

# **National Pollutant Discharge Elimination System Permit Quality Review**

**New Jersey**

U.S Environmental Protection Agency  
Region 2, New York

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## I. PQR BACKGROUND

National Pollutant Discharge Elimination System (NPDES) 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 Environmental Protection Agency (EPA) promotes national consistency, identifies successes in implementation of the NPDES program, and identifies opportunities for improvement in the development of NPDES permits.

The EPA Region 2 staff, with assistance from EPA Headquarters and a contractor, conducted a review of the New Jersey State Pollutant Discharge Elimination System (NJPDES) permitting program which included desktop permit reviews and an on-site visit to the New Jersey Department of Environmental Protection (NJDEP) offices in Trenton, NJ on May 31 and June 1, 2016.

The New Jersey PQR consisted of two components: permit reviews and special topic 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 in the administrative record that provide the basis for the development of the permit conditions.

The core permit review involved the evaluation of selected permits and supporting materials. Reviewers completed the core review by examining selected permits and supporting documentation, assessing these materials using standardized PQR checklist tools, and talking with NJDEP staff about the permit development process, responsibilities, organization, and staffing. The purpose of national topic area permit reviews is to evaluate specific issues or types of permits in all states and territories. The national topics reviewed in the NJPDES program were: nutrients, pretreatment program, pesticides general permit, and stormwater.

Regional topic area reviews target regionally-specific permit types or particular aspects of permits. The special focus areas selected by EPA Region 2 included reasonable potential analysis, power plants, combined sewer overflows, and arsenic. These reviews provide important information to NJDEP, EPA Region 2, EPA Headquarters, and the public on specific program areas.

It is infeasible to review all of the NJPDES permits issued by NJDEP. Instead, a small selection of permits was reviewed to provide a snapshot of the NJPDES permit program. A total of 21 individual permits were reviewed as part of the NJ PQR. Fifteen permits were reviewed for the core review – of these fifteen, six were reviewed for national topic areas and ten were reviewed for regional topic areas. Permits were selected based on the date of issuance and the review category or categories that they fulfilled (Appendix A).

## **II. STATE PROGRAM BACKGROUND**

### **A. Program Structure and Universe**

The New Jersey Department of Environmental Protection, Division of Water Quality manages the NJPDES program. Within the Division are multiple Bureaus responsible for specific program areas such as municipal finance and construction, permit administration, pretreatment, etc. The primary Bureaus responsible for developing and administering NJPDES permits are the Bureau of Surface Water Permitting, the Bureau of Pretreatment and Residuals, and the Bureau of Nonpoint Pollution Control. However, additional staff involved in NJPDES permit development may be located in other Divisions. For example, the surface water standards and total-maximum daily load (TMDL) staff are housed in the Division of Water Monitoring and Standards.

The NJPDES program has a total of approximately 145 full-time equivalent (FTE) positions. These positions include staff from the Division of Water Quality, the Division of Monitoring and Standards, and Compliance and Enforcement, who provide support for activities such as developing standards, ambient monitoring, and compliance inspections.

At the time of EPA's review, NJDEP had 31 permit writers. Their training is based on EPA's permit writer's course, EPA guidance available online, internal NJDEP training and mentoring, and external training and workshops, when available. The permit writers are supported by an additional nine water quality modelers and four TMDL staff.

Based on data accessed from New Jersey Environmental Management System (NJEMS) on October 10, 2016, the Division of Water Quality administers 325 NJPDES individual permits, comprised of 135 major facilities and 190 minor facilities. NJDEP also administers 39 NPDES general permits (Appendix B). As of October 2016, NJDEPs major individual permits were approximately 85% current and the minor individual permits were approximately 81% current.

### **B. Permit Issuance Tools and Processes**

#### *1. New Jersey Environmental Management System and Other Tools*

The Division of Water Quality, and NJDEP as a whole, relies heavily on the New Jersey Environmental Management System (NJEMS), an environmental information management system which supports permit development and administration and other NJDEP activities. NJEMS is used for permit development, administration and tracking, inspection and compliance action support, as well as compliance monitoring and storage of associated documents. NJDEP does not currently use EPA's Integrated Compliance Information System (ICIS) but instead relies on NJEMS to manage permit data. However, NJDEP is developing systems to transfer data directly from NJEMS to ICIS and has already begun transferring some data.

Many of the tools the Division of Water Quality relies upon to support permit development are integrated into NJEMS. For example, NJEMS develops and populates templates for permits and fact sheets based on information entered into the system by the permit writer. All significant permit administration and development documents (e.g., letters of completeness, public notices,

etc.) have templates in NJEMS. Standard operating procedures and policies are also embedded within NJEMS, including boilerplate language and standard options for permit writers to select from as they develop permits.

NJEMS includes a library of narrative permit provisions that permit writers can adjust based on the specific conditions of the permit. The system also includes substantial template information for NJPDES fact sheets. The templates prompt each permit writer to address all pertinent regulations and requirements when developing the basis for a permit.

As NJEMS contains such a wealth of data and templates, permit writers develop permits primarily within NJEMS. Permit writer assignments are maintained within NJEMS and permit writers work through various sections of the permit, entering information and data into specific fields. NJEMS automatically generates task lists and populates standard elements of the permit. Staff and management are able to see all pending tasks across the Division.

The use of NJEMS promotes uniformity and consistency across the Division of Water Quality. Even so, all permits undergo a rigorous quality assurance process, which is facilitated through NJEMS. When the quality assurance process has been completed, permits are electronically signed by management and “locked” to prevent further editing. Once “locked”, a permit can only be “unlocked” by select individuals.

NJEMS also assists with maintaining the administrative records. Permit development documentation and correspondence are maintained within the system, as are draft permits, final permits, and other pertinent documents. Some large paper files are archived in an off-site warehouse, in accordance with established procedures, rather than being electronically stored in NJEMS.

In addition to NJEMS, the Division relies on other tools to develop permits. The Water Quality Based Effluent Limitation (WQBEL) Analysis Data Sheet is an excel sheet that is populated with data from NJEMS but completed by individual permit writers. Staff use several models to calculate mixing zones (CORMIX dilution model, visual plumes, PLUMES, DKHV, NRFIELD, and UM3) and use tools like NJDEPs Data Miner<sup>1</sup>, NJDEPs GeoWeb<sup>2</sup>, and other web applications to evaluate additional information necessary to develop a permit.

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

NJDEP permit processing procedures are described in the NJPDES Rules at NJAC 7:14A. To begin, permittees are required to submit an NJPDES application using NJ-specific forms that have been adapted from EPA forms. NJDEP sends the facility a reminder letter in advance of the 180-day permit application submission deadline, required by 40 CFR §122.21(d). If an application is not received in a timely manner, the matter may be referred to enforcement staff for follow-up.

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<sup>1</sup> Available at [http://datamine2.state.nj.us/dep/DEP\\_OPRA/index2.html](http://datamine2.state.nj.us/dep/DEP_OPRA/index2.html).

<sup>2</sup> Available at <http://www.nj.gov/dep/gis/geoweb splash.htm>.

When a permit application is received by NJDEP, it is reviewed for completeness by the administrative review unit. If an application is incomplete, a letter is sent to the applicant requesting the missing information. Once complete, the administrative review unit logs the application in NJEMS, starting an internal clock for permit development, and forwards it to the permitting staff for action.

The permit staff develop the specific effluent limitations and provisions established in the permit using NJEMS and the other tools discussed above. When developing effluent limitations for the discharge to surface water permit, permit writers begin with the limits and monitoring page from the previous permit and evaluate/recalculate the limit for each parameter as necessary. NJ State regulations at N.J.A.C. 7:14A-13.3 provide for the implementation of federal effluent limitation guidelines as technology-based effluent limitations (TBELs). WQBELs are calculated using the WQBEL Analysis Data Sheet. While this data sheet is not housed within NJEMS, each permit writer uses the same WQBEL data analysis sheet.

The monitoring requirements in a permit are typically carried forward from the previous permit. Monitoring frequencies are specified in state regulations at N.J.A.C. 7:13 for most parameters.

The use of mixing zones is determined on a site-specific basis. In some situations, like when center-stream diffusers are in use, complete mixing is assumed. More typically, however, the staff use a fraction of the stream width for mixing. No dilution or mixing is allowed for pathogen discharges or for discharges to intermittent streams. If a mixing zone is allowed, the determination is discussed in detail in the fact sheet and references the full mixing zone report, which is maintained as part of the administrative record.

State antidegradation provisions are considered when a limit is changed in a way that increases pollutant loading. Anti-backsliding regulations are considered when a limit is made less stringent. The process for considering antidegradation and anti-backsliding is specified in the state water quality standards (WQS) and accompanying regulations. If there is a potential for degradation or backsliding, permit writers complete the required analyses and provide a discussion in the fact sheet. Boilerplate language is provided in NJEMS to assist permit writers in addressing these potential concerns.

The Bureau of Nonpoint Pollution Control has a web-based TMDL look-up tool where permit writers and the public can access TMDL information and download electronic copies of the TMDL<sup>3</sup>. Permit writers coordinate directly with TMDL staff regarding implementation of specific requirements in permits, when necessary.

NJPDES effluent limitations for surface water discharges of pathogens are always end-of-pipe limitations. As a result, pathogen TMDLS, which are common in the state, are not extensively discussed in fact sheets and TMDLs do not require more stringent limitations than already required by state regulations. All state surface water permits are being transitioned to E. coli

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<sup>3</sup> Available at <http://www.nj.gov/dep/dwq/msrp-tmdl-rh.htm>

limits based on revised state water quality standards. However, the Delaware River Basin Commission<sup>4</sup> continues to require fecal limits in certain permits.

Permit modifications can be minor, or major. If a change is a low priority, DEP may wait to make the change until permit reissuance. For a major change, DEP may modify the permit, revoke and reissue a permit within its term, or ask the facility to wait until the permit is due for renewal depending on the specific circumstances.

Pre-draft permits are sent to permittees for generally a 10-day factual error check and distributed within NJDEP to other divisions that may have an interest in the permit. All draft permits are subject to a 30-day public comment period – major permits are public noticed in the NJDEP Bulletin and a local newspaper, whereas minor permits are only public noticed in the NJDEP Bulletin.

