC noted that instructions to permit writers will be included in the fact sheet template to emphasize the need to explain this situation, when applicable.

*Action Items*

## Essential

- NYSDEC must ensure that fact sheet contain sufficient information to determine the applicability of an ELG, such as the facility operations, wastewater generated, raw material usage, etc. (40 CFR §124.8).
- NYSDEC must ensure that TBELs are expressed as both monthly average and maximum daily effluent limitations in permits, unless impracticable (40 CFR §122.45(d)).

## Recommended

- NYSDEC should consider including the facility construction date or the date of the last major facility modification in the fact sheet when an applicable ELG includes NSPS.
- NYSDEC should ensure fact sheets contain a robust discussion of the basis of effluent limitations developed using BPJ.

**2. Reasonable Potential and Water Quality-Based Effluent Limitations***Background*

The NPDES regulations at 40 CFR §122.44(d) require permits to include any requirements in addition to or more stringent than technology-based requirements that may be necessary to meet state water quality standards, including narrative criteria for water quality. To establish these water quality-based effluent limitations (WQBELS), the permitting authority must evaluate whether any pollutants or pollutant parameters which will cause, have the reasonable potential (RP) to cause, or contribute to an excursion of water quality standards.

The NY PQR assessed the process employed to implement these requirements. Specifically, the PQR reviewed permits, fact sheets, and other documents in the administrative record to evaluate how permit writers and water quality modelers:

- determined the appropriate water quality standards applicable to receiving waters,
- evaluated and characterized the effluent and receiving water including identifying pollutants of concern,
- determined critical conditions,

- incorporated information on ambient pollutants concentrations,
- assessed any dilution considerations,
- determined whether limitations were necessary to pollutants of concern and, where necessary,
- calculated such limitations or other permit conditions.

### *Process for Assessing RP and Developing WQBELs*

NYSDEC assesses RP using standardized spreadsheets and statistical tools to evaluate facility specific data. The Cornell Mixing Zone Expert System (CORMIX) model and spreadsheet models are used to calculate appropriate mixing zones. NYSDEC typically uses the previous three years of DMR data to evaluate RP although data from the application and other sources are also considered for inclusion in the analysis. Permit writers usually conduct the RP analysis themselves and confer with water quality engineers when necessary. If there is insufficient data or if the results of the RP analysis are inconclusive, NYSDEC often establishes a short-term, high-intensity monitoring plan to collect additional data and reevaluates after a few weeks or months.

### *Program Strengths*

NYSDEC consistently conducts RP analysis and, where reasonable potential exists, establishes a WQBEL. EPA has generally found that the established WQBEL is sufficient to protect WQS in the receiving water.

### *Areas for Improvement*

#### Reasonable Potential

While EPA was generally able to locate documentation of the RP analysis, the documentation was not consistently filed in CEDR. Sometimes, the RP analysis was filed in CEDR and sometimes it was located within the permit writers' working files. EPA recommends filing the RP analysis in CEDR and creating a unique naming convention for the RP analysis documents.<sup>19</sup>

In some cases, EPA was unable to locate the RP analysis in either location. For one specific permit, documentation of the RP analysis for the more high-profile pollutants (phenols and PCBs) was available in the record but no documentation of the analysis regarding the more typical pollutants was found. In a second instance, no documentation of the RP analysis was found at all. NYSDEC should ensure that all pollutants have been evaluated for RP and that

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<sup>19</sup> In response to a draft of this report, NYSDEC noted that the fact sheet template includes columns to report the project instream concentration and assumptions used to conduct the RP analysis in the pollutant specific narrative. Additionally, NYDEC agreed that the RP analysis should be consistently saved into the administrative record and will investigate the possibility of saving the analysis into CEDR.

the analysis is documented in the record so that WQBEL can be established for all pollutants with RP, as required by 40 CFR §122.24(1)(i).

EPA found inconsistent documentation and permit conditions regarding WET. In multiple instances, WET was identified in the fact sheet as having reasonable potential but only action levels were established in the permit. Also, there were instances where both acute and chronic WET were identified as having RP, but only chronic WET monitoring was established in the permit.<sup>20</sup>

### WQBEL Development

Federal regulations at 40 CFR §122.45(d) require that limitations for continuously discharging non-POTWs be expressed as maximum daily and average monthly limitations and that limitations for continuously discharging POTWs be expressed as average weekly and average monthly limitations. In many cases, the WQBELs established in the permit are not expressed as both the chronic/long-term (average monthly) and the acute/short-term (maximum daily or average weekly) limitations. NYSDEC has stated that the established effluent limitation is sufficiently stringent to ensure compliance with both acute and chronic water quality standards (WQS). While EPA does not explicitly condone this practice, it is a reasonable approach when the established limitation is sufficiently stringent to ensure compliance with both the chronic/long-term and the acute/short-term standard. However, to ensure transparency and that the intent of the federal regulations is understood and complied with, NYSDEC must clearly state in the fact sheet that the established effluent limitations are sufficiently stringent to ensure compliance with both the acute and chronic WQS.<sup>21</sup>

EPA found instances where the information in the fact sheet was inconsistent with the effluent limitations established in the permit. Specifically, the fact sheet for a permit stated that a copper limitation was established but no copper limitation was established in the permit. Similar issues were identified when the fact stated a 7-day average limitation is established but the permit actually established a daily maximum. NYSDEC's new fact sheet template may resolve this issue by streamlining the discussion of effluent limitations and reducing the likelihood of typographical errors.<sup>22</sup>

NYSDEC establishes mixing zones based on TOGS 1.3.1 – *Total Maximum Daily Loads and Water Quality-based Effluent Limits*. The core review found that the actual method and critical conditions used to evaluate the allowable mixing zone were not adequately

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<sup>20</sup> In response to a draft of this report, NYSDEC noted that the organization of the new fact sheet template is expected to reduce inconsistencies between the permit and fact sheet.

<sup>21</sup> In response to a draft of this report, NYSDEC noted that instructions have been included in the new fact sheet template to ensure this information is included. Additionally, NYSDEC is developing a check list for supervisors to use when reviewing draft permits that is expected to improve the overall quality of the fact sheets.

<sup>22</sup> In response to a draft of this report, NYSDEC noted that instructions have been included in the new fact sheet template to ensure this information is included. Additionally, NYSDEC is developing a check list for supervisors to use when reviewing draft permits that is expected to improve the overall quality of the fact sheets.

described in fact sheets. TOGS 1.3.1 requires determinations of rapid and complete mixing or incomplete mixing occurs. The fact sheets reviewed did not specify what type of mixing occurs in the receiving water. Generally, the fact sheets did not provide sufficient information to evaluate to appropriateness of the established mixing zone.

### Action Items

#### Essential

- [Reasonable Potential](#)
  - NYSDEC must ensure that all pollutants are evaluated for reasonable potential and that documentation of the analysis is in the administrative record (40 CFR §122.44(d)(1)(i) and 40 CFR §122.44(d)(1)(i)).
  - NYSDEC must ensure that when WET has RP, the appropriate effluent limitations are established in the permit (40 CFR §122,44(d)(1)(i)).
- [WQBEL Development](#)
  - NYSDEC must ensure that, when necessary and practical, fact sheets state the the established effluent limitations are sufficiently stringent to ensure compliance with both the acute and chronic WQS (40 CFR §122.45(d)).

#### Recommended

- [Reasonable Potential](#)
  - NYSDEC should file documentation of the RP analysis in CEDR with a unique naming convention.
- [WQBEL Development](#)
  - NYSDEC should ensure that the information in a permit and the corresponding fact sheets is consistent.

