NPDES Program and Permit Quality Review

EPA Region 2-Puerto Rico

Review Date: January–February 2023
Report Date: June 2024

U.S. Environmental Protection Agency
Office of Water/OWM/WPD
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Contents

Executive Summary

EPA Headquarters' (HQ) National Pollutant Discharge Elimination System (NPDES) Program and Permit Quality Review (PQR) for EPA Region 2–Commonwealth of Puerto Rico found that permits issued in the Commonwealth were developed consistently and were generally protective of water quality. However, the PQR revealed that while the water quality-based effluent limitations (WQBELs) in permits are protective of the applicable water quality standards (WQS), the limits are not derived by EPA and are instead based on Puerto Rico's Department of Natural and Environmental Resources (DNER) Clean Water Act (CWA) Section 401 water quality certificate (WQ Certificate), a practice inconsistent with NPDES regulations at 40 CFR 122.44(d).

The PQR examined 10 individual permits for discharges in Puerto Rico along with one general permit issued by Region 2, and some Regional permitting policies. The PQR also focused on the following national priority areas:

- Permit Controls for Nutrients in Non-Total Maximum Daily Loads (TMDL) Waters,
- Effectiveness of Publicly Owned Treatment Works (POTW) NPDES Permits with Food Processor Contributions, and
- Small Municipal Separate Storm Sewer System (MS4) Permit Requirements.

Region 2 permits 189 individual facilities in Puerto Rico. As of February 2023, 85 percent of Puerto Rico's permits were current.

The PQR recognizes the many Region-specific challenges faced by Region 2 and Commonwealth of Puerto Rico, including crippling physical damage to critical infrastructure from hurricanes and earthquakes, collaboration between several agencies and divisions, and DNER's multi-faceted process for CWA Section 401 certification, which involves extensive coordination with the Region and other Commonwealth and Federal agencies such as the Puerto Rico Planning Board (PRPB), Fish and Wildlife Service (FWS), National Marine Fisheries Service, and Puerto Rico State Historic Preservation Office (PRSHIPO). Region 2 also continues to embrace EPA's Lean Management System (ELMS) approach and implements several practices that foster greater communication and collaboration among Region 2 divisions and with DNER. Region 2 also has developed a new analytical tool to perform the reasonable potential analysis (RPA), and has conducted outreach to implement EPA's *PFAS Strategic Roadmap* in permitting activities.

The PQR identified areas for improvement that address the need to document the RPA and limit derivations in the fact sheet independent of the conditions in DNER's CWA Section 401 WQ Certificate. Region 2 has committed to adjusting their permit development process to ensure that EPA develops WQBELs, and documents in the fact sheet whether the permit implements EPA's WQBELs or DNER's WQ Certificate conditions based on which is more protective of the WQS. Region 2 will also independently establish monitoring requirements, supplemented by any additional or more stringent requirements from DNER's WQ Certificate. Region 2 has also committed to including documentation of the RPA and the limit derivations in the fact sheet, as well as any additional supporting documentation in the administrative record for the permit.

Region 2 reviewed and provided initial comments on the draft PQR report in December 2023. The Region agreed with many of the draft PQR's findings and recommendations, and committed to take action to address many of the proposed action items. Region 2 is in ongoing discussions with EPA HQ to address the findings.

I. PQR BACKGROUND

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

EPA HQ previously conducted a PQR of the Region 2-Puerto Rico NPDES permitting program in October 2014, resulting in the proposal of various action items to improve NPDES permitting in Puerto Rico. However, the PQR report was not finalized because Region 2's resources in New York and the Caribbean Environmental Protection Division (CEPD) were dedicated to post-hurricane recovery and emergency operations, following Hurricanes Irma and Maria in 2017. The hurricanes' destruction seriously impacted the NPDES program, which focused on triaging the most immediate needs to protect human health and the environment. Many action items identified during the 2014 PQR were no longer high priorities when compared to critical recovery-related tasks and other action items were no longer feasible due to infrastructure damage. However, Region 2 resolved some action items identified in the draft report related to permit and fact sheet content, and the resolution of those items is reflected in the report for this PQR.

During the current review, the evaluation team proposed action items to improve NPDES permitting in Puerto Rico. The action items are identified in sections III and IV of this report and are divided into two categories to identify the priority that should be placed on each item and facilitate discussions between regions and states.