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

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

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

Basic facility information is necessary to properly establish permit conditions. For example, information regarding facility type, location, processes and other factors is required by NPDES permit application regulations (40 CFR §122.21). This information is 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.

The 15 individual permits reviewed for the core review consistently identified the permit issuance, effective, and expiration dates, the receiving water, and allowed for a permit term of 5 years or less. In several permits, the address provided for the discharging facility did not include a zip code. The fact sheets described the permitted activities, wastewater treatment, outfalls, and the type of discharge authorized. The fact sheets include the latitude and longitude of the permitted outfall, although the permits don't consistently include this information. The receiving water, designated uses, and impairments are consistently described in the fact sheets, as well.

For publicly-owned treatment works (POTWs), the description of the facility is basic (e.g., “sanitary wastewater”) but the specific treatment units at the facility are listed in the fact sheet. For industrial facilities, the fact sheets generally provide a robust discussion of the processes or

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<sup>4</sup> NJDEP NPDES limits are coordinated with or affected by several separate entities in specific areas of the state. The Delaware River Basin Commission (DRBC), comprised of representatives from NJ, NY, DE, PA, and the US Army Corps of Engineers, develop water quality standards for the main stem of the Delaware River and have issued a PCB TMDL. Limitations for dischargers to the main stem of the River are based on DRBC WQS, whereas limits for dischargers to tributaries below the head of tide are based on DRBC WQS or NJ WQS; whichever is most stringent. DRBC and NJDEP are moving to a One Permit Program where all DRBC regulations will be included in NPDES permits. Additional entities that affect NPDES limitations are the Interstate Environmental Commission which has developed some provisions specific to the NY/NJ Harbor and the Pinelands Commission which has developed pH and nitrogen standards for dischargers in the Pinelands (currently, there are two).



services conducted by the facility and the different waste streams discharged. Some fact sheets for industrial dischargers included the Standard Industrial Classification (SIC) code to help identify the industrial activities.

Typically, state pollutant discharge elimination system permits employ standard language on the cover page which authorizes the specific facility to discharge to a specific receiving water in accordance with the provisions in the permit. Some NJPDES permits established this language on the permit limits pages and some used a mix of provisions to authorize the discharge. While all the NJPDES permits reviewed included the authorization-to-discharge language, it was challenging to locate and verify due to the inconsistency of the language and location.

## **2. *Permit Application Requirements***

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.

The NJDEP surface water discharge application forms are adapted from EPA application forms. In general, the permit applications for the core permits reviewed were appropriately filed in the relevant permit file and were complete. Of the 15 core review permits, two applications were not found in the hard copy file provided to EPA during the on-site review and one permit application was not found in NJEMS. However, NJDEP staff were able to locate and provide these applications promptly.

For seven of the core review permits, the complete permit application had not been submitted 180 days prior to the expiration of the previous permit (unless permission for a later date has been granted by the State), as required by 40 CFR §122.6 and §122.21, to allow for administrative continuance. All of these permits were administratively continued for a period of time before the renewed permit was issued and there was no record of an extension being granted under 40 CFR §122.21(c) and (d)<sup>5</sup>.

In general, NJPDES permittees are required to conduct sufficient monitoring and NJDEP uses all available monitoring and application data when developing effluent limitations and permit conditions.

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

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

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<sup>5</sup> In response to a draft of this report, NJDEP stated that they will begin to send a letter granting an extension of the permit if a renewal application has not been submitted 180 days prior to the expiration of the previous permit.



### **1. *TBELs for POTWs***

POTWs must meet secondary or equivalent to secondary treatment standards (including limits for BOD, TSS, pH, and percent pollutant removal), and must contain numeric limits for all of these parameters (or authorized alternatives) in accordance with the secondary treatment regulations at 40 CFR §133. A total of seven POTW permits were reviewed as part of the PQR.

EPA found that the permits and fact sheets provided a minimal description of the wastewater treatment process and discussion of the TBELs. However, the permits reviewed consistently applied secondary treatment standards appropriately. Effluent limitations were established using the appropriate units, averaging periods, and expression (i.e., concentration or mass; average weekly and average monthly), and include the appropriate percent removal requirements.

### **2. *TBELs for Non-POTW Dischargers***

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 the application of these guidelines. If ELGs are not available, 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).

The core permit reviews included eight non-POTW dischargers. Five of these facilities are subject to ELGs. The fact sheets for four of these facilities do not discuss the applicability of the ELG (why it does or does not apply) or how the performance levels were determined. However, the fact sheets for all 8 non-POTW permits provided a detailed basis for each TBEL.

Fact sheets for non-POTW dischargers indicate when effluent limitations are carried forward from the previous permit and whether this is required by anti-backsliding restrictions, although it is not always clear what the basis for the effluent limitation was. For example, in one fact sheet, the basis for several limits is not provided; in another, it is not clear why the chosen ELG is applicable; and in a third, no ELGs are mentioned and it is unclear whether or not a specific ELG applies to the facility<sup>6</sup>.

## **C. Water Quality-Based Effluent Limitations**

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 where necessary to achieve state water quality standards, including narrative criteria for water quality. To establish such “water quality-based effluent limits” (WQBEL), the permitting authority must evaluate the proposed discharge and determine whether technology-based requirements are sufficiently

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<sup>6</sup> In response to a draft of this document, NJDEP stated that fact sheets will include reasons why certain ELGs are not applicable in specific cases.

stringent, and whether any pollutants or pollutant parameters could cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

The NJ PQR assessed the process employed by the NJDEP permit writers and water quality modelers 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 the receiving water;
- Evaluated and characterized the effluent and receiving water including identifying pollutants of concerns;
- Determined critical conditions;
- Incorporated information on ambient pollutant concentrations;
- Assessed any dilution considerations;
- Determined whether limits were necessary for pollutants of concerns and, where necessary;
- Calculated such limits or other permit conditions.

For impaired waters, the PQR also assessed whether and how permit writers consulted and developed limits consistent with the assumptions of applicable EPA-approved total maximum daily loads (TMDLs).

All of the core permit fact sheets reviewed for the NJ PQR identify the receiving water and provide a brief discussion of the effluent limitations and permit conditions. Information about the impairment status of the receiving water and, if present, TMDLs are identified and discussed. The fact sheets also specify that all available effluent data is evaluated as part of the water quality analysis, meaning that all pollutants are considered pollutants of concern. Generally, acceptable data sets for NJDEP analysis consist of, at minimum, 8 to 12 data values including the most recent 2½ years of collected data. Fact sheets also indicated which pollutants were and were not discharged in quantifiable amounts, and when sufficient data exists, discuss the pollutant-specific cause or reasonable potential analysis for pollutants discharged in quantifiable amounts<sup>7</sup>.

The fact sheets generally discussed the WQBELs in two locations – the Permit Summary Table and a Table A – although, four reviewed fact sheets did not include a Table A. The Permit Summary Table summarizes the assessed parameters, effluent data, existing limits, newly calculated limits, and monitoring requirements for each outfall. Table A summarizes the water

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<sup>7</sup> NJDEP’s multi-step cause and reasonable potential analysis process is discussed in detail in Section IV.A. of this report.

quality analysis information including the cause analysis results and WQBELs that will be established in the permit.

The WQBELs for the core review permits are consistent with the discussion and documentation in the respective fact sheets and files. The results of the WQBEL calculations are appropriately provided in the fact sheet tables. Additionally, the applicability of anti-backsliding and antidegradation requirements are discussed in a consistent and clear manner.

#### **D. Monitoring and Reporting**

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 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.

The core permits reviewed require appropriate monitoring for all the pollutants subject to effluent limitations, specify the required frequency for monitoring and, in most instances, the monitoring location. One core permit did not include information identifying the monitoring location and a second core permit stated that monitoring was to occur after treatment but did not specify prior to discharge or mixing<sup>8</sup>. In other cases, monitoring requirements established in permits seemed sufficient to assess compliance with effluent limitations.

The POTW permits generally included chronic whole effluent toxicity (WET) testing requirements (one requires only acute; one requires acute and chronic) and all POTW permits include influent monitoring for BOD<sup>5</sup> and total suspended solids. In addition, three of the non-POTW permits include chronic WET monitoring, four include acute WET monitoring, and one includes both acute and chronic WET monitoring.

All of the core permits required sampling and analysis methods consistent with 40 CFR Part 136 and specify that the analysis methods must be sufficient to meet applicable quantification levels.

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<sup>8</sup> In response to a draft of this document, NJDEP has agreed to modify its standard permit language to clarify that monitoring must occur after treatment but before discharge.

NJPDES permits also specify that all monitoring information must be reported on the facility's monthly Discharge Monitoring Report.

### **E. Standard and Special Conditions**

Federal regulations at 40 CFR §122.41 require that all NPDES permits, including NPDES general permits, contain an enumerated list of "standard" permit conditions. Further, the regulations at 40 CFR §122.42 require that NPDES permits for certain categories of dischargers must contain additional 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 required by the federal regulations.

In addition to standard permit conditions, permits may also contain additional requirements that are unique to a particular permittee or 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 pollutant management plan or mercury minimization plan; best management practices [see 40 CFR §122.44(k)], or permit compliance schedules [see 40 CFR §122.47]. Where a permit contains special conditions, such conditions must be consistent with applicable regulations.

NJPDES permits include the standard permit conditions specified in 40 CFR §122.41, which are incorporated by reference into the permit.

The federal regulations at 40 CFR §122.42 establish additional conditions applicable to POTW and non-POTW facilities. NJPDES permits for industrial facilities did not contain language as equally stringent to the federal regulations at 40 CFR §122.42(b); nor did POTW permits include language as equally stringent to federal regulations at 40 CFR §122.42(a). After the completion of the on-site review, NJDEP was able to identify language in state regulations at NJAC 7:14A-6.2(b)(2) that seems as equally stringent as the federal requirements and immediately committed to incorporating these regulations by reference into applicable NJPDES permits moving forward.

It is important to note, however, that NJPDES permits incorporate N.J.A.C. 7:14A-2.3 by reference. That specific state regulation incorporates 40 CFR Part 122 (and other federal regulations) into NJ state regulations. As such, the standard conditions in NJDEPS permits are considered as equally stringent as the federal regulations at 40 CFR §122.42. However, these conditions are buried in a reference within a reference and may be difficult for a permittee to locate and be aware of. The EPA recommends that NJDEP clearly incorporate or reference all necessary standard and special conditions in NJPDES permits.