### 3. *Final Effluent Limitations and Documentation*

#### *Background and Process*

Permits must include all applicable statutory and regulatory requirements, including technology and water quality standards, and must include effluent limitations that ensure that all applicable CWA standards are met. The permitting authority must identify the most stringent effluent limitations and establish them as the final effluent limitations in the permit. In addition, for reissued permits, if any of the limitations are less stringent than the limitations in the previous NPDES permit, the permit writer must conduct an anti-backsliding analysis, and if necessary, revise the limitations accordingly. In addition, for new or increased discharges, the permitting authority should conduct an antidegradation review, to ensure the permit is written to maintain existing high quality of surface waters, or if appropriate, allow for some degradation. The NPDES regulations at 40 CFR §131.12 outline the common elements of the antidegradation review process and the NYSDEC policy is contained in TOGS 1.3.9 – *Implementation of the NYSDEC Antidegradation Policy – Great Lakes Basin (Supplement to the Antidegradation Policy dated September 9, 1985)*.

Permit records for POTWs and industrial facilities should contain comprehensive documentation of the development of all effluent limitations. Technology-based effluent limitations should include assessment of applicable standards, data used in developing effluent limitations, and actual calculations used to develop effluent limitations. The procedures implemented for determining the need for WQBELs as well as the procedures explaining the basis for establishing, or for not establishing, WQBELs should be clear and straight forward. The permit writer should adequately document changes from the previous permit, ensure draft and final limitations match (unless the basis for a change is documented), and include all supporting documentation in the permit file. The permit writer should sufficiently document determinations regarding anti-backsliding and antidegradation requirements.

#### *Program Strengths*

Permits developed by NYSDEC generally contained the most stringent final effluent limitation based on a comparison of the calculated WQBEL and the TBEL.

#### *Areas for Improvement*

NYSDEC regularly states in the fact sheet that the permit limitation has been carried over from the previous permit. However, “carried over” is not a sufficient basis for an effluent limitation. NYSDEC should refer to the actual basis for the limitation (e.g., a TBEL based on federal secondary treatment standards, TBEL based on ELGs for a specific category, WQBEL based on in-stream WQS, etc.) as required by 40 CFR §124.8.<sup>23</sup>

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<sup>23</sup> In response to a draft of this report, NYSDEC noted that the new fact sheet template is expected to resolve this concern.

NYSDEC often establishes compliance schedules in permits. While the compliance schedules generally seem to comply with the applicable federal regulations and guidance,<sup>24</sup> the fact sheets generally did not provide a sufficient basis for the compliance schedule. EPA recommends providing more detailed information in the fact sheet regarding the dates, requirements, and basis for the compliance schedule.

In one permit reviewed as part of the core review, a new outfall was included in the permit but no antidegradation analysis for the receiving water was completed. NYSDEC should ensure that all instances of increased discharge receive an antidegradation review and that the review is documented in the fact sheet and administrative record.

Additionally, the discussion of backsliding and antidegradation analyses in fact sheets generally consists of only template language. Fact sheets rarely include backsliding and anti-degradation analyses information that has been customized to reflect that permit specifically. As such, it is difficult to determine if there are backsliding and anti-degradation concerns, if an analysis has been completed, and the results of that analyses. NYSDEC's new fact sheet template includes more facility-specific information regarding backsliding and antidegradation analyses and may resolve this issue.

#### *Action Items*

##### Essential

- NYSDEC must ensure that fact sheets include the basis for the permit limitation including references to applicable statutory or regulatory provisions (40 CFR §124.8).
- NYSDEC must ensure that all instances of increased discharge receive an antidegradation review and that the review is documented in the fact sheet and administrative record (40 CFR §131.12, 40 CFR §124.8, and TOGS 1.3.9)
- NYSDEC must ensure that fact sheets include a discussion of the basis of a compliance schedule, when applicable (40 CFR §122.47(a) and 40 CFR §124.8).

##### Recommended

- NYSDEC should include facility-specific backsliding and antidegradation information in fact sheets.

<sup>24</sup> Available online at [https://www3.epa.gov/npdes/pubs/memo\\_complianceschedules\\_may07.pdf](https://www3.epa.gov/npdes/pubs/memo_complianceschedules_may07.pdf).



## C. Monitoring and Reporting Requirements

### *Background and Process*

NPDES regulations at 40 CFR §122.41(j) require permittees to periodically evaluate compliance with the effluent limitations established in their permits and provide the results to the permitting authority. Monitoring and reporting conditions require the permittee to conduct routine or episodic self-monitoring of permitted discharges and where applicable, internal processes, and report the analytical results to the permitting authority with information necessary to evaluate discharge characteristics and compliance status.

Specifically, 40 CFR §122.44(i) requires NPDES permits to establish, at minimum, annual reporting of monitoring for all limited parameters sufficient to assure compliance with permit limitations, including specific requirements for the types of information to be provided and the methods for the collection and analysis of such samples. In addition, 40 CFR §122.48 requires that permits specify the type, intervals, and frequency of monitoring sufficient to yield data which are representative of the monitored activity. The regulations at 40 CFR §122.44(i) also require reporting of monitoring results with a frequency dependent on the nature and effect of the discharge. 40 CFR Part 127 requires NPDES-regulated entities to submit certain data electronically, including discharge monitoring reports and various program-specific reports, as applicable.

NPDES permits should specify appropriate monitoring locations to ensure compliance with the permit limitations and provide the necessary data to determine the effects of an effluent on the receiving water. A complete fact sheet will include a description and justification for all monitoring locations required by the permit. States may have policy or guidance documents to support determining appropriate monitoring frequencies; documentation should include an explicit discussion in the fact sheet providing the basis for establishing monitoring frequencies, including identification of the specific state policy or internal guidance referenced. Permits must also specify the sample collection method for all parameters required to be monitored in the permit. The fact sheet should present the rationale for requiring grab or composite samples and discuss the basis of a permit requirement mandating use of a sufficiently sensitive Part 136 analytical method.

### *Program Strengths*

NYSDEC generally includes appropriate monitoring and reporting requirements in SPDES permits. EPA found no concerns during the 2018 PQR regarding a minimum of annual reporting; the types, interval or frequency of monitoring; and the monitoring locations.

### *Areas for Improvement*

The NPDES Electronic Reporting Rule replaces several paper-based CWQ NPDES permitting and compliance monitoring reporting requirements with electronic reporting. While EPA is aware that many permittees in New York are currently submitting DMRs electronically, the core permit review showed that the permits do not actually require electronic submission. NYSDEC

should ensure that all NPDES permits specifically require electronic submission of DMR reports.<sup>25</sup>

The template Permit Limits, Levels, and Monitoring Definitions page of a permit (often page 2), states:

*“For the purposes of compliance assessment, the permittee shall use the approved analytical method with the lowest possible detection limit as promulgated under 40 CFR Part 136 for the determination of the concentrations of parameters present in the sample unless otherwise specified.”*

This language seems to require the permittee to use a sufficiently sensitive method (SSM) to analyze samples but may be unclear to permittees whether this is actually a permit requirement based on its placement in the document. EPA recommends relocating this language to the general conditions or monitoring and reporting requirements sections of a permit.<sup>26</sup>

*Action Items*

Essential

- NYSDEC must ensure that all permits require electronic submission of DMRs (40 CFR §127.16).

Recommended

- NYSDEC should consider relocating the lanugage requiring the use of SSM to the general conditions or monitoring and reporting requirements of the permit.

**D. General and Special Conditions**

*Background and Process*

Federal regulations at 40 CFR §122.41 require that all NPDES permits, including NPDES general permits, contain certain “general” permit conditions. Further, the regulations at 40 CFR §122.42 require that NPDES permits for certain categories of dischargers must contain additional

<sup>25</sup> In response to a draft of this report, NYSDEC noted that over 90% of NY State permittees are using netDMR and that NYSDEC has updated permit pages to specifically require e-Reporting. The updated pages are being added to permits as they are modified or renewed. Targeted modifications are being conducted for the remaining permits that are not currently using NetDMR and are expected to be completed in 2019.