- **Essential Actions -** Essential action items address noncompliance with respect to a federal regulation, which EPA has cited for each essential action item. The permitting authority must address these action items in order to come into compliance with federal regulations.
- **Recommended Actions -** Recommended action items are recommendations to increase the effectiveness of the state's or Region's NPDES permit program.

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

EPA's review team, consisting of three Headquarters (HQ) staff and one HQ contractor staff, conducted a review of the Region 2-Puerto Rico permitting program. The PQR was conducted remotely, meaning a review of materials was conducted off-site, with materials Region 2 was able to provide electronically. Further, the remote PQR included interviews and discussions with Region 2's Water Division (WD), CEPD, and Puerto Rico Department of Natural and Environmental Resources (DNER) conducted via several conference calls. An opening interview was held on January 30, 2023, calls to discuss technical questions on February 1 and 8, 2023, and a closing meeting on February 16, 2023.

The Puerto Rico PQR included reviews of core permit components and national topic areas, as well as discussions between the review team and Region 2 staff addressing their program status and permit issuance process. The permit reviews focused on core permit quality and included a review of the permit application, permit, fact sheet, and any correspondence, reports or documents that provided the basis for the development of the permit conditions and related administrative process. The PQR also included conversations between HQ, the Region, and DNER on program status, the permitting process, responsibilities, organization, staffing, and program challenges regarding NPDES permitting in Puerto Rico.

A total of 11 permits were reviewed as part of the PQR. Of these, 10 permits were reviewed for the core review and 7 permits were reviewed for national topic areas. Some permits were reviewed for both the core review and one or more topic area reviews. Permits were selected based on issue date and the review categories that they fulfilled.

Core Review

The core permit review involved the evaluation of selected permits and supporting materials using basic NPDES program criteria. Reviewers completed the core review by examining selected permits and supporting documentation, assessing these materials using standard PQR tools, and talking with permit writers regarding the permit development process. Core topic reviews focus on the *Central Tenets of the NPDES Permitting Program*[1] and are intended to evaluate similar issues or types of permits in all states.

Topic Area Reviews

The national topics reviewed for the Puerto Rico NPDES program were: Permit Controls for Nutrients in Non-Total Maximum Daily Load (TMDL) Waters, Effectiveness of Publicly Owned Treatment Works (POTW) NPDES Permits with Food Processor Contributions, and Small Municipal Separate Storm Sewer System (MS4) Permit Requirements.

II. PROGRAM BACKGROUND

A. Program Structure

EPA Region 2 is the NPDES permitting authority for the Commonwealth of Puerto Rico. NPDES program administration responsibilities are shared between Region 2's WD in New York City, CEPD in San Juan, Puerto Rico and Enforcement and Compliance Assurance Division (ECAD) in New York City. WD administers major industrial permits and CEPD manages municipal and minor industrial permits. Specifically, within CEPD, the Municipal Water Programs Branch (MWPB)–NPDES Municipal Programs Team issues municipal permits and the Multimedia Permits and Compliance Branch–Clean Water Act Team (CWAT) issues minor industrial permits. The CWAT also oversees NPDES general permit issuance and applicant tracking. WD and CEPD work closely together to ensure consistency for NPDES program implementation in Puerto Rico.

[1] https://www.epa.gov/npdes/central-tenets-npdes-permitting-program

Puerto Rico's DNER is the Commonwealth agency responsible for compliance with the CWA's Section 401 certification requirements. Within DNER's Point Source Permit Division, the Water Quality Area Team (WQAT) provides Region 2 with water quality certificates (WQ Certificates) for all individual Puerto Rico permits. Since the last PQR, the Region has fostered more consistent communication and collaboration with DNER through quarterly conference calls involving WD, CEPD, and DNER staff, and has noted marked improvements in information sharing and permit status tracking.

As of December 2023, EPA Region 2 is supported by a total of 4.25 permit writers (full-time equivalent, or FTE). Of these, 1.4 FTE are in WD and 2.85 FTE are in CEPD (of which 2.1 FTE are in the MWPB and 0.75 FTE are in CWAT). Region 2 assigns permits based on facility type, considering staff expertise and workload. DNER's WQAT includes four technicians (permit "officers" with other shared responsibilities) and one administrative secretary (position currently vacant) that support WQ Certificate development. Region 2's ECAD supports permitting teams with data management, including discharge monitoring reports (DMRs) submitted via NetDMR, and permit coding and data entry in EPA's Integrated Compliance Information System (ICIS)–NPDES. Staff in the TMDL and National Environmental Policy Act (NEPA) programs also support permit development when necessary. Permit writers confer with staff across other units to discuss various components of permit development including waterbody impairments, TMDLs, data quality, and on-the-ground conditions at the facility.