The core permits reviewed also include certain special conditions. These vary by permit and include some additional monitoring, recordkeeping, reporting, submittals, and conditions for permit modification, facility management, pretreatment, etc.

## **F. Administrative 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 the administrative process with NJDEP staff, and reviewed materials from the administrative process as they related to the core permit review.

NJDEP typically includes a copy of the public notice printed in the NJDEP Bulletin in the draft permit package, especially for major permits. Based on EPA's review, the public notice includes all information required by 40 CFR §124.10. NJDEP publishes public notices for both major and minor NPDES permits in the NJDEP Bulletin. Only major permits are public noticed in local newspapers. Proof of public notice in the newspaper, often in the form of an affidavit, is filed with payment vouchers in financial files, not in the permit files.

When comments were received during the public comment period, the comments and responses from NJDEP were clearly provided in the final permit package.

## **G. Administrative Record**

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; 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.

Each of the core permit administrative records reviewed included the permit application and related data and documents, correspondence, and the fact sheet. In addition, NJEMS includes a variety of background and supporting documentation for the permit. NJDEP's administrative records were well organized and the materials in the files provided a complete history of the permit (modifications, renewals, etc.). However, the proof of public notice was not filed in the permit file with the remainder of the administrative record, but was instead filed with payment vouchers in financial files.

### ***1. Fact Sheet***

Permit records for POTWs and industrial facilities should contain comprehensive documentation of the development of all effluent limitations. Technology-based effluent limits 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 water quality-based effluent limitations as well as the procedures explaining the basis for establishing, or for not establishing, water quality-based effluent limitations 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. Federal regulations require fact sheets for all draft major permits and allow for an abbreviated fact sheet (known as a Statement of Basis) for minor fact sheets. However, NJDEP develops complete and robust fact sheets for all draft individual major and minor NJPDES permits.

In general, the fact sheets for the core permits reviewed are consistent, thorough, and contain the elements required by federal regulations. The NJDEP fact sheets identify respective receiving waters and provide the basis for each effluent limitations and permit condition. The fact sheets also clearly identify any receiving water impairments and the applicability of any TMDLs. Additionally, the fact sheets clearly state that all available effluent data is evaluated as part of the water quality analysis, indicate which were found to be discharged in quantifiable amounts, and discuss the pollutant-specific results of the cause analysis and reasonable potential analysis. The fact sheets also include a discussion of anti-backsliding and antidegradation requirements, when applicable.

However, four reviewed fact sheets did not include a clear overview of water quality analysis information, the results of the cause and reasonable potential analyses and any established WQBEL (typically provided in Table A of NJDEPs fact sheets). While the fact sheets provide a robust discussion of the basis of the effluent limitations, they do not explicitly state whether an effluent limitation is a WQBEL or a TBEL.<sup>9</sup> The WQBEL Analysis Data Sheets used to conduct the cause and reasonable potential analysis are not included in the fact sheets or entered into NJEMS<sup>10</sup>.

The fact sheets for the non-POTWs permits reviewed specifically included all applicable information, although the description of the treatment processes could be more detailed and robust. However, four non-POTW fact sheets did not clearly discuss the ELG characterization and how performance levels were determined. In addition, one fact sheet did not clearly discuss the applicability of potentially relevant ELGs.

Fact sheets indicate when limits are carried forward from the prior permit, however, this does not always make the basis for the limit clear. The fact sheets describe and include examples of how calculations are determined but calculations were not consistently identified in the administrative record.

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<sup>9</sup> In response to a draft of this report, NJDEP stated that an explicit statement of whether an effluent limitation is a WQBEL or a TBEL will be included in the fact sheet.

<sup>10</sup> In response to a draft of this document, NJDEP stated that the WQBEL Analysis Data Sheet will be referenced in the Administrative Record portion of the permit.



## H. National Topic Areas

National topic areas are specific aspects of the NPDES permit program that are reviewed based on the specific requirements applicable to the selected topic areas. Four topic areas have been determined to be important on a national level and include: permitting for nutrients, the pretreatment program, the pesticide general permit, and stormwater permitting. The same national topic areas are reviewed for all state PQRs.

### I. Nutrients

For more than a decade, both nitrogen and phosphorous pollution has consistently ranked as one of the top causes of degradation of surface waters in the U.S. Since 1998, EPA has worked to reduce the levels and impacts of nutrient pollution and, as a key part in this effort, has provided support to States to encourage the development, adoption, and implementation of numeric nutrient criteria as part of their water quality standards (see the EPA's *National Strategy for the Development of Regional Nutrient Criteria*). In a 2011 memo to the EPA regions titled *Working in Partnership with States to Address Nitrogen and Phosphorous Pollution through Use of a Framework for State Nutrient Reductions*, the Agency announced a framework for managing nitrogen and phosphorous pollution that in part relies on the use of NPDES permits to reduce nutrient loading in targeted or priority watersheds. To assess how nutrients are addressed in the NJPDES permitting program and the implementation of this framework, the EPA reviewed four of the fifteen core permits as part of the nutrients national topic area review.

#### *Background*

In New Jersey, water quality impacts from nutrient over-enrichment are addressed through implementation of a narrative and numeric water quality standard for nitrate-nitrogen and total phosphorous. The narrative water quality standard states that nutrients shall not be allowed in concentrations that render the waters unsuitable for the existing and designated uses due to objectionable algal densities, nuisance aquatic vegetation, diurnal fluctuations in dissolved oxygen or pH indicative of excessive photosynthetic activity, detrimental changes to the composition of aquatic ecosystem or other indicators of the use impairment caused by nutrients (NJAC 7:98-1.14(d)).

The numeric criteria for nitrate-nitrogen is 2 mg/L, unless a lower level is necessary to protect water quality in Class PL waters and is 10 mg/L for nitrate as a human health criterion in Class FW2 waters (NJAC 7:98-1.14(b)1i.). The numeric limit for phosphorous in non-tidal, Class FW2, waters is 0.1 mg/L and is 0.05 mg/L in Class FW2 lakes. For Class SE and SC, the phosphorous chronic criteria is 0.0001 mg/L (NJAC 7:98-1.14(d)).

#### *Program Strengths*

NJDEP has long recognized the impact of nutrient pollution to the waters of the State and has taken specific steps beyond its existing water quality standards to further reduce nutrient impacts. This includes establishing nutrient TMDLs in priority watersheds. Nutrient TMDLs for the Raritan River basin and the Passaic River basin encompass approximately 80% of the state's surface waters and the vast majority of POTWs in the state.



### *Critical Findings*

Reasonable potential analyses for nutrients are not consistently documented or included. While in some cases, there is a detailed calculation provided for a pollutant such as nitrate or ammonia nitrogen, there is no discussion of whether there is reasonable potential for an excursion of applicable phosphorous standards, protection of waterbodies to prevent algal blooms, or nutrient related impairments in downstream waterbodies.

In the case of Bergen County Utility Authority, while the immediate receiving water segment does not list dissolved oxygen impairments, downstream segments of the Hackensack River and in the New York/ New Jersey Harbor are listed as impaired for dissolved oxygen. Reasonable potential analyses for this discharge should include contributions to downstream dissolved oxygen impairments from the discharge of BOD and total nitrogen.

If there are not any assessments or data available that would allow determination of whether there has been an excursion of water quality standards in a downstream water body, the permit writer must ensure that representative data is collected, and consider implementing the water quality standards of the downstream water body most vulnerable to non-attainment of water quality standards as a result of nutrient-related impacts. A downstream water body of concern could be in another state, and a change in jurisdiction does not relieve the permit writer from the obligation in considering downstream standards. 40 CFR §122.4(d) provides that NPDES permits may not be issued when the imposition of conditions cannot ensure compliance with the applicable water quality conditions of all affected states.

### **2. Pesticides**

On October 31, 2011, the EPA issued a final NPDES *Pesticide General Permit (PGP) for Dischargers from the Application of Pesticides*. This action was in response to a 2009 decision by the U.S. Sixth Circuit Court of Appeals (National Cotton Council of America vs. EPA, 553 F.3d 927(6<sup>th</sup> Cir. 2009)) in which the court vacated the EPA's 2006 Final Rule on Aquatic Pesticides (71 Fed. Reg. 68483, November 27, 2006) and found that point source dischargers of biological pesticides and chemical pesticides that leave a residue, into waters of the U.S. were pollutants under the CWA. The federal PGP applies where the EPA is the permitting authority. Approximately 44 delegated state NPDES authorities, including NJ, have issued state pesticide general permits as of October 2016.

### *Background*

On January 7, 2009, the Sixth Circuit vacated the EPA's 2006 NPDES Pesticides Rule under a plain language reading of CWA. The Court held that the CWA unambiguously includes "biological pesticides" and "chemical pesticides" with residuals within its definition of "pollutant". In response to this decision, on April 9, 2009, the EPA requested a two-year stay of the mandate to provide the Agency time to develop their NPDES permits, and to provide outreach and education to the regulated community. On June 8, 2009, the Sixth Circuit granted EPA the two-year stay of the mandate. On March 28, 2011, the U.S. Court of Appeals for the Sixth Circuit Court granted EPA's request for an extension to allow more time for pesticide

operators to obtain permits for pesticide dischargers into U.S. waters. The Court's decision extended the deadline for when permits would be required from April 9, 2011 to October 31, 2011.

As a result of the Court's decision to vacate the 2006 NPDES Pesticide Rule, NPDES permits are required for discharges of biological pesticides and of chemical pesticides that leave a residue, to waters of the United States. EPA proposed a draft pesticide general permit on June 4, 2010 to cover certain discharges resulting from pesticide applications. The EPA Regional office and State NPDES authorities may issue additional general permit or individual permits if needed.

On October 31, 2011, the NJDEP issued its own NJDPES General Permit for Pesticide Application Discharge (PGP). The general permit is effective from November 1, 2011 to October 31, 2016. The NJDEP is in the process of renewing the PGP. Until a renewed permit is issued, the current permit remains in full effect. For the NJ PQR, EPA reviewed the NJDEP PGP with a focus on verifying the current permit's consistency with NPDES program requirements.

#### *Program Strengths*

The NJDEP PGP includes additional use patterns which are not included in the federal permit; Agricultural Activities in Water of the State and Utility Transmission and Distribution Line Vegetation Control.