<sup>26</sup> In response to a draft of this report, NYSDEC noted that new permit templates are in development and the relocation of this language will be considered.

standard conditions. Permitting authorities must include these conditions in NPDES permits and may not alter or omit any standard condition, unless such alteration or omission results in a requirement more stringent than those in the federal regulations.

Permits may also contain additional requirements that are unique to a particular discharger. These case-specific requirements are generally referred to as “special conditions.” Special conditions might include requirements such as: additional monitoring or special studies such as a mercury minimization plan; best management practices (40 CFR §122.44(k)) or permit compliance schedules (40 CFR §122.47). Where a permit contains special conditions, such conditions must be consistent with applicable regulations.

### *Program Strengths*

All NYSDEC permits reviewed as part of the core review included the template general conditions language which specifically incorporated portions of 6 New York Codes, Rules, and Regulations (NYCRR) Part 750 by reference.

### *Areas for Improvement*

The core review identified concerns with the additional standard condition language required by 40 CFR §122.42(b) for POTW permits regarding notification requirements. 6 NYCRR Part 750 does not have analogous language to the requirements in §122.2(b). As such, an incorporation by reference is not sufficient. Previously, NYSDEC included the full-text of §122.42(b) on the general conditions page for POTW permits; however, that practice seems to have stopped and this language has been omitted from recently issued permits.<sup>27</sup>

### *Action Items*

#### Essential

- NYSDEC must ensure that the additional standard condition regarding notification requirements is established in all POTW permits (40 CFR §122.42(b)).

## **E. Administrative Process**

### *Background and Process*

The administrative process includes documenting the basis of all permit decisions (40 CFR §124.5 and 40 CFR §124.6); coordinating EPA and state review of the draft (or proposed) permit (40 CFR §123.44); providing public notice (40 CFR §124.10); conducting hearings if appropriate (40 CFR §124.11 and 40 CFR §124.12); responding to public comments (40 CFR §124.17); and, modifying a permit (if necessary) after issuance (40 CFR §124.5). EPA discussed each element of

<sup>27</sup> In response to a draft of this report, NYSDEC noted that the standard condition regarding notification requirements will be included on the special conditions page of the new permit template.

the administrative process with NYSDEC, and reviewed materials from the administrative process as they related to the core permit review.

### *Program Strengths*

NYSDEC's administrative processes are generally effective and well-organized. EPA did not identify any concerns during the 2018 PQR regarding providing public notice, responding to public comments, or the issuance of final permits.

### *Areas for Improvement*

The public notice does not sufficiently describe the procedures for requesting a public hearing. NYSDEC must include "a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision, as required by 40 CFR §124.10(d)(1)(v).

### *Action Items*

#### Essential

- NYSDEC must ensure that the public notice sufficiently describes the procedures for requesting a public hearing (40 CFR §124.10(d)(1)(v)).

## **F. Administrative Record and Fact Sheet**

### *Background and Process*

The administrative record is the foundation that supports the NPDES permit. If EPA issues the permit, 40 CFR §124.9 identifies the required content of the administrative record for a draft permit and 40 CFR §124.18 identifies the requirements for a final permit. Authorized state programs should have equivalent documentation. The record should contain the necessary documentation to justify permit conditions. At a minimum, the administrative record for a permit should contain the permit application and supporting data; draft permit; fact sheet or statement of basis;<sup>28</sup> all items cited in the statement of basis or fact sheet including calculations used to derive the permit limitations; meeting reports; correspondence between the applicant and regulatory personnel; all other items supporting the file; final response to comments; and, for new sources where EPA issues the permit, any environmental assessment, environmental impact statement, or finding of no significant impact.

<sup>28</sup> Per 40 CFR §124.8(a), every EPA and state-issued permit must be accompanied by a fact sheet if the permit: Incorporates a variance or requires an explanation under §124.56(b); is an NPDES general permit; is subject to widespread public interest; is a Class I sludge management facility; or includes a sewage sludge land application plan.

Current regulations require that fact sheets include information regarding the type of facility or activity permitted, the type and quantity of pollutants discharged, the technical, statutory, and regulatory basis for permit conditions, the basis and calculations for effluent limitations and conditions, the reasons for application of certain specific limitations, rationales for variances or alternatives, contact information, and procedures for issuing the final permit. Generally, the administrative record includes the permit application, the draft permit, any fact sheet or statement of basis, documents cited in the fact sheet or statement of basis, and other documents contained in the supporting file for the permit.

Permit records for POTWs and industrial facilities should contain comprehensive documentation of the development of all effluent limitations. Technology-based effluent limitations should include assessment of applicable standards, data used in developing effluent limitations, and actual calculations used to develop effluent limitations. The procedures implemented for determining the need for WQBELs as well as the procedures explaining the basis for establishing, or for not establishing, WQBELs should be clear and straight forward. The permit writer should adequately document changes from the previous permit, ensure draft and final limitations match (unless the basis for a change is documented), and include all supporting documentation in the permit file. The permit writer should sufficiently document determinations regarding anti-backsliding and antidegradation requirements.

Permit writers develop draft permits using forms and standard language. NYSDEC maintains templates for permits and fact sheets on their intranet. The templates are periodically updated, as needed. A revised fact sheet template is currently in development.

### *Program Strengths*

The NYSDEC administrative records are overall complete and well organized. The administrative record maintained in CEDR is a valuable resource and allows permit writers to be able to quickly and efficiently locate important documents. On multiple occasions during the PQR, NYSDEC were able to quickly locate a specific document when asked by EPA. While there are a few minor adjustments that could improve the administrative records, overall, NYSDEC is properly documenting their permit development process.

### *Areas for Improvement*

While NYSDEC's administrative records are generally complete, the public notice draft of the permit does not seem to be consistently included in the administrative record. These files can sometimes be located in the permit writers' working files but there doesn't seem to be a practice of specifically ensuring the public notice version of the draft permit is saved in the administrative records. Preserving the public notice draft of the permit is necessary to ensuring that any public comments are properly addressed. It is an important piece of the administrative record and should be filed accordingly.<sup>29</sup>

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<sup>29</sup> In response to a draft of this report, NYSDEC noted that an administrative checklist is under development to ensure that all required documents are saved to the administrative record in accordance with 40 CFR §124.6(b)(2).

In one instance, the designated uses of the receiving water and any associated impairments were not described in the fact sheet.<sup>30</sup>

In all instances, the fact sheet did not clearly describe how pollutants of concern were identified and selected for analysis (e.g., review of application, DMRs, priority pollutant scans, etc.). This information is required by 40 CFR §124.8 to properly evaluate if the appropriate effluent limitations were established in the permit.<sup>31</sup>

#### *Action Items*

##### Essential

- NYSDEC must ensure that the public notice draft of the permit is preserved in the administrative record (40 CFR §124.9(b)(2)).
- NYSDEC must ensure that the fact sheet describes how the pollutants of concern were identified (40 CFR §124.8).

## **IV. NATIONAL TOPIC AREA FINDINGS**

National topic areas are aspects of the NPDES permit program that have been determined to be important on a national scale. National topic areas are reviewed for all state PQRs conducted within the five-year PQR cycle. The national topics areas for the 2018–2022 PQR cycle are: Permit Controls for Nutrients in Non-TMDL Waters, Effectiveness of POTW NPDES Permits with Food Processor Contributions, and Small Municipal Separate Storm Sewer System (MS4) Permit Requirements.

### **A. Permit Controls for Nutrients in Non-TMDL Waters**

#### *Background*

Nutrient pollution is an ongoing environmental challenge, however nationally permits often lack nutrient limitations. It is vital that permitting authorities actively consider nutrient pollution in their permitting decisions. Of the permits that do have limitations, many are derived from wasteload allocations in TMDLs, since state criteria are often challenging to interpret. For this section, waters that are not protected by a TMDL are considered. These waters may already be impaired by nutrient pollution or may be vulnerable to nutrient

<sup>30</sup> In response to a draft of this report, NYSDEC noted that this information is required in the new fact sheet template.