Permit writers at Region 2 receive training through attending the EPA's NPDES Permit Writers' Course, internal mentoring, internal technical meetings that address regulatory and procedural updates, and specific training courses that address technical topics such as mixing zones, whole effluent toxicity (WET), and combined sewer overflows (CSO). Regional staff may also complete required trainings using EPA's Wiki Inspector, which is a tool specifically targeted towards obtaining EPA inspector credentials across different programs (e.g., NPDES and Safe Drinking Water Act). Additional training materials are available on the Region's SharePoint site, which also houses permit files, templates, and permit development tracking tools.

Region 2's permit writers use templates, housed on the Region's SharePoint site, for permits, fact sheets, and administrative letters. The Region has also developed a custom-built analytical tool to perform reasonable potential analyses (RPAs). The RPA tool is a web application that follows EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD)[2] procedures and uses programming in R to evaluate DMR data (pulled from ICIS-NPDES), receiving water information, and applicable water quality standards (WQS) to determine the water quality impacts of discharges. At the time of the PQR, the RPA tool was in the testing (i.e., beta) phase with WD staff, so the tool was not widely distributed for use. In 2023, the Region tested the tool during the drafting of two industrial discharge permits. Region 2 noted that the current RPA tool is the fourth version of an RPA tool that the Region developed specifically for the Puerto Rico NPDES program. The original RPA tool was a spreadsheet-based model that required manual data entry. Subsequent tools were more streamlined; however, programming to update WQS information was difficult, so the tool became obsolete. Some Region 2 staff

[2] https://www3.epa.gov/npdes/pubs/owm0264.pdf

conduct the RPA using their own spreadsheets, which a manager reviews to confirm that calculations are correct and WQBELs are developed appropriately and in accordance with EPA procedures established in the TSD. As the RPA tool rolls out in Region 2, all staff will be instructed to use the new tool.

As of February 2023, Region 2 develops technology-based effluent limitations (TBELs), WET limitations and permit conditions, and overall permit terms and conditions. DNER develops conditions in the WQ Certificate, which are incorporated into the permit as water quality-based effluent limitations (WQBELs), and monitoring conditions. DNER uses its own RPA tool, updated to reflect current WQS, to develop conditions which are protective of water quality. The Region also conducts its own RPA to confirm that all pollutants with reasonable potential are limited in the permit and to determine if more stringent limits than those proposed by DNER are needed. EPA HQ notes that it is inconsistent with regulatory requirements for Region 2 to incorporate conditions from the WQ Certificate without independently developing WQBELs to ensure all conditions of 40 CFR 122.44(d) are met. A robust discussion of EPA's WQBELs and DNER's WQ Certificate conditions must be provided in the fact sheet and administrative record. This is further discussed in section III of the PQR.

Region 2 supervisors and team leaders review all Puerto Rico NPDES permits during draft and final stages (i.e., before and after they are distributed for public notice). Further, Region 2's WD, CEPD, and ECAD participate in biweekly huddles to discuss permit status and technical issues in detail, allowing many issues to be resolved during the permit development process. DNER's Point Source Permit Division Chief reviews all draft ("Intent to Issue") WQ Certificates prior to the public notice of the draft WQ Certificate. At the time of public notice, the draft WQ Certificate is also distributed to Region 2 and the applicant. DNER documents and provides a response to any comments received during the public comment period and then issues the final WQ Certificate when it grants or denies certification.

Region 2 retains permit administrative records on a SharePoint drive that is accessible by staff in the New York and Caribbean offices. Records retained on the SharePoint drive include RPAs, applications for wasteload allocations (WLAs), and WQ Certificates.

B. Universe and Permit Issuance

As of February 2023, Region 2 administers individual permits for 63 major facilities (35 POTWs and 28 non-municipal), 123 non-major facilities (17 POTWs and 106 non-municipal), and 3 individual stormwater facilities in Puerto Rico. Of the 134 non-municipal permits, 109 are water treatment plants and of these, 96 are non-major facilities. National general permits are effective in Puerto Rico, including the Construction Stormwater General Permit (193 permittees), Multi-Sector General Permit (282 permittees), Pesticide General Permit (3 permittees), and the Vessels General Permit (no permittees currently). Region 2 also directly administers a Small MS4 General Permit (88 permittees).