#### *Critical Findings*

The EPA does not have any critical findings regarding the NJDEP PGP at this time.

### **3. Pretreatment**

#### *Background*

NJDEP was delegated the responsibility for the pretreatment program from the EPA and has eighteen approved pretreatment programs. NJDEP oversees the implementation of pretreatment programs by approved control authorities that issue significant industrial user permits to their users. NJDEP's oversight function includes (i) conducting audits of the delegated local agency's pretreatment program, (ii) reviewing federal annual reports and state annual reports submitted by delegated local agencies, and (iii) providing technical assistance to approved control authorities. The audit and the annual report include information on the control authorities' treatment plant operations, NJPDES permit compliance and sludge quality that allows the bureau to determine the pretreatment program's success. NJDEP itself issues NJPDES/significant industrial user permits for discharges into publicly owned treatment works of local agencies that do not have approved pretreatment programs. The Bureau of Pretreatment and Residuals coordinates the Dental Amalgam Program for indirect dischargers. Dental practices that remove or place amalgam are subject to N.J.A.C. 7:14A-21.12, and are required to obtain NJPDES/SIU permits unless meeting regulatory requirements for exemption.

### *Critical Findings*

NJDEP requires multiple pretreatment reports (2 for the calendar year, due February 1 and March 1 respectively) and one that is specific to the program; the reports seem duplicative and the reporting could be streamlined into one report that covers a consistent monitoring period.

As NJDEP does not yet use ICIS (and has not input information for the last 10 years), EPA R2 must obtain information on the implementation through other means and cannot verify the accuracy of the data (e.g., number of significant industrial users, last audit date for each approved pretreatment program) which lacks transparency.<sup>11</sup>

Additionally, the fact sheet for POTWs with approved pretreatment programs lacked information on the dates the program was modified to incorporate regulatory changes and did not characterize all industries discharging to the POTW or show that the reasonable potential analysis accurately reflects those industries.

### **4. Stormwater**

The NPDES program requires stormwater discharges from certain municipal separate storm sewer systems (MS4s), industrial activities, and construction sites to be permitted. Generally, the EPA and NPDES-authorized states issue individual permits for medium and large MS4s and general permits for smaller MS4s, industrial activities, and construction activities. NJDEP is authorized to issue stormwater permits under the NJPDES program.

#### *Background*

At this time, NJ has a variety of general permits associated with the regulation of stormwater discharges from construction activities, municipalities, non-traditional MS4s, and industrial facilities, as shown in Appendix B. The following stormwater general permits were reviewed as part of the NJ PQR:

- Construction Activity Stormwater General Permit – 5G3 (NJ0088323);
- Tier A Municipal Stormwater General Permit – R9 (NJ0141852) and;
- Basic Industrial Stormwater General Permit – 5G2 (NJ0088315).

#### *Construction Activity Stormwater – 5G3 (NJ0088323)*

The Construction Activity Stormwater General Permit (CGP) became effective on March 1, 2012 and expires on February 28, 2017; the issue and expiration dates are not specified in the

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<sup>11</sup> NJDEP has committed to implementing a NJDEP/EPA agreed-upon action plan for the NPDES data entry/flow into ICIS-NPDES. In the interim, NJDEP will continue to provide information regarding surface water discharge permits via reports available on the NJ Data Miner website and, for pretreatment, email the information directly to EPA as agreed. Once NJPDES data is flowing into ICIS, NJDEP will also input pretreatment audit information (including but not limited to audit dates, number of SIU's in significant non-compliance, number of SIU's without permits, etc.) into the NJDEP database for dataflow into ICIS.

permit. In 2016, the NJDEP CGP covered approximately 4,800 facilities. Based on our review of the 2012 CGP, the EPA presents the following findings:

- The fact sheet should include the name of a person to contact for information per 40 CFR §124.8(b)(7);<sup>12</sup>
- To obtain coverage, the permit states that a paper submission is required 30 days prior to the “commencement of land disturbance”. The permit must specify prior to the commencement of “construction activities” to cover all regulated activities associated with this permit authorization;
- It appears as if current dischargers may be allowed to submit a Request for Authorization (RFA), the NJDEP Notice of Intent (NOI), up to ninety (90) days after effective date of a re-issuance or renewal of the CGP if the permittee’s RFA is no longer accurate. A permittee with inaccurate information should be submitting correct information prior to the effective date of the permit.
- NJDEP must include specific requirements for sites that will discharge to impaired waters;<sup>12</sup>
- The permit must require that water quality standards be met;<sup>12</sup>
- The state requirements for corrective action including timeframes for correcting deficiencies need to be more specific. The permit language appears to leave the interpretation of whether the site requires corrective action to self-inspection;
- The permit appears to allow exceptions to stormwater pollution prevention plans (SWPPP) being submitted prior to the RFA. EPA believes that permittees should always have prepared SWPPPs prior to the submittal to the state RFA. A copy of the SWPPP should be maintained at the site and be available to the public;
- Although states are not required to adopt the federal endangered species requirements, the EPA suggests the NJDEP include requirements addressing this issue;
- “Completed” and “Operating entity” should be defined in the permit;
- The requirements to terminate coverage should be uniform and consistent in the permit and should specify what site stabilization criteria are required prior to termination;
- Parts A.2.b.iv and C.3.d of the permit reference E.6.a, E.6.b and E.6.c of the permit which do not exist. Should reference E.5.a – E.5.c of the permit;
- Permit requires “weekly” inspections but should specify once every 7 days to ensure adequate implementation and enforcement;

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<sup>12</sup> In response to a draft of this report, NJDEP stated that this finding has been resolved in the subsequent reissuance of this permit.

- The permit does not specify the qualifications or training of the individual conducting the self-inspections;
- Permit should specify documentation requirements for inspections, including what is required to be documented to comply with this permit requirement (date, time, weather conditions, inspector name, locations, BMPs, deficiencies and corrective actions) and should also specify the required record retention for inspection documentation;
- There are no training requirements in the permit or in the standards. The permit should specify some type of stormwater and/or NJPDES training for permittees, operators etc. so someone on site has knowledge regarding stormwater requirements and practices.

*Tier A Municipal Separate Storm Sewer Systems – R9 (NJ0141852)*

On February 8, 2016, NJDEP issued a preliminary draft Tier A MS4 permit to solicit input prior to the issuance of a draft permit. EPA completed its review of the Tier A MS4 preliminary draft permit on April 15, 2016, and transmitted comments to NJDEP. The preliminary draft permit was reviewed by EPA permitting and compliance staff, the Office of Regional Counsel, and EPA Headquarters. The EPA utilized the EPA’s April 2010 MS4 Improvement Guide<sup>13</sup> to review the permit. The NJDEP Tier A MS4 Permit covered 457 permittees in 2015. The current permit was effective March 1, 2009, and expired on February 28, 2014. Based on our review of the preliminary draft MS4 permit, EPA presents the following findings:

- The NJDEP should be more descriptive with the permit’s record keeping requirements. EPA suggests the permit to include a detailed list of records to be kept, a designation of where the record should be kept and that NJDEP establish a period of time for record retention. The period of retention should be no less than the three years.<sup>14</sup>
- The requirements for TMDLs should be strengthened to address how stormwater Waste Load Allocations in TMDLs will be complied with.<sup>14</sup>
- The NJDEP permit requires inspections of salt storage facilities but doesn’t require documentation of salt storage and maintenance activities. The state should detail what’s required from the inspections and the records should be kept on site.

*Basic Industrial Stormwater General Permit – 5G2 (NJ0088315)*

The permit was issued on December 27, 2012, became effective on February 1, 2013 and expires on January 1, 2018. In 2015, NJDEP wrote general permits for certain specific sectors found in the federal Multi-Sector General Permit (MSGP). Therefore, the NJDEP Basic Industrial Stormwater General Permit covered most of the approximate 2500 industrial permittees in 2015. Based on our review, EPA presents the following findings:

<sup>13</sup> Available at [https://www3.epa.gov/npdes/pubs/ms4permit\\_improvement\\_guide.pdf](https://www3.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf)

<sup>14</sup> In response to a draft of this report, NJDEP stated that this finding has been resolved in the subsequent reissuance of this permit.

- NJDEP should include requirements for controls to be implemented at all industrial sites for management of SW runoff, salt storage management, and reduction of dust vehicle tracking. Nor does the permit specify any frequency for maintenance of control measures.
- The permit needs to require that Stormwater Pollution Prevention Plans (SWPPP) be completed prior to RFA approval. Copies of SWPPPs should be maintained at the site and should also be available to the public. The SWPPP should also include descriptions of pollution prevention procedures.
- Inspector training and qualification requirements need to be added to the permit. Visual inspections of stormwater discharges during wet weather events need to be included in the permit.
- The permit does not specify which SIC Codes are applicable to this permit and which regulated industries are required to get coverage under this permit.<sup>14</sup>
- The Permit must require that water quality standards be met.
- NJDEP should include specific requirements for sites that will discharge to impaired waters.
- Permit should specify documentation requirements for inspections, including what is required to be documented to comply with this permit requirement (date, time, weather conditions, inspector name, locations, BMPs, deficiencies and corrective actions) and should also specify the required record retention for inspection documentation.
- The state requirements for corrective action, including timeframes for correcting deficiencies, need to be more specific.

## **IV. REGIONAL TOPIC AREA FINDINGS**

The Regional topic area reviews addressed the following areas; NJDEP's process for determining reasonable potential, review of power plant permits, Combined Sewer Overflows (CSO), and state concerns regarding arsenic.

### **A. Reasonable Potential**

#### *Background*

Federal regulations at 40 CFR §122.44(d) state that effluent limitations must control all pollutants or pollutant parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion about any State water quality standard, including narrative standards. EPA's Technical Support Document for Water



Quality-based Toxics Control (TSD)<sup>15</sup> provides guidance to authorized programs regarding calculating reasonable potential and determining appropriate water quality-based effluent limitations.

*Program Description*

NJDEP employs a two-step “cause” and “reasonable potential” process. The cause analysis is conducted based on a minimum of 8-12 data points and assesses whether the existing effluent results in an excursion of the applicable water quality standard by comparing sampling data to a waste load allocation (WLA). If any of the data points are greater than the WLA, “cause” is determined and a WQBEL is established.