<sup>31</sup> In response to a draft of this report, NYSDEC noted that the new fact sheet templates will include instructions to permit writers to clearly describe how pollutants of concern were identified and selected for analysis, as required by 40 CFR §124.8. The general notes section of the Pollutant Summary Table will cite the source of the data used in development of the table.

pollution due to their hydrology and environmental conditions. For the purposes of this program area, ammonia is considered as a toxic pollutant, not a nutrient.

Federal regulations at 40 CFR 122.44(d)(vii)(A) require permit limitations to be developed for any pollutant with the reasonable potential to cause or contribute to an impairment of water quality standards, whether those standards are narrative or numeric.

New York has an existing narrative ambient water quality standard for phosphorus and nitrogen, promulgated in regulation in 6 NYCRR 703.2. This standard sets a limitation for these two nutrients as *“none in amounts that will result in growths of algae, weeds and slimes that will impair the waters for their best usages.”* This standard is applicable to all waters of the state, both fresh and saline.

The total nitrogen criterion for the State’s estuarine waters will be adopted in 2020. EPA R2 has initiated discussions with both NYSDEC’s Central Office and its Bureau of Marine Resources to determine the best path forward for the development of numeric nutrient criteria for coastal and estuarine waters. These discussions will continue and are expected to result in an NYSDEC plan for criteria development.

To assess how nutrients are addressed in the NY SPDES program, EPA reviewed five permits as well as the nutrient standards and related implementation documents.

#### *Program Strengths*

NYSDEC has established both site specific and general numeric interpretations for their narrative standard for total phosphorous in freshwater lakes. A strength of New York’s nutrient permitting program is that there are numerous examples of permits with protective numeric limitations for total phosphorous in both non-TMDL waters and waterbodies for which there is a phosphorous TMDL. New York has also implemented numeric limitations for phosphorous for dischargers upstream of TMDL waters.

#### *Areas for Improvement*

NPDES regulations at 40 CFR §122.44(d) require permits to include any requirements in addition to or more stringent than technology-based requirements where necessary to achieve state water quality standards, including narrative criteria for water quality. Numeric limitations are inconsistent for total nitrogen, both in TMDL waterbodies and those for which a TMDL is underdevelopment. The lack of a numeric interpretation for the narrative standard for waterbodies where nitrogen is the limiting pollutant that would cause algal overgrowth has led to inconsistent practices for including numeric limitations for total nitrogen. New York does have strong examples of including nitrogen limitations in cases where modeling has been performed as part of a TMDL for dissolved oxygen. In non-TMDL waters, permits generally include monitoring for nitrogen and in some instances a technology-based interim limitation where the waterbody may be impaired for nutrients or in non-TMDL waters.



*Action Items*

## Essential

- NYSDEC must continue to pursue a process by which to derive protective numeric limitations for total nitrogen in waterbodies such as estuaries and coastal areas where nitrogen is the limiting factor for algal overgrowth. (40 CFR §122.44(d))

**B. Effectiveness of POTW NPDES Permits with Food Processor Contributions**

EPA R2 administers the pretreatment program as NYSDEC is not authorized to do so. As such, EPA HQ will complete the review of the effectiveness of POTW NPDES permits with food processor contributions. The review is pending, and a summary will be provided upon completion.

**C. Small Municipal Separate Storm Sewer System (MS4) Permit Requirements***Background*

The NPDES program requires stormwater discharges from certain municipal separate storm sewer systems (MS4s) to be permitted. They include federally required MS4s and state designated MS4s. The EPA and NPDES-authorized states issue individual permits for medium and large MS4s and general permits for small MS4s. NYSDEC is authorized to issue stormwater permits under the SPDES program.

As part of this PQR, EPA reviewed the state's small MS4 general permit for consistency with the Phase II stormwater permit regulations. In NY's case, the most recent available MS4 general permit is the 2016 draft permit. EPA's recently updated small MS4 permitting regulations clarify: (1) the procedures to be used when using general permits (see 40 CFR 122.28(d)); (2) the requirement that the permit establish the terms and conditions necessary to meet the MS4 permit standard (i.e., "to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act"), including conditions to address the minimum control measures, reporting, and, as appropriate, water quality requirements (see 40 CFR 122.34(a) and (b)); and (3) the requirement that permit terms must be established in a "clear, specific, and measurable" manner (see 40 CFR 122.34(a)).

The 2016 draft NYSDEC SPDES General Permit for Stormwater Dischargers from MS4s (GP-0-17-002) was reviewed by EPA during the public comment period in February 2017. A summary of that review is provided in this section as part of the 2018 PQR review. EPA is reviewing the 2016 draft MS4 general permit as it is the most recently available MS4 general permit in New York.



EPA is aware the NYSDEC continues to revise and review the draft permit in response over 1,200 comments received during the public comment period. NYSDEC will ensure the final permit conforms with the MS4 General permit Remand Rule (81 Fed. Reg. 89320, December 9, 2016). The Remand Rule clarifies how small MS4 general permits should be administered so that they are consistent with the CWA requirements for public notice and permitting authority review, including the clarification that regardless of the type of general permit that is used the terms and conditions of the permit must be expressed in clear, specific, and measurable terms.

NYSDEC expects to public notice a revised draft MS4 general permit in spring/summer 2019 in which all public comments received on the 2016 draft will be addressed.

### *Program Strengths*

The following are program strengths identified by EPA during the 2016 draft general permit review:

- NYSDEC, over four MS4 general permit renewals, has incorporated clear, specific, and measurable requirements to strengthen the permit and address the EPA MS4 remand rule.
- NYSDEC has a strong Stormwater Design Manual which drives the New York MS4 program and which New York updates.
- When targeting pollutants of concern (POCs) in water bodies, New York designates all MS4s whose boundaries fall within the affected watershed to that waterbody.
- The NYSDEC Permit includes additional permit sections specifically addressing MS4s which fall within watersheds containing waterbodies with POCs. These MS4s are required to meet additional requirements specifically addressing the POCs.
- The NYSDEC Permit includes requirements for MS4 maintenance yards and municipal operations.

### *Areas for Improvement*

The following are areas of improvement identified by EPA during the 2016 draft general permit review:

- EPA believes that requirements regarding deadlines for achieving pollutant load reductions have been eased from the current NYSDEC 2015 MS4 Permit. NYSDEC must incorporate all applicable requirements from the Long Island Sound TMDL in the permit.
- EPA believes that the requirements for MS4s which fall within the Chesapeake Bay watershed should be strengthened to address the TMDL; possibly adding a new section to the permit to address the TMDL, such as how NYSDEC does with other watersheds containing waterbodies with POCs. NYSDEC should designate and permit all MS4s that fall within the Chesapeake Bay Watershed.

*Action Items*

## Essential

- NYSDEC must ensure that all public comments are addressed when the draft 2016 MS4 general permit is finalized (40 CFR §123.44).
- NYSDEC must ensure that the draft 2016 MS4 general permit, when finalized, addresses the requirements of the Long Island Sound TMDL and requires the appropriate MS4s to meet those requirements (40 CFR §122.44(d)(1)(vii)(B)).

## V. REGIONAL TOPIC AREA FINDINGS

### A. Mercury in the Great Lakes Basin

The 1995 Final Water Quality Guidance for the Great Lakes System<sup>32</sup>, otherwise known as the Great Lakes Initiative (GLI) established stringent water quality-based requirements within the Great Lakes Basin, particularly with respect to bioaccumulative contaminants of concern (BCCs), such as dioxin, mercury, and polychlorinated biphenyls (PCBs). Mixing zones for existing discharges of BCCs to the Great Lakes System were prohibited as of November 15, 2010 (GLI Procedure 5.C.4). Without an approved variance from water quality standards, all effluent limitations for BCCs must be based on the water quality standard, applied at the end of the outfall pipe, with no allowance for mixing.