When there is a minimum of 20 data points available and no “cause” was determined, NJDEP conducts a reasonable potential analysis. Reasonable potential is determined when the projected effluent (maximum data point times a multiplying factor) exceeds the WLA. This approach is very loosely based on EPA’s TSD.

NJDEP generally uses ones permit cycle of data for cause and reasonable potential analysis determinations. However, if warranted, NJDEP will occasionally use data from an extended timeframe. Monitoring requirements are increased as needed so that the permittee is required to collect sufficient data for a cause analysis each permit cycle. If reasonable potential is found by a small margin, NJDEP may opt to require increased monitoring (which is inconsistent with federal regulations at 40 CFR §122.44(d)(1)(i) to address outliers or other data anomalies rather than establishing an effluent limitation. Based on EPA’s review of the WQBEL Data Analysis Sheets, a finding that there is no cause but there is reasonable potential happens with some regularity.

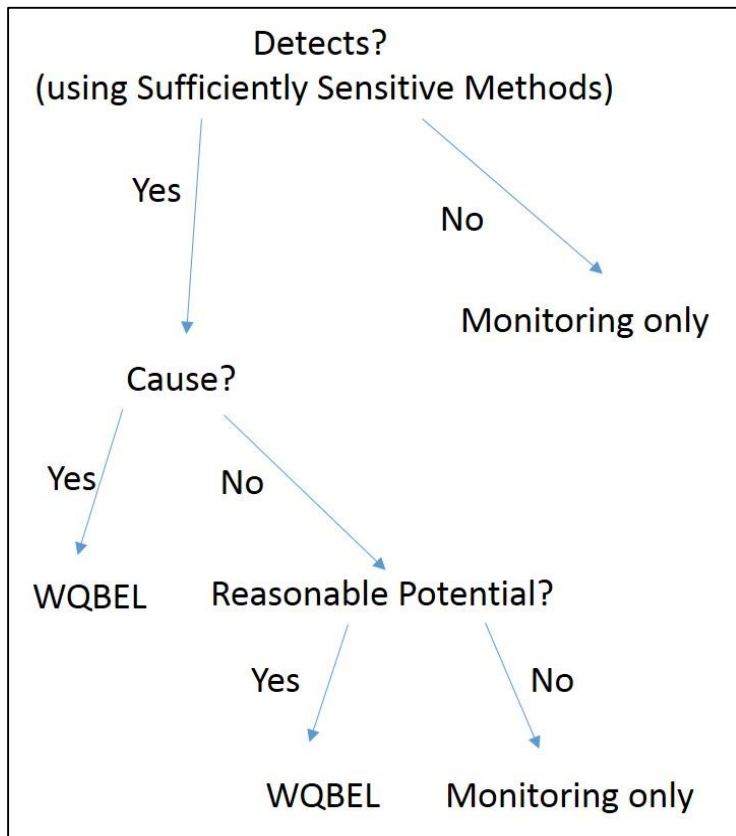


Figure 1 - Multi-Step Cause and Reasonable Potential Analysis Decision Tree

<sup>15</sup> Technical Support Document for Water Quality-based Toxics Control. U.S. Environmental Protection Agency. EPA/505/2-90---1. March 1991. Available at <https://www3.epa.gov/npdes/pubs/owm0264.pdf>.



EPA supports NJDEP's two-step process for calculating cause and reasonable potential. However, as Chapter 3 of the TSD provides guidance for calculating reasonable potential with a limited sample size, EPA believes that NJDEP must calculate reasonable potential for all parameters with effluent data regardless of sample size. Additionally, NJDEP must ensure that effluent limitations are established for all parameters which cause, have the reasonable potential to cause, or contribute to an excursion of applicable water quality standards.

### *Critical Findings*

Based on the review of the NJDEP's reasonable potential process, EPA presents the following findings:

- NJDEP must ensure that effluent limitations are established in permits for all parameters which cause, have the reasonable potential to cause, or contribute to an excursion of applicable water quality standards in order to be consistent with EPA regulations at 40 CFR §122.44(d).
- NJDEP must calculate reasonable potential for all pollutants of concern in order to be consistent with EPA regulations at 40 CFR §122.44(d)
- In the case of a limited data sample size, NJDEP should either use TSD procedures for limited data or ensure that a representative data set is available in order to be consistent with EPA guidance in the Technical Support Document for Water Quality-based Toxics Control.<sup>16</sup>

## **B. Power Plants**

### *Background*

NPDES permits for power plants must comply with several complex requirements, some of which have been updated since the time of the last permit quality review in New Jersey. The Final Regulations to Establish Requirements for Cooling Water Intake Structures at Existing Facilities were published in the Federal Register on August 15, 2014. The 1982 Effluent Limitation Guidelines were updated September 30, 2015, to address toxic contributions from waste streams associated with coal combustion and update technology based requirements for power plants. New Jersey has approximately twelve steam electric generating facilities, three nuclear, three coal fired, and six gas fired.

### *Program Strengths*

NJPDES power-generating facility permits include documentation and basis for the decisions regarding thermal discharges under Clean Water Act §316(a), and requirements for cooling water intake structures under Clean Water Act §316(b). New Jersey has a long history of including controls for addressing adverse impacts for impingement and entrainment at cooling

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<sup>16</sup> In response to a draft of this report, NJDEP stated that this approach would be adopted moving forward.

water intake structures and is currently working on implementation of new requirements based on the final §316(b) Rule for Existing Facilities.

### *Critical Findings*

For this review, EPA reviewed two coal fired generating stations, Hudson Generating Station (NJ0000647) and Mercer Generating Station (NJ0004995), and one former coal plant repowering for natural gas combustion, B.L. England (NJ0005444).

New Jersey is currently working on implementation of new requirements based on the final §316(b) Rule for Existing Facilities. The EPA found that NJDEP had included well documented determinations of technology controls to minimize adverse environmental impact, based on their best professional judgement. We expect that in the future, NJDEP will continue to provide fact sheets that clearly document the basis and schedule for §316(b) requirements for impingement and entrainment. NJDEP must also ensure that the development of §316(b) decisions take into account impacts to threatened and endangered species, and clearly document these decisions in the Administrative Record for the permit.

The permits listed above were issued prior to the finalization of the Steam Electric Point Source Category effluent limitation guidelines. Upon permit renewal, EPA finds that NJDEP should clearly document the potential for release of pollutants from any coal or coal residue storage or handling areas, and any units that could contribute pollutants to the receiving water. NJDEP must establish any applicable limitations for overflows from the coal ash retention pond, and any other applicable wastestreams, either technology based requirements based on the updated Steam Electric Point Source Category effluent limitation guidelines (40 CFR §423, as amended September 30, 2015), or water quality based limitations where there is reasonable potential to result in an excursion of a water quality standard from an overflow event. Overflow from storage of coal combustion residue can contribute metals, mercury, and solids in amounts that can cause, have the reasonable potential to cause, or contribute to an excursion of water quality standards. Should the facility install a flue-gas desulphurization unit at the facility to meet requirements for air pollution control, such a wastestream may contribute additional pollutants into the wastewater discharged to the Delaware River.

In addition to compliance with limitations for toxics such as mercury as required by the revised steam electric effluent limitation guidelines, NJPDES permits must also ensure that monitoring for toxics such as mercury provide a representative dataset to assess whether the discharge causes, has the reasonable potential to cause, or contributes to an excursion of New Jersey's water quality standards in the receiving water. If limits are deemed necessary, the analytical method must be sufficiently sensitive to assess compliance. In the case of mercury, EPA believes that the only analytical methods sufficiently sensitive to determine reasonable potential and assess compliance with permit limitations are EPA Methods 1631E and 254.7.

## C. Combined Sewer Overflows

### *Background*

Combined sewer overflows (CSOs) present environmental and health problems due to the discharge of untreated wastewater that contains microbial pathogens, suspended solids, toxics, trash and other pollutants into waterways. CSO discharges are subject to section 402(q) of the Clean Water Act, which requires that any discharge permit, enforcement order or decree for discharges from combined sewer systems shall conform to the 1994 CSO Control Policy (59 Fed. Reg. 18688, April 19, 1994, 33 U.S.C. §1342(q)).<sup>17</sup>

The CSO Control Policy identifies NPDES permit requirements for the development and implementation of CSO controls using a phased approach. Initial Phase I permits must include requirements for the Demonstration of Implementation of the Nine Minimum Controls (NMCs) and Development of the Long-Term CSO Control Plan (LTCP). Phase II permits must contain requirements for continuation of implementation of the NMCs and requirements for implementation of the LTCP.

The following are the major elements of NPDES permits to implement the CSO Control Policy and ensure protection of water quality.

In the Phase I permit issued/modified to reflect the CSO Policy, the NPDES authority should at least require permittees to:

- Immediately implement BAT (Best Available Technology Economically Achievable) /BCT (Best Conventional Pollutant Control Technology), which at a minimum includes the nine minimum controls, as determined on a BPJ (Best Professional Judgment) basis by the permitting authority;
- Develop and submit a report documenting the implementation of the nine minimum controls within two years of permit issuance/modification;
- Comply with applicable WQS, no later than the date allowed under the State's WQS expressed in the form of a narrative limitation; and
- Develop and submit, consistent with the CSO Policy and based on a schedule in an appropriate enforceable mechanism, a long-term CSO control plan, as soon as practicable, but generally within two years after the effective date of the permit issuance/modification. However, permitting authorities may establish a longer timetable for completion of the long-term CSO control plan on a case-by-case basis to account for site-specific factors that may influence the complexity of the planning process.

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<sup>17</sup> Available at <https://www3.epa.gov/npdes/pubs/owm0111.pdf>

- The NPDES authority should include compliance dates on the fastest practicable schedule for each of the NMCs in an appropriate enforceable mechanism issued in conjunction with Phase I permit

Phase II Permits require the implementation of a Long-Term CSO Control Plan (LTCP). The Phase II permit should contain:

- Requirements to implement the technology-based controls including the nine minimum controls determined on a BPJ basis;
- Narrative requirements which insure that the selected CSO controls are implemented, operated and maintained as described in the long-term CSO control plan;
- Water quality-based effluent limits under 40CFR 122.44(d)(1) and 122.44(k), requiring, at a minimum compliance with, no later than the date allowed under the State's WQS, the numeric performance standards for the selected CSO controls, based on average design conditions specifying at least one of the following:
  1. A maximum number of overflow events per year for specified design conditions consistent with II.C.4.a.i of CSO Policy; or
  2. A minimum percentage capture of combined sewage by volume for treatment under specified design conditions consistent with II.C.4.a.ii of CSO policy; or
  3. A minimum removal of the mass of pollutants discharged for specified design conditions consistent with II.C.4.a.iii of CSO Policy; or
  4. Performance standards and requirements that are consistent with II.C.4.b of the CSO Policy;
- A requirement to implement, with an established schedule, the approved post-construction water quality assessment program including requirements to monitor and collect sufficient information to demonstrate compliance with WQS and protection of designated uses as well as to determine the effectiveness of CSO controls;
- A requirement to reassess overflows to sensitive areas in those cases where elimination or relocation of the overflow is not physically possible and economically achievable, and;
- Conditions establishing requirements for maximizing the treatment of wet weather flows at the POTW treatment plant, as appropriate, consistent with Section II.C.7. of this Policy.
- A reopener clause authorizing the NPDES authority to reopen and modify the permit upon determination that the CSO controls fail to meet WQS or protect designated uses. Upon such determination, the NPDES authority should promptly notify the permittee and proceed to modify or reissue the permit.

- The permittee should be required to develop, submit and implement, as soon as practicable, a revised CSO control plan which contains additional controls to meet WQS and designated uses.
- If the initial CSO control plan was approved under the demonstration provision, the revised plan, at a minimum, should provide for controls that satisfy one of the presumption approach criteria unless the permittee demonstrates that the revised plan is clearly adequate to meet WQS at a lower cost and it is shown that the additional controls resulting from the criteria in the presumption approach will not result in a greater overall improvement in WQ.
- Unless the permittee can comply with all of the requirements of the Phase II permit, the NPDES authority should include, in an enforceable mechanism, compliance dates on the fastest practicable schedule for those activities directly related to meeting the requirements of the CWA. For major permittee, the compliance schedule should be placed in a judicial order.
- Proper compliance with the schedule for implementing the controls recommended in the long-term CSO control plan constitutes compliance with the elements of the CSO Policy concerning planning and implementation of a long term CSO remedy.

Final CSO Permits were evaluated for conformance with Phase I of the CSO Control Policy and associated guidance, general conformance with the CWA and knowledge of site-specific circumstances.

#### *Program Strengths*

The NJDEP is implementing the CSO Control Policy through the issuance of 25 individual NJPDES CSO permits. Previously, the NJDEP implemented the CSO Control Program through a series of CSO General Permits, and extensive CSO floatables controls have been implemented. The NJDEP collaborated with EPA Region 2 and the EPA Offices of Water and Enforcement and Compliance Assurance during the development of the individual CSO permits. The final permits conform to the CSO Control Policy, including requirements to implement the Nine Minimum Controls as well as requirements to develop CSO Long Term Control Plans.

#### *Critical Findings*

The Camden City (NJ0108812), Camden County Municipal Utility Authority (NJ0029182), City of Newark (NJ0108758), and Passaic Valley Sewerage Authority (NJ0021016) CSO permits were reviewed as part of the NJ PQR.

The NJPDES CSO permits should require that a thorough evaluation of a sufficient range of control alternatives is conducted in accordance with EPA's CSO Control Policy. The CSO Control Policy contains specific language for evaluating a reasonable range of CSO control alternatives. Specifically, the Policy states "EPA expects the long-term CSO control plan to

consider a reasonable range of alternatives. The plan should, for example, evaluate controls that would be necessary to achieve zero overflow events per year, an average of one to three, four to seven, and eight to twelve overflow events per year. Alternatively, the long-term plan could evaluate controls that achieve 100% capture, 90% capture, 85% capture, 80% capture, and 75% capture for treatment. The LTCP should also consider expansion of POTW secondary and primary capacity in the CSO abatement alternative analysis. The analysis of alternatives should be sufficient to make a reasonable assessment of cost and performance.”

The CSO permits should require that a comprehensive monitoring program be developed and implemented in accordance with the CSO Control Policy. Specifically, the CSO Control Policy states: “The permittee should develop a comprehensive, representative monitoring program that measures the frequency, duration, flow rate, volume and pollutant concentration of CSO discharges and assesses the impact of the CSOs on the receiving water. The monitoring program should include necessary CSO effluent and ambient in-stream monitoring and, where appropriate, other monitoring protocols such as biological assessment, toxicity testing and sediment sampling. Monitoring parameters should include, for example, oxygen demanding pollutants, nutrients, toxic pollutants, sediment contaminants, pathogens, bacteriological indicators (e.g., *Enterococcus*, *E. coli*), and toxicity.” This is especially critical for those permittees choosing to follow the “Demonstration Approach” when developing the CSO LTCP.

Additionally, NJDEP should consider requiring permittees to submit ambient monitoring data required by the compliance monitoring plan in an electronic format suitable for inclusion in state water-quality systems to facilitate its’ use in other water quality areas, such as reporting under CWA 305(b) – Water Quality Assessments and 303(d) – TMDLs.

The CSO permits should include a requirement to develop and submit a report documenting the implementation of the nine minimum controls within two years of permit issuance/modification, as per the CSO Control Policy. Documentation of the nine minimum controls may include operation and maintenance plans, revised sewer use ordinances for industrial users, sewer system inspection reports, infiltration/inflow studies, pollution prevention programs, public notification plans, and facility plans for maximizing the capacities of the existing collection, storage and treatment systems, as well as contracts and schedules for minor construction programs for improving the existing system's operation.

## **D. Arsenic**

### *Background*

New Jersey surface waters often have naturally-occurring, high background levels of arsenic and the New Jersey WQS for arsenic is relatively low at 0.017 ug/L. For comparison, the drinking water standard for arsenic is 5 ug/L as NJDEP is able to consider available treatment technology, treatment costs, and/or analytical methodologies when determining the drinking water standard.

NJDEP is struggling to appropriately establish effluent limitations for arsenic for dischargers across the state. Many water bodies are impaired for arsenic so dilution is not allowable. NJDEP

is also unable to exercise enforcement discretion as permittees in NJ are also subject to mandatory penalties for permit violation. Without dilution or enforcement discretion, it is virtually impossible for many dischargers to comply with the water quality standard due to the high background concentration of arsenic. This is a particular problem for POTWs.

Currently, all arsenic limits in NJPDES permit are adjudicated. EPA's revised variance rules at 40 CFR §131.14 may help resolve some of NJ's challenges regarding arsenic. However, before NJDEP can take advantage of the new variance flexibility, the rules must be adopted into the state water quality standards which can be a lengthy process.

#### *Program Strengths*

EPA is aware of the challenges states face when addressing parameters with naturally high background concentrations and comparatively low water quality standards. Currently, the only solution to this problem would be for NJDEP to adopt a multiple discharger variance that conforms with 40 CFR §131.14. Even though the water quality standard variance process is not a quick solution, EPA will continue to work closely with states across the country to identify the best methods for resolving these concerns.

#### *Critical Findings*

At this time, EPA suggests that NJDEP adopt a multiple discharger variance in the State's WQS that conforms with 40 CFR §131.14. The water quality variance will serve as the applicable water quality standard for implementing NJPDES permitting requirements during the term of the WQS variance.

## **V. ACTION ITEMS**

This section provides a summary of the main findings of the NJ PQR and describes action items that were developed as part of the PQR to improve the NJPDES permitting program. The action items will serve as the basis for ongoing discussions between EPA and NJDEP. These discussions will focus on developing strategies to address each action item to eliminate program deficiencies and improve program performance.

The action items are divided into three categories to identify the priority that should be placed on each Item and facilitate discussions between EPA and NJDEP.

- **Critical Findings** (Category One) - Most Significant: action items will address a current deficiency or noncompliance with federal regulation.
- **Recommended Actions** (Category Two) - Recommended: action items will address a current deficiency with EPA guidance or policy.
- **Suggested Practices** (Category Three) - Suggested: action items are listed as recommendations to increase the effectiveness of NJDEP's NJPDES program.



Category 1 action items are currently established as indicator performance measures and tracked under EPA's Strategic Plan Water Quality Goals.

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

In general, permits include key location and dates; describe permitted activities, wastewater treatment, outfalls, types of discharges authorized and receiving waters; and indicate designated uses and impairments. Permit applications were generally complete and identified in the file. However, there were a few items found that, if addressed, would help strengthen the NJPDES program.

Action items to help NJDEP strengthen their NJPDES permitting program include the following:

- NJDEP must ensure that a permit is not administratively continued if the permit application was not submitted 180 days prior to expiration of the existing permit in order to be consistent with EPA regulations at 40 CFR §122.21(c) and 122.21(d) or, if applicable, NJDEP must ensure that a proof of an extension is included in the administrative record. (Category 1)
- NJDEP should include standard authorization-to-discharge, as described in 40 CFR §122.1(b)(1), terminology to be included on the first page of NJPDES permits. (Category 2)
- NJDEP should include a zip code in the address provided for the discharging facility in the permit. (Category 3).

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

The POTW permits reviewed as part of the core permit reviews include effluent limitations that are equal to or more stringent than secondary treatment standards established at 40 CFR §133.102. With regard to non-POTW permits, the TBELS in the respective permits seem to be consistent with the applicable ELGs and federal regulations. However, the fact sheets are sometimes lacking in sufficient detail; specifically regarding the applicability of ELGs and the basis of permit limits.

Action items to help NJDEP strengthen their NJPDES permitting program include the following:

- NJDEP must include a clear discussion in fact sheets for non-POTWs subject to ELGs regarding ELG applicability (or why a seemingly-applicable ELG does not apply) in order to be consistent with EPA regulations at 40 CFR §124.56. (Category 1)
- NJDEP must ensure that when effluent limitations are carried forward from the previous permit, the basis for the effluent limits are discussed in the fact sheet in order to be consistent with EPA regulations at 40 CFR §124.56. (Category 1)

### **C. Water Quality-Based Effluent Limitations**

In general, NJDEP identifies the receiving water and provides a brief discussion of the effluent limitations and permit conditions, as well as the anti-backsliding and antidegradation requirements. Information about the impairment status of the receiving water and, if present, TMDLs are also identified and discussed. NJDEP also has a set procedure for reasonable potential analyses. There were no action items identified for WQBELs other than those regarding the cause and reasonable potential analysis process, which are discussed in section V.I.1 of this document.