In three major industrial permits for dischargers to the Great Lakes, EPA found that no effluent limitations or monitoring requirements were established for mercury based on just a few effluent data results showing detected mercury at levels below 20 ng/L, but still within the range of (5 – 10 ng/L), stating that the removal of these requirements is consistent with TOGS 1.3.10 – *Mercury – SPDES Permitting and Multiple Discharge Variance (MDV)*<sup>33</sup>.

These three facilities either discharge directly to Lake Erie or Lake Ontario which are part of the Great Lakes System, or to a tributary to the Great Lakes such as the Niagara River. There is also a statewide fish consumption advisory for mercury.

While the reported effluent data at multiple outfalls for these facilities exhibit low levels of mercury, the results exceed the WQS of 0.7 ng/L. Given that there is no mixing allowed for mercury within the Great Lakes system, these dischargers clearly exhibit reasonable potential to cause or contribute to an exceedance of the WQS for mercury. The source and treatability

<sup>32</sup> Available online at <https://www.federalregister.gov/documents/1995/03/23/95-6671/final-water-quality-guidance-for-the-great-lakes-system>.

<sup>33</sup> Available online at [https://www.dec.ny.gov/docs/water\\_pdf/tog1310final.pdf](https://www.dec.ny.gov/docs/water_pdf/tog1310final.pdf).

discussed in the MDV and the fact sheets to these permits do not justify a decision not to establish a WQBEL where there is reasonable potential.

In accordance with 40 CFR §122.44(d), WQBELs must be established in permits where a pollutant has been found to have RP. NYSDEC must apply the MDV and use the limitation calculation process included on page 11, which would specify a limitation of no more than 50 ng/L if there is insufficient data to calculate a limitation, and a limitation based on existing effluent quality if sufficient data are available.

Removal of a mercury monitoring requirement is not consistent with the MDV, which states that monitoring requirements may be removed if ten samples are below 20 ng/L, and the discharger is located outside the Great Lakes System.

### *Program Strengths*

NYSDEC's five-year cycle to implement the MDV (as required by the Great Lakes Variance Procedures at 40 CFR Part 132 Appendix F Procedure 2.D) helps ensure continuous improvement in addressing discharges of mercury statewide and in the Great Lakes. EPA looks forward to continuing progress with each five-year cycle of more stringent mercury requirements that get closer to achieving consistency with water quality standards.

### *Areas for Improvement*

The establishment of a multiple discharger variance for mercury was, in the view of EPA, a mechanism to address the dischargers of mercury to the Great Lakes, in violation of the standard and to incorporate the more sensitive analytical method. EPA remains concerned regarding:

- The high baseline of a 50 ng/l daily maximum effluent limitation, which is well above what most POTWs discharge and above the limitations sought by EPA Region 5 for Great Lakes dischargers,
- The implementation of the variance statewide has led to a weakening of requirements for those dischargers to the Great Lakes, who must have stringent requirements,
- The absence of monitoring or limitations for any dischargers with RP for mercury, but in particular, those dischargers to the Great Lakes for whom no mixing is permitted,
- By choosing not to include monitoring requirements, NYSDEC is forgoing an opportunity or made it more difficult to establish an appropriate limitation based on existing effluent quality in the subsequent permitting cycle,
- The absence of a limitation or monitoring requirement based on one or two data points, which is not a representative sample on which to determine there is no reasonable potential, and
- NYSDEC seems to treat the mercury threshold of 20 ng/l as a WQS based on the language of the MDV which is inappropriate, not supported by current data, and seems

to lead to an assumption that data results above the actual WQS of 0.7 ng/l are de minimis.

### *Action Items*

#### Essential

- NYSDEC must issue a new MDV or other mechanism to address mercury in the Great Lakes by October 2020 as the current MDV will expire and is not automatically renewed, as per Great Lakes regulations (40 CFR Part 132, Appendix F, Procedure 2(B)).
- NYSDEC must follow the new regulations governing variances to water quality standards, including EPA approval of the variance (40 CFR §131.14).
- NYSDEC must update its justifications for the variance. Arguments based on the ubiquity of mercury deposition and treatability obstacles are based on old data and must be updated (40 CFR Part 132, Appendix F, Procedure 2(C)).
- EPA will not accept a renewal variance that allows major discharges to the Great Lakes to be considered low priority, and thus exempt from monitoring or limitations (40 CFR §122.44(d) and 40 CFR Part 132, GLI Procedure 5.C.4).

## **B. Combined Sewer Overflows**

CWA Section 402(q) requires that each permit for a discharge from a municipal combined storm and sanitary sewer shall conform to EPA's Combined Sewer Overflow Control Policy.<sup>34</sup> The CSO Control Policy identifies specific requirements for Phase I and Phase II permits. Phase I permits must include requirements for the implementation of the Nine Minimum Controls (NMCs) and development of the Long-Term CSO Control Plan (LTCP). Phase II permits must include requirements to implement the technology-based controls including the NMCs determined on a BPJ basis, as well as requirements which insure that the selected CSO controls are implemented, operated, and maintained as described in the long-term CSO control plan. These requirements are critical to meeting the objectives of the Policy, including to bring all CSO discharge points into compliance with the technology-based and water quality-based requirements of the CWA, and to minimize the water quality, aquatic biota, and human health impacts from CSOs.

The focus of the Combined Sewer Overflow review is to verify that permits and fact sheets conform to the CSO Control Policy and CWA requirements. EPA R2 reviewed four permits belonging to the Albany Pool group of CSO permittees and reviewed information contained in

<sup>34</sup> Available at <https://www.epa.gov/sites/production/files/2015-10/documents/owm0111.pdf>.

the NYSDEC Report “Combined Sewer Overflows – 2017 Annual Report”, dated September 8, 2017.

### *Program Strengths*

The NYSDEC continues to make good progress in implementing the CSO Control Program, as required by EPA’s 1994 CSO Control Policy and the CWA. CSO permits include the required NMCs (included in the state’s 15 CSO BMP) and requirements to develop and implement LTCPs, although the latter requirement is sometimes implemented through an alternate enforceable mechanism, i.e., state administrative order. NYSDEC has approved a majority of the LTCPs and is in the process of modifying SPDES permits to include requirements for post construction compliance monitoring plans and Phase II permit requirements.

### *Areas for Improvement*

NYSDEC must continue to update CSO permits with requirements to develop and implement post construction compliance monitoring plans and include all CSO Phase II permit requirements. Also, when a CSO is permitted separately from the treatment plant, the CSO Control Policy requires that both permits should be cross-referenced for informational purposes and that the permits require the cooperation and joint implementation of both the nine minimum and Long Term CSO controls.<sup>35</sup>

Additionally, the CSO permits should include technology-based controls, including the NMCs/BMPs, that are carefully considered and determined on a BPJ basis. The fact sheet/statement of basis should more completely describe the derivation of the technology and water-quality based controls.

NYSDEC should carefully review results of post-construction compliance monitoring plans for each receiving water to determine compliance with water quality standards and the protection of designated uses, as well as the effectiveness of CSO controls. If it is determined that CSO controls fail to meet WQS or protect designated uses, the NPDES authority should promptly notify the permittee and proceed to modify or reissue the permit requiring the permittee to develop, submit and implement, as soon as practicable, a revised CSO control plan which contains additional controls to meet WQS and designated uses.<sup>36</sup> Where WQS and designated uses are not met in part because of natural background conditions or pollution sources other than CSOs, a TMDL, including a wasteload allocation and a load allocation, or other means should be used to apportion pollutant loads.<sup>37</sup> NYSDEC should review information concerning sensitive areas to verify that sensitive area information is up to date, and if present include a requirement to reassess overflows to sensitive areas in those cases where elimination or

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<sup>35</sup> In response to a draft of this report, NYSDEC noted that DEC will implement as permits are implemented under EBPS and PCCM requirements are developed and implemented.

<sup>36</sup> In response to a draft of this report, NYSDEC noted that this is typically determined through PCCM, which can take years to determine the effectiveness of controls and that DEC will address as information becomes available.

<sup>37</sup> In response to a draft of this report, NYSDEC noted that it will continue to evaluate the effectiveness of controls and will consider the information available in determining if a TMDL is necessary or appropriate.

relocation of the overflows is not physically possible and economically achievable. The reassessment should be based on consideration of new or improved techniques to eliminate or relocate overflows or changed circumstances that influence economic achievability.<sup>38</sup>

*Action Items*

Essential

- NYSDEC must continue to update CSO permits with requirements to develop and implement post construction compliance monitoring plans and CSO Phase II permit requirements (CWA Section 402(q)).
- NYSDEC must ensure that, when a CSO is permitted separately from the treatment plant, both the permits are cross-referenced for informational purposes and require cooperation and joint implementation of both NMCs and the LTCPs (CWA Section 402(q)).

Recommended

- NYSDEC should include requirements to implement the technology-based controls, including the NMCs/BMPs, as determined by a BPJ basis.
- NYSDEC should ensure that fact sheets/statements of basis for CSO permits adequately describe the derivation of technology- and water quality-based controls.
- NYSDEC should carefully review the results of post-construction compliance monitoring plans for each receiving water to determine compliance with WQS and the protection of designated uses.
- NYSDEC should review and document information related to sensitive areas to keep it current, and include permit requirements to reassess overflows to these areas as needed.

<sup>38</sup> In response to a draft of this report, NYSDEC noted it can be evaluated as part of PCCM.

## VI. REVIEW OF 2012 NY PQR ACTION ITEMS

The tables below provide a summary of the main findings from New York State 2012 PQR and provides a review of the status of the State’s effort in addressing the action items identified in that report. As mentioned previously, during the 2012-2017 PQR cycle, EPA referred to action items that address deficiencies or noncompliance with respect to federal regulations as “Category 1” action items. EPA is now referring to those action items as “Essential. In addition, the 2012 PQR identified “Category 2” and “Category 3” action items. EPA consolidating those two categories into a single category called “Recommended”.

**Table 1. 2012 NY PQR – ESSENTIAL ACTION ITEMS STATUS UPDATE**

Program Area	Action Item	Status Update
Basic Facility Information and Permit Application	NYSDEC must implement the January 2012 revised TOGS 1.2.2 – <i>Administrative Process of EBPS</i> , including requiring data and other application information in order to be consistent with the EPA regulations at 40 CFR §122.21 as part of the application process.	<b>In progress.</b> NYSDEC has stopped roll-overs of EPA major permits. NYSDEC is exploring options to increase the efficiency of the permit renewal process for minor permits including a revised iteration of the EBPS tracking and scoring system.
Technology-based Effluent Limitations	NYSDEC must clearly identify in fact sheets the basis for technology-based effluent limitations and provide the appropriate regulatory citations (e.g., state and federal) and calculations supporting all effluent limitations in order to be consistent with the EPA regulations at 40 CFR §124.8 and §124.56, particularly where final effluent limitations are expressed differently from what is contained in state or federal technology-based standards.	<b>In progress.</b> NYSDEC is in the process of revising its fact sheet template to allow for expanded discussion of the basis for both TBELs and WQBELs. A separate page for calculation of EPA promulgated ELGs has also been included in the revised fact sheet template.
Water Quality-based Effluent Limitations	NYSDEC must clearly identify in fact sheets the basis for water quality-based effluent limitations, including the basis of dilution ratios, and provide the appropriate regulatory citations and calculations supporting all effluent limitations in order to be consistent with the EPA regulations at 40 CFR §124.8 and §124.56.	<b>In progress.</b> NYSDEC is in the process of revising its fact sheet template for expanded discussion of the basis of both TBELs and WQBELs, including dilution ratios. Calculations of WQBELs, including those preformed using CORMIX and/or the Division’s RSAT and PonSAT

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		screening tools, are saved as part of the permit record and summarized in the fact sheet.
Water Quality-based Effluent Limitations	NYSDEC must ensure that all water quality-based limitations are expressed as both average monthly and maximum daily limitations in order to be consistent with 40 CFR §122.45(d).	<b>In progress.</b> NYSDEC is in the process of revising its fact sheet which will include fields for both monthly average and daily maximum limitations for both TBELs and WQBELs. If the information in the fact sheet clearly shows that the daily maximum is protective of the monthly average, then only the daily maximum will be established in the permit.
Monitoring and Reporting	NYSDEC must provide a detailed discussion in the fact sheet the basis of action levels that are either expressed as a numeric value or monitoring only requirement (i.e., no numeric value) in order to be consistent with the EPA regulations at 40 CFR §124.8 and §124.56.	<b>In progress.</b> NYSDEC is in the process of revising its fact sheet template to allow for expanded discussion of the basis of action levels. The fact sheet discussion will explain that the PEQ is substantially less than the WQBEL and the basis of the calculated action level.
Monitoring and Reporting	NYSDEC must establish EPA Method 1631E for monitoring of mercury in all permits with the potential to discharge mercury in order to be consistent with the EPA regulations at 40 CFR §122.44(d)(1).	<b>Resolved.</b>
Special and Standard Conditions	NYSDEC must ensure that all conditions or references to compliance schedules in permits are consistent with the EPA regulations at 40 CFR 122.47.	<b>Resolved.</b>
Special and Standard Conditions	NYSDEC must incorporate general conditions either expressly or by reference in all SPDES permits in order to be consistent with the EPA regulations at 40 CFR 122.41 and 122.42.	<b>Resolved.</b>
Administrative Process (including public notice)	NYSDEC must ensure that any changes to a draft permit as a result of a response to comment be incorporated into the final permit in order to be consistent with the EPA regulations at 40 CFR §124.2 and 40 CFR §124.6.	<b>Resolved.</b>



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Administrative Process (including public notice)	NYSDEC must ensure the administrative record includes a written response to all significant comments received on a draft permit during the comment period in order to be consistent with the EPA regulations at 40 CFR §124.17.	<b>Resolved.</b>
Pretreatment	NYSDEC must update 6 NYCRR Part 750-1.24(c) to reflect the most current revisions of federal regulations to be consistent with 40 CFR Part 403.	<b>In progress.</b> The draft revisions are currently undergoing NYSDEC internal review.
Stormwater	NYSDEC must provide the EPA with a proposed permit for review before issuing the final general permit for stormwater associated with hydraulic fracturing operations in order to be consistent with 40 CFR §123.44.	<b>Resolved.</b>
Confined Animal Feeding Operation (CAFO)	NYSDEC must revise 6 NYCRR Part 750 to reflect the changes in the federal CAFO regulations at 40 CFR Parts 122 and 412.	<b>In progress.</b> The draft revisions are currently undergoing NYSDEC internal review.
Flue Gas Desulphurization/ Coal Combustion Residue	NYSDEC must establish a requirement in permits for steam electric power plants, and all POTW and non-POTW facilities where there is the reasonable potential to exceed mercury standards, to monitor mercury in the effluent using EPA Method 1631E in order to be consistent with the EPA regulations at 40 CFR §122.44 and NYSDEC TOGS 1.3.10.	<b>Resolved.</b>
Flue Gas Desulphurization/ Coal Combustion Residue	NYSDEC must include in the fact sheets for steam electric power plants a rationale for the absence of establishing a mercury effluent limit and the decision to exclude waste streams for FGD/CCR units in order to be consistent with the EPA regulations at 40 CFR §122.44, §124.8 and §124.56.	<b>Resolved.</b>
Flue Gas Desulphurization/	NYSDEC must discuss in the fact sheet when effluent limitations are established to be less stringent than the	<b>Resolved.</b>