### **D. Monitoring and Reporting**

NJDEP requires permittees to collect a sufficient amount of water quality data to support permit decisions. WET effluent limits and monitoring requirements were included in all reviewed individual permits. Overall, monitoring requirements in NJPDES permits seem sufficient to assess permit compliance.

The following is an action item to help NJDEP strengthen their NJPDES permitting program:

- NJDEP must ensure that all internal monitoring locations and outfall monitoring locations are clearly identified in the permit in order to be consistent with EPA regulations at 40 CFR §122.46 and §122.48. (Category 1)

### **E. Standard and Special Conditions**

The standard conditions required by 40 CFR §122.41 and §122.42 were identified in permits reviewed. In addition, NJPDES permits include incorporations by reference for several sections of federal regulations, including 40 CFR §122 in its entirety.

Action items to help NJDEP strengthen their NJPDES permitting program include the following:

- NJDEP should cite the specific N.J.A.C. provisions in permits that correspond with the standard conditions required by 40 CFR §122.41 and §122.42. (Category 2)
- NJDEP should cite the specific N.J.A.C. provisions in permits that establish the notification requirements for POTWs, in order to clearly capture these requirements. (Category 2)
- NJDEP should cite the specific N.J.A.C. provisions in permits that establish the notification requirements for non-POTWs, in order to clearly capture these requirements. (Category 2)

### **F. Administrative Process**

NJDEP permit files included a copy of the text of the public notice, comments, and NJDEP responses to comments, as required by federal regulations.

The following is an action item to help NJDEP strengthen their NJDPES permitting program:

- NJDEP should file the proof of public notice in the permit file with the remainder of the administrative record. (Category 3)

## **G. Administrative Record**

The fact sheets for the core permits reviewed are very detailed and thorough, and on the whole, the permit files are complete.

Action items to help NJDEP strengthen their NJPDES permitting program include the following:

- NJDEP should include the WQBEL Analysis Data Sheets or, at minimum, clearly reference them, in the administrative record. (Category 2)
- NJDEP should include or reference the calculations used to develop any TBELs established in the permit in the administrative record. (Category 2)

## **H. National Topic Areas**

### ***1. Nutrients***

Action items to help NJDEP strengthen their NJPDES permitting program include the following:

- NJDEP must ensure that fact sheets consistently include a reasonable potential analysis for all nutrient related parameters in order to be consistent with EPA regulations at 40 CFR §124.56. (Category 1)
- NJDEP must ensure that fact sheets address how downstream impacts, such as algal blooms and dissolved oxygen impairments, were considered in the reasonable potential analysis, and if necessary, in limit development in order to be consistent with EPA regulations at 40 CFR §124.56. (Category 1)
- NJDEP must ensure that the monitoring requirements specified in the permit are sufficient to provide a representative data sample, for all parameters that may have reasonable potential, for use in future reasonable potential calculations and limit development in order to be consistent with federal regulations at 40 CFR §122.44(i). (Category 1)

### ***2. Pesticides***

At this time, EPA has no action items regarding the NJ PGP.

### ***3. Pretreatment***

Action items to help NJDEP strengthen their NJPDES permitting program include the following:

- NJDEP must use ICIS to enter pretreatment data in order to improve consistency and transparency as soon as possible, but in no case later than the agreed upon action plan

included in the 2017-2019 Performance Partnership Agreement, in order to be consistent with EPA regulations at 40 CFR §127.21. (Category 1)

- NJDEP should streamline the pretreatment reporting requirements into a single report that covers a consistent monitoring period. (Category 3)

#### **4. Stormwater**

Action items to help NJDEP strengthen their NJPDES permitting program include the following:

- NJDEP must ensure that the permit provisions ensure that the water quality standards will be met in the receiving water in order to be consistent with EPA regulations at CWA Section 301 (b)(1)(C). (Category 1)
- NJDEP must include specific requirements for sites that will discharge to impaired waters in order to be consistent with 40 CFR §122.34(b)(6)(e). (Category 1)
- NJDEP should establish specific requirements for corrective action, including timeframes for correcting deficiencies, in all general permits. (Category 2)
- NJDEP should specify in the permit the required qualifications or training of the individual conducting inspections. (Category 2)

#### Construction Activity Stormwater

- NJDEP must ensure that the fact sheet includes contact information to request additional information in order to be consistent with EPA regulations at 40 CFR §124.8(b)(7). (Category 1)
- NJDEP must establish a requirement that the permittee must provide a paper submission 30 days prior to the commencement of “construction activities”, rather than the “commencement of land disturbance”, in order to be consistent with the federal Construction General Permit and 40 CFR §122.28. (Category 2)
- NJDEP should specify in the permit basic stormwater and/or NJPDES training requirements for permittees or operators in order to ensure that an individual on site has sufficient knowledge of stormwater requirements and practices. (Category 2)
- NJDEP should define “completed” and “operating entity” in the permit. (Category 3)
- EPA suggests that NJDEP include related federal endangered species requirements in the permit. (Category 3)
- NJDEP should establish uniform requirements to terminate coverage and should specify what site stabilization criteria are required prior to termination. (Category 3)
- NJDEP should require inspection every 7 days in the permit, rather than weekly, to ensure adequate implementation and enforcement. (Category 3)

*Tier A Municipal Separate Storm Sewer Systems (MS4)*

- NJDEP should strengthen the TMDL requirements in the permit to ensure that stormwater WLAs will be complied with in order to be consistent with EPA regulations at 40 CFR §122.44(d)(1)(vii)(B). (Category 1)

*Basic Industrial Stormwater General Permit*

- NJDEP must ensure that the permit specifies which SIC codes are applicable and which regulated industries are required to receive coverage under the permit in order to be consistent with EPA regulations at 40 CFR §122.26 and §122.41. (Category 1)
- NJDEP should include requirements in the permit for controls to be implemented at all industrial sites to manage stormwater runoff, salt storage, and vehicle dust reduction and should specify a frequency for maintenance of control measures. (Category 2)

**I. Regional Topic Areas**

Proposed action items for special focus areas are provided below.

***1. Reasonable Potential***

Action items to help NJDEP strengthen their NJPDES permitting program include the following:

- NJDEP must ensure that effluent limitations are established in permits for all parameters whose discharge causes, has the reasonable potential to cause, or contributes to an excursion of applicable water quality standards in order to be consistent with EPA regulations at 40 CFR §122.44(d). (Category 1)
- NJDEP must calculate reasonable potential for all pollutants of concerns in order to be consistent with EPA regulations at 40 CFR §122.44(d) including where there is limited or no data available. (Category 1)
- In the case of limited data sample size, NJDEP should either use EPA's TSD procedures for limited data or ensure that a representative data set is available in order to be consistent with EPA regulations at 40 CFR §122.44(d) and EPA guidance in the Technical Support Document for Water Quality-based Toxics Control. (Category 2)

***2. Power Plants***

Action items to help NJDEP strengthen their NJPDES permitting program include the following:

- NJDEP must ensure that fact sheets clearly document the basis and schedule for CWA §316(b) requirements for impingement and entrainment in order to be consistent with EPA regulations at 40 CFR §125.98. (Category 1)

- NJDEP must ensure that the development of CWA §316(b) decisions consider the impacts to threatened and endangered species in order to be consistent with EPA regulations at 40 CFR §125.94. (Category 1)
- NJDEP must ensure that the requirements for cooling water intake structure are consistent with the revised Final Regulations to Establish Requirements for Cooling Water Intake Structure at Existing Facilities at 40 CFR Part 122 and 125. (Category 1)
- NJDEP must ensure that all coal-fired power plant permits reflect the revised ELGs in order to be consistent with EPA regulations at 40 CFR §423, upon reissuance. (Category 2)

### **3. Combined Sewer Overflows**

While EPA does not have any critical findings regarding the NJPDES CSO permits, EPA offers the following recommendations and suggestions on how the permits may be improved:

- NJDEP should require in the permit that a thorough evaluation of a sufficient range of control alternatives is conducted in accordance with EPA's *CSO Control Policy*. (Category 2)
- NJDEP should require that a comprehensive monitoring program be developed and implemented in accordance with EPA's *CSO Control Policy*. (Category 2)
- The permit should include a requirement to develop and submit a report documenting the implementation of the nine minimum controls, as per the *CSO Control Policy*. (Category 2)
- NJDEP should consider requiring permittees to submit ambient monitoring data in an electronic format suitable for inclusion in state water-quality systems. (Category 3)

### **4. Arsenic**

The following is an action item to help NJDEP strengthen their NJPDES permitting program:

- NJDEP should adopt a multiple discharger variance for arsenic in the State's WQS that conforms with federal regulations at 40 CFR §131.14. (Category 2)

## Appendix A – Permits Reviewed

NJPDES No.	Permit Name	Topics for Review <sup>18</sup>
NJ0000272	SRI International	Core Review
NJ0000647	Hudson Generating Station	Power Plants
NJ0002551	Chemtrade Solutions, LLC.	Core Review
NJ0004286	Mexichem Specialty Resins, Inc.	Core Review
NJ0004995	Mercer Generating Station	Power Plants
NJ0005029	Paulsboro Refining Company	Core Review
NJ0005444	B.L. England Generating Station	Core Review; Power Plants
NJ0020141	Middlesex County Utility Authority	Core Review; Nutrients; Pretreatment
NJ0020591	Bergen County Utility Authority	Core Review; Nutrients
NJ0021016	Passaic Valley Sewerage Commission	Pretreatment; CSO
NJ0021334	Mendham Borough Sewage Treatment Plant	Core Review
NJ0024015	Mount Holly Water Pollution Control Plant	Core Review; Nutrients
NJ0024970	Parsippany-Troy Hills Sewage Treatment Plant	Core Review
NJ0026182	Camden County Municipal Utility Authority	Pretreatment; CSO
NJ0029696	Bivavle Packing Company	Core Review
NJ0031119	Stony Brook Regional Sewerage Authority – River Road Sewage Treatment Plant	Core Review
NJ0098922	Readington-Lebanon Sewer Authority	Core Review; Nutrients
NJ0108758	City of Newark	CSO
NJ0108812	Camden City	CSO
NJ0129054	Upper Township Sand and Gravel	Core Review
NJ0225746	Bayonne Dry Dock and Repair Company	Core Review
<b>General Permits</b>		
NJ0088315	Basic Industrial Stormwater GP (5G2)	Stormwater
NJ0141852	Tier A MS4 GP (R9)	Stormwater
NJ0178217	Pesticide Application Discharge GP (PGP)	Pesticides
NJG0088323	Construction Activity Stormwater GP (5G3)	Stormwater

<sup>18</sup> All permits were reviewed for the reasonable potential regional topic area.



## Appendix B – General Permits

Permit Name	NJPDES Category Code	Stormwater Permit
Basic Industrial Stormwater General Permit	5G2	X
Combined Sewer Systems General Permit	CSO	
Concrete Products Manufacturing General Permit	CPM	X
Concentrated Animal Feeding Operation (CAFO) General Permit	R8	
Construction Activity Stormwater General Permit	5G3	X
Dental Facilities Onsite Wastewater Treatment Systems General Permit	K2	
General Permit Groundwater Petroleum Product Cleanup	B4B	
General Remediation Cleanup General Permit	BGR	
Highway Agency Stormwater General Permit	R12	X
Hot Mix Asphalt Producers General Permit	R4	X
Hydrostatic Test Water General Permit	BG	
Land Application of Food Processing By-Products General Permit	EG	
Lined Surface Impoundment General Permit	LSI	
Mining and Quarrying Activity General Permit	R13	X
Newark Airport Complex General Permit	R5	X
Non-contact Cooling Water General Permit	CG	
Potable Water Treatment Plant General Permit	BPW	
Potable Water Treatment Plant Basins and Drying Beds General Permit	I2	
Public Complex Stormwater General Permit	R11	X
Residuals Transfer Facilities General Permit	ZG	
Sand & Gravel Stormwater General Permit	RSG	X
Sanitary Subsurface Disposal General Permit	T1	
School General Permit	ASC	
Scrap Metal Processing / Auto Recycling General Permit	SM	X
Scrap Metal Processing General Permit	SM2	X
Short Term De Minimis Discharge General Permit	B7	
Sludge Quality Category 1 General Permit	S1G	
Sludge Quality Category 2 General Permit	S2G	
Sludge Quality Category 3 General Permit	S3G	
Sludge Quality Category 4 General Permit	S4G	
Sludge Quality Categories 10-13 General Permit	WTRG	
Sludge Quality Exempt General Permit	SXG	
Stormwater Basins Discharges at Sanitary Landfills General Permit	I1	
Swimming Pool Discharges General Permit	B6	
Tier A Municipal Stormwater General Permit	R9	X
Tier B Municipal Stormwater General Permit	R10	X
Vehicle Recycling General Permit	RVR	X
Wastewater Beneficial Reuse General Permit	ABR	
Wood Recyclers General Permit	R7	X

## Appendix C – Action Items

### I. Category 1 Action Items – Critical Findings

Topic Area	Action Item
Basic Facility Information and Permit Application	NJDEP must ensure that a permit is not administratively continued if the permit application was not submitted 180 days prior to expiration of the existing permit in order to be consistent with EPA regulations at 40 CFR §122.21(c) and 122.21(d) or, if applicable, NJDEP must ensure that a proof of an extension is included in the administrative record.
Technology-based Effluent Limitations	NJDEP must include a clear discussion in fact sheets for non-POTWs subject to ELGs regarding ELG applicability (or why a seemingly-applicable ELG does not apply) in order to be consistent with EPA regulations at 40 CFR §124.56.
	NJDEP must ensure that when effluent limitations are carried forward from the previous permit, the basis for the effluent limits are discussed in the fact sheet in order to be consistent with EPA regulations at 40 CFR §124.56.
Monitoring and Reporting	NJDEP must ensure that all internal monitoring locations and outfall monitoring locations are clearly identified in the permit in order to be consistent with EPA regulations at 40 CFR §122.46 and §122.48.
Nutrients	NJDEP must ensure that fact sheets consistently include a reasonable potential analysis for all nutrient related parameters in order to be consistent with EPA regulations at 40 CFR §124.56.
	NJDEP must ensure that fact sheets address how downstream impacts, such as algal blooms and dissolved oxygen impairments, were considered in the reasonable potential analysis, and if necessary, in limit development in order to be consistent with EPA regulations at 40 CFR §124.56.
	NJDEP must ensure that the monitoring requirements specified in the permit are sufficient to provide a representative data sample for use in future reasonable potential calculations and limit development in order to be consistent with federal regulations at 40 CFR §122.44(i).
Pretreatment	NJDEP must use ICIS to enter pretreatment data in order to improve consistency and transparency as soon as possible, but in no case later than the agreed upon action plan included in the 2017-2019 Performance Partnership Agreement, in order to be consistent with EPA regulations at 40 CFR §127.21.
Stormwater	NJDEP must ensure that the permit provisions ensure that the water quality standards will be met in the receiving water in order to be consistent with EPA regulations at CWA Section 301 (b)(1)(C).

	NJDEP must include specific requirements for sites that will discharge to impaired waters in order to be consistent with 40 CFR §122.34(b)(6)(e).
Stormwater – Construction Activity	NJDEP must ensure that the fact sheet includes contact information to request additional information in order to be consistent with EPA regulations at 40 CFR §124.8(b)(7).
Stormwater – Tier A MS4	NJDEP should strengthen the TMDL requirements in the permit to ensure that stormwater WLAs will be complied with in order to be consistent with EPA regulations at 40 CFR §122.44(d)(1)(vii)(B).
Stormwater – Basic Industrial	NJDEP must ensure that the permit specifies which SIC codes are applicable and which regulated industries are required to receive coverage under the permit in order to be consistent with EPA regulations at 40 CFR §122.26 and §122.41.
Reasonable Potential	NJDEP must ensure that effluent limitations are established in permits for all parameters whose discharge causes, has the reasonable potential to cause, or contributes to an excursion of applicable water quality standards in order to be consistent with EPA regulations at 40 CFR §122.44(d).
	NJDEP must calculate reasonable potential for all pollutants of concerns in order to be consistent with EPA regulations at 40 CFR §122.44(d) including where there is limited or no data available.
Power Plants	NJDEP must ensure that fact sheets clearly document the basis and schedule for CWA §316(b) requirements for impingement and entrainment in order to be consistent with EPA regulations at 40 CFR §125.98.
	NJDEP must ensure that the development of CWA §316(b) decisions consider the impacts to threatened and endangered species in order to be consistent with EPA regulations at 40 CFR §125.94.
	NJDEP must ensure that the requirements for cooling water intake structure are consistent with the revised Final Regulations to Establish Requirements for Cooling Water Intake Structure at Existing Facilities at 40 CFR Part 122 and 125.

## II. Category 2 Action Items – Recommended Actions

Topic Area	Action Item
Basic Facility Information and Permit Application	NJDEP should include standard authorization-to-discharge, as described in 40 CFR §122.1(b)(1), terminology to be included on the first page of NJPDES permits.
Standard and Special Conditions	NJDEP should cite the specific N.J.A.C. provisions in permits that correspond with the standard conditions required by 40 CFR §122.41 and §122.42.
	NJDEP should cite the specific N.J.A.C. provisions in permits that establish the notification requirements for POTWs, in order to clearly capture these requirements.
	NJDEP should cite the specific N.J.A.C. provisions in permits that establish the notification requirements for non-POTWs, in order to clearly capture these requirements.
Administrative Record	NJDEP should include the WQBEL Analysis Data Sheets or, at minimum, clearly reference them, in the administrative record.
	NJDEP should include or reference the calculations used to develop any TBELs established in the permit in the administrative record.
Stormwater	NJDEP should establish specific requirements for corrective action, including timeframes for correcting deficiencies, in all general permits.
	NJDEP should specify in the permit the required qualifications or training of the individual conducting inspections.
Stormwater – Construction Activity	NJDEP must establish a requirement that the permittee must provide a paper submission 30 days prior to the commencement of “construction activities”, rather than the “commencement of land disturbance”, in order to be consistent with the federal Construction General Permit and 40 CFR §122.28.
	NJDEP should specify in the permit basic stormwater and/or NJPDES training requirements for permittees or operators in order to ensure that an individual on site has sufficient knowledge of stormwater requirements and practices.
Stormwater – Basic Industrial	NJDEP should include requirements in the permit for controls to be implemented at all industrial sites to manage stormwater runoff, salt storage, and vehicle dust reduction and should specify a frequency for maintenance of control measures.

Reasonable Potential	In the case of limited data sample size, NJDEP should either use EPA's TSD procedures for limited data or ensure that a representative data set is available in order to be consistent with EPA regulations at 40 CFR §122.44(d) and EPA guidance in the Technical Support Document for Water Quality-based Toxics Control.
Power Plants	NJDEP must ensure that all coal-fired power plant permits reflect the revised ELGs in order to be consistent with EPA regulations at 40 CFR §423, upon reissuance.
Combined Sewer Overflows	NJDEP should require in the permit that a thorough evaluation of a sufficient range of control alternatives is conducted in accordance with EPA's <i>CSO Control Policy</i> .
	NJDEP should require that a comprehensive monitoring program be developed and implemented in accordance with EPA's <i>CSO Control Policy</i> .
	The permit should include a requirement to develop and submit a report documenting the implementation of the nine minimum controls, as per the <i>CSO Control Policy</i> .
Arsenic	NJDEP should adopt a multiple discharger variance for arsenic in the State's WQS that conforms with federal regulations at 40 CFR §131.14.

### III. Category 3 Action Items – Suggested Practices

Topic Area	Action Item
Basic Facility Information and Permit Application	NJDEP should include a zip code in the address provided for the discharging facility in the permit.
Administrative Process	NJDEP should file the proof of public notice in the permit file with the remainder of the administrative record.
Pretreatment	NJDEP should streamline the pretreatment reporting requirements into a single report that covers a consistent monitoring period.
Stormwater – Construction Activity	NJDEP should define “completed” and “operating entity” in the permit.
	EPA suggests that NJDEP include related federal endangered species requirements in the permit.
	NJDEP should establish uniform requirements to terminate coverage and should specify what site stabilization criteria are required prior to termination.
	NJDEP should require inspection every 7 days in the permit, rather than weekly, to ensure adequate implementation and enforcement.
Combined Sewer Overflows	NJDEP should consider requiring permittees to submit ambient monitoring data in an electronic format suitable for inclusion in state water-quality systems.