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Coal Combustion Residue	previous permit and demonstrate in the fact sheet that the anti-backsliding requirements at CWA section 402(o) and/or 40 CFR §122.44(l) have been met.	
CSOs	NYSDEC must include in all Phase II CSO permits the requirements for implementation of the CSO LTCP as described in the EPA’s 1994 CSO Control Policy.	<b>Resolved.</b>
CSOs	<p>NYSDEC must ensure that fact sheets must contain the following CSO-related information in order to be consistent with the EPA’s 1994 CSO Control Policy:</p> <ul style="list-style-type: none"> <li>- A characterization of the CSO discharges (e.g., volumes, frequency, and percent capture of wet weather) and the identification of the discharge locations and associated control structures on a map;</li> <li>- A discussion of technology-based controls such as the evaluation, selection, and implementation of each of the nine minimum controls; and an evaluation of the efficacy of the implementation of the controls and its impact on meeting water quality criteria;</li> <li>- A discussion of water quality-based controls such as the implementation, operation, and maintenance of CSO controls identified in the permittee’s LTCP; and</li> <li>- Post Construction Compliance Monitoring Plan—a discussion of the results of, and adequacy of, the monitoring plan to demonstrate compliance with WQS and protection of designated uses and the effectiveness of CSO controls.</li> </ul>	<b>In progress.</b> NYSDEC continues to include more information and a more in-depth analysis in fact sheets.
CSOs	NYSDEC must include in all Phase I CSO permits a requirement that the permittee develop and implement a CSO Post Construction Compliance Monitoring Plan in order to be consistent with the EPA’s 1994 CSO Policy. Permittees must be	<b>Resolved.</b>

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	required, through permit modifications or other enforceable means, to develop and implement CSO Post Construction Compliance Monitoring Plans.	
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**Table 2. 2012 PQR – RECOMMENDED ACTION ITEMS STATUS UPDATE**

Program Area	Action Item	Status Update
Water Quality-Based Effluent Limitations	NYSDEC should cease referring to their internal process for developing pollutant-specific analyses and wasteload allocations as a TMDL since NYSDEC’s internal process does not conform with the TMDL process as described in 40 CFR Part 130.	<b>Resolved.</b> Current permits and fact sheets no longer refer to NYSDEC internal process as a TMDL. TOGS 1.3.1 still contains such references but will be corrected when the permit writers’ manual is issued which will supersede the TOGS.
Monitoring and Reporting	NYSDEC should establish in the permit conditions that more clearly specify the steps the permittee must take if the action level is triggered.	<b>Resolved.</b> The action level requirements, including the steps that must be taken if an action level is exceeded, are currently included on the Permit Limit, Levels, and Monitoring Definitions page.
Special and Standard Conditions	NYSDEC should incorporate into POTW permits, where appropriate, a condition requiring compliance with 6 NYCRR Part 360 for sludge management.	<b>Resolved.</b>
Administrative Records	NYSDEC should make improvements to their fact sheet and permit templates to include a more robust discussion and documentation of the basis of permit conditions such as the development of effluent limitations.	<b>Resolved.</b>
Administrative Records	NYSDEC should ensure the administrative record contains a clear timeline of permit issuance and development to allow for easy identification of the current permit, draft permit, or subsequent modifications.	<b>Resolved.</b> Fact sheets currently include a complete timeline of permit administrative actions.
Nutrients	NYSDEC should ensure that fact sheets provide a more detailed rationale when action levels for nutrients are established in lieu of effluent limitations.	<b>In progress.</b> Fact sheets have been updated since the 2012 PQR to provide a more detailed explanation. The additional fact sheet revisions currently in progress will provide even greater clarity.

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Nutrients	NYSDEC should establish in the permit conditions that more clearly specify the steps the permittee must take if the action levels for nutrients are triggered.	<b>Resolved.</b> The action level requirements, including the steps that must be taken if an action level is exceeded, are currently included on the Permit Limit, Levels, and Monitoring Definitions page.
Nutrients	NYSDEC should ensure that fact sheets provide a detailed rationale when the BAT of 1.0 mg/L total phosphorus provided in TOGS 1.3.6 does not apply to a particular discharger.	<b>In progress.</b> Fact sheets have been updated since the 2012 PQR to provide a more detailed explanation. The additional fact sheets revisions currently in progress will provide even greater clarity.
CAFOs	NYSDEC should target the public notice of the draft State CAFO permit by December 30, 2012 and provide the EPA with an interim report detailing their progress toward the December 30, 2012 goal.	<b>Resolved.</b>
Shale Gas	NYSDEC should notify the EPA within two weeks when contacted by a POTW requesting approval of the discharge of gas extraction wastewater (from either horizontal or vertical drilling).	<b>Resolved.</b> All section chiefs are aware of this agreement and the event that such notification occurs will contact EPA.
CSOs	NYSDEC should track Phase II CSO permit compliance through the implementation of the CSO LTCP.	<b>Resolved.</b> CSO permittees provide updates via an annual report form developed in 2014. DOW inspection staff evaluate LTCP implementation using inspection forms developed in 2013.
CSOs	NYSDEC should consider requiring permittees to submit the ambient monitoring data required by a CSO Post Construction Compliance Monitoring Plan in an electronic format suitable for inclusion in state water quality tracking systems to facilitate its use in other water quality areas, such as reporting under CWA sections 305(b) and 303(d).	<b>In progress.</b> DOW is working to develop an integrated information system to receive data electronically from permittees and distribute to all DOW staff.

## VII. 2018 PQR – ESSENTIAL AND RECOMMENDED ACTION ITEMS

This section provides a summary of the main findings of the PQR and provides proposed action items to improve New York’s SPDES program, as discussed throughout this report.

The proposed action items are divided into two categories to identify the priority that should be placed on each item and to facilities discussions between EPA R2 and NYSDEC.

- **Essential Action Items** – These action items address noncompliance with respect to a federal regulation. NYSDEC is expected to address these action items in order to come into compliance with all applicable federal regulations.
- **Recommended Action Items** – These action items are recommendation to increase the effectiveness of NYSDEC’s SPDES program.

**Table 3. Essential Action Items from FY 2018-2022 PQR Cycle**

Program Area	Action Item
Facility Information	NYSDEC must ensure fact sheets include a sufficient description of the activities and treatment operations at industrial facilities (40CFR §124.8). <sup>ϕ</sup>
Permit Application Requirements	NYSDEC must ensure that a complete application is submitted prior to the administrative continuance of any permit (40 CFR §122.21(d) and §122.21(e)).
	NYSDEC must ensure that applications for POTWs with a design flow ≥1 MGD or with an approved pretreatment program include test results from 3 priority pollutant scans and quarterly WET testing for the period of one year (40 CFR §122.21(j)(4)(iv) and §122.21(j)(4)(vi)).
TBELS for POTWs	NYSDEC must ensure that when the 30-day average secondary treatment standard is not established in a POTW permit, the established 7-day average effluent limitation is sufficient to ensure compliance with the secondary treatment standards (40 CFR §133.102). <sup>ϕ</sup>

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	NYSDEC must ensure that the fact sheet includes a clear discussion of how the established BOD/CBOD and TSS limitations ensure compliance with secondary treatment standards (40 CFR §124.56). <sup>ϕ</sup>
TBELS for Non-POTWs	NYSDEC must ensure that fact sheet contain sufficient information to determine the applicability of an ELG, such as the facility operations, wastewater generated, raw material usage, etc (40 CFR §124.8). <sup>ϕ</sup>
	NYSDEC must ensure that TBELs are expressed as both monthly average and maximum daily effluent limitations in permits, unless impracticable (40 CFR §122.45(d)).
Reasonable Potential	NYSDEC must ensure that all pollutants are evaluated for reasonable potential and that documentation of the analysis is in the administrative record (40 CFR §122.44(d)(1)(i) and 40 CFR §122.44(d)(1)(i)). <sup>ϕ</sup>
	NYSDEC must ensure that when WET has RP, the appropriate effluent limitations are established in the permit (40 CFR §122,44(d)(1)(i)).
WQBEL Development	NYSDEC must ensure that, when necessary and practical, fact sheets state the established effluent limitations are sufficiently stringent to ensure compliance with both the acute and chronic WQS (40 CFR §122.45(d)).
Final Effluent Limitations	NYSDEC must ensure that fact sheets include the basis for the permit limitation including references to applicable statutory or regulatory provisions (40 CFR §124.8). <sup>ϕ</sup>
	NYSDEC must ensure that all instances of increased discharge receive an antidegradation review and that the review is documented in the fact sheet and administrative record (40 CFR §131.12, 40 CFR §124.8, and TOGS 1.3.9). <sup>ϕ</sup>
	NYSDEC must ensure that fact sheets include a discussion of the basis of a compliance schedule, when applicable (40 CFR §122.47(a) and 40 CFR §124.8). <sup>ϕ</sup>

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Monitoring and Reporting Requirements	NYSDEC must ensure that all permits require electronic submission of DMRs (40 CFR §127.16). <sup>ϕ</sup>
General and Special Conditions	NYSDEC must ensure that the additional standard condition regarding notification requirements is established in all POTW permits (40 CFR §122.42(b)). <sup>ϕ</sup>
Administrative Process	NYSDEC must ensure that the public notice sufficiently describes the procedures for requesting a public hearing (40 CFR §124.10(d)(1)(v)).
Administrative Record and Fact Sheet	NYSDEC must ensure that the public notice draft of the permit is preserved in the administrative record (40 CFR §124.9(b)(2)). <sup>ϕ</sup>
	NYSDEC must ensure that the fact sheet describes how the pollutants of concern were identified (40 CFR §124.8). <sup>ϕ</sup>
Permit Controls for Nutrients in Non-TMDL Waters	NYSDEC should continue to pursue a process by which to derive protective numeric limitations for total nitrogen in waterbodies such as estuaries and coastal areas where nitrogen is the limiting factor for algal overgrowth (40 CFR §122.44(d)).
Small MS4 Permit	NYSDEC must ensure that all public comments are addressed when the draft 2016 MS4 general permit is finalized (40 CFR §123.44). <sup>ϕ</sup>
	NYSDEC must ensure that the draft 2016 MS4 general permit, when finalized, addresses the requirements of the Long Island Sound TMDL and requires the appropriate MS4s to meet those requirements (40 CFR §122.44(d)(1)(vii)(B)).
Mercury in the Great Lakes Basin	NYSDEC must issue a new MDV or other mechanism to address mercury in the Great Lakes by October 2020 as the current MDV will expire and is not automatically renewed, as per Great Lakes regulations (40 CFR Part 132, Appendix F, Procedure 2(B)). <sup>ϕ</sup>
	NYSDEC must follow the new regulations governing variances to water quality standards, including EPA approval of the variance (40 CFR §131.14).



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	<p>NYSDEC must update its justifications for the variance. Arguments based on the ubiquity of mercury deposition and treatability obstacles are based on old data and must be updated (40 CFR Part 132, Appendix F, Procedure 2(C)).</p>
	<p>EPA will not accept a renewal variance that allows major discharges to the Great Lakes to be considered low priority, and thus exempt from monitoring or limitations (40 CFR §122.44(d) and 40 CFR Part 132, GLI Procedure 5.C.4).</p>
<p>CSOs</p>	<p>NYSDEC must continue to update CSO permits with requirements to develop and implement post construction compliance monitoring plans and CSO Phase II permit requirements (CWA Section 402(q)).<sup>φ</sup></p>
	<p>NYSDEC must ensure that, when a CSO is permitted separately from the treatment plant, both the permits are cross-referenced for informational purposes and require cooperation and joint implementation of both NMCs and the LTCPs (CWA Section 402(q)).<sup>φ</sup></p>

<sup>φ</sup> In response to a draft of this report, NYSDEC noted that resolution of these action items is already in progress.

**Table 4. Recommended Action Items from FY 2018-2022 PQR Cycle**

Program Area	Action Item
Facility Information	NYSDEC should ensure the coordinates provided for each outfall identify the correct location.
	NYSDEC should include the coordinates of each outfall in the permit. <sup>α</sup>
	NYSDEC should consider using stream segment numbers to identify receiving waters more clearly. <sup>α</sup>
	NYSDEC should consider specifically stating whether a facility is a major or minor discharger in the permit or fact sheet. <sup>α</sup>
TBELS for Non-POTWs	NYSDEC should consider including the facility construction date or the date of the last major facility modification in the fact sheet when an applicable ELG includes NSPS. <sup>α</sup>
	NYSDEC should ensure fact sheets contain a robust discussion of the basis of effluent limitations developed using BPJ. <sup>α</sup>
Reasonable Potential	NYSDEC should file documentation of the RP analysis in CEDR with a unique naming convention. <sup>α</sup>
WQBEL Development	NYSDEC should ensure that the information in a permit and the corresponding fact sheets is consistent. <sup>α</sup>
Final Effluent Limitations	NYSDEC should include facility-specific backsliding and antidegradation information in fact sheets.
Monitoring and Reporting Requirements	NYSDEC should consider relocating the language requiring the use of SSM to the general conditions or monitoring and reporting requirements of the permit. <sup>α</sup>

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CSOs	NYSDEC should include requirements to implement the technology-based controls, including the NMCs/BMPs, as determined by a BPJ basis.
	NYSDEC should ensure that fact sheets/statements of basis for CSO permits adequately describe the derivation of technology- and water quality-based controls.
	NYSDEC should carefully review the results of post-construction compliance monitoring plans for each receiving water to determine compliance with WQS and the protection of designated uses.
	NYSDEC should review and document information related to sensitive areas to keep it current and include permit requirements to reassess overflows to these areas as needed.

<sup>a</sup> In response to a draft of this report, NYSDEC noted that resolution of these action items is already in progress or complete.

## VIII. 2018 NY PQR FILES REVIEWED

SPDES Number	Permit Name	Topics for Review
GP-0-17-002	Small Municipal Separate Storm Sewer System General Permit	Small MS4
NY0000078	Garlock Sealing Technologies	Core review Mercury in the Great Lakes
NY0000574	Tonawanda Engine Plant	Core review Mercury in the Great Lakes
NY0002101	Lockheed Martin Electronics Park	Core review Mercury in the Great Lakes
NY0004413	International Paper Company Ticonderoga Mill	Core review
NY0025747	City of Albany Combined Sewer Overflows	CSO
NY0026026	City of Rensselaer Combined Sewer Overflows	CSO
NY0026042	Gloversville-Johnstown Joint Sewer District Sewage Treatment Plant	Core review
NY0026280	North Tonawanda Wastewater Treatment Plant	Core review Mercury in the Great Lakes
NY0029726	Pen Yann Sewage Treatment Plant	Core review Nutrients in non-TMDL waters Mercury in the Great Lakes
NY0029831	Ogdensburg Secondary Wastewater Treatment Plant	Nutrients in non-TMDL waters
NY0031046	City of Cohoes Combined Sewer Overflow	CSO
NY0072532	Air Products, Inc.	Core review
NY0099309	City of Troy Combined Sewer Overflows	CSO
NY0248282	Red Wing Properties, Inc.	Nutrients in non-TMDL waters
NY027171	Ontario Sewage Treatment Plant	Core review Nutrients in non-TMDL waters