Region 2 estimates that 28 individual permits are administratively continued, or approximately 15 percent of the individual permit universe. The administratively continued permits comprise

4 major POTWs, 3 non-major POTWs, 7 major non-municipal, 13 non-major non-municipal, and 1 individual stormwater.

Region 2 indicated that significant industries in the Commonwealth include steam-electric power generating plants, water treatment plants, pharmaceutical products manufacturing, rum manufacturing, and petroleum terminals.

C. Specific Challenges for Permitting in Puerto Rico

Region 2 noted that as of February 2023, DNER's process for completing 401 certification is multi-faceted and the timing of DNER's issuance of the WQ Certificate sometimes causes delays in permit issuance.

In addition, the Region indicated that agencies external to DNER have experienced staff turnover, hindering the coordination on specific consultations required during permit development (e.g., implementation of the Coastal Zone Management Act, Endangered Species Act, and National Historic Preservation Act).

Region 2 also identified challenges associated with ensuring that the Puerto Rico permitting process involves meaningful actions to address environmental justice. Historically, the EJScreen tool has lacked data for Puerto Rico, so the Region cannot conduct the typical analysis necessary to establish permit conditions to address environmental justice concerns, either in specific areas within communities or entire communities. The Region continues to investigate approaches to ensure environmental justice is addressed in a meaningful way for Puerto Rico permits.

D. Current EPA Initiatives for Permitting in Puerto Rico

Region 2 has embraced EPA's Lean Management System (ELMS) approach and implements several practices that foster greater communication and collaboration among Region 2 divisions and externally with DNER. The Region holds bi-weekly remote huddles between CWD, ECAD and CEPD and quarterly check-ins with DNER, and notes that these regular meetings have improved communication and information sharing, enabled detailed permit status tracking, and facilitated greater understanding of issues related to specific permits. The Region also created a SharePoint site that allows the Region and DNER to easily share files and update permit information in real time.

Region 2 also noted it has conducted outreach to implement EPA's *PFAS Strategic Roadmap* in permitting activities, to identify potential sources of per- and polyfluoroalkyl substances (PFAS), and to discuss EPA's plan to require monitoring and pollution prevention requirements specific to discharges of PFAS. The Region has begun incorporating pollution prevention and best management practice (BMP) requirements in permits for certain facility types (e.g., power generating facilities) based on documented onsite activities that are a source of PFAS.

III. CORE REVIEW FINDINGS

A. Basic Facility Information and Permit Application

1. Facility Information

Background

Basic facility information is necessary to properly establish permit conditions. For example, information regarding facility type, location, 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.

Program Strengths

Permits identified the permit issuance, effective, and expiration dates, and provided specific authorization for the permitted discharge. Permit fact sheets provided a useful foundation for understanding the permit's administrative history through a summary of certain milestones in the permitting process. Fact sheets included a basic facility description including the facility location, type of operation, general nature of the description and treatment process, and the name of receiving waterbody.

Areas for Improvement

Fact sheets did not consistently identify specific stream segments or locations within the stream where the discharge occurred, creating uncertainty whether the fact sheet appropriately identified all listed stream impairments. Fact sheets would be strengthened with more specific identification of the location of the discharge within a stream segment, to ensure accurate identification of related water quality information (e.g., impairments, TMDLs, receiving water data).

The fact sheet for one permit incorrectly categorized the facility as a privately owned treatment works (PrOTW). The facility, however, is a nursing home with its own wastewater treatment works. Since the treatment works is part of the nursing home operations and is operated by the same entity, this facility does not qualify as a PrOTW according to 40 CFR 122.2, which defines a PrOTW as "any device or system which is (a) used to treat wastes from any facility whose operator is not the operator of the treatment works and (b) not a POTW."

Action Items

Essential	•The PQR did not identify any essential action items for this section.
Recommended	•Ensure that facility descriptions are accurate, particularly concerning the distinction between POTWs, PrOTWs, and other non-POTW facilities. •Consider including specific stream segment or location within the receiving stream where the discharge occurs to ensure appropriate identification of stream characteristics and impairments.

2. Permit Application Requirements

Background and Process

Federal regulations at 40 CFR 122.21 and 122.22 specify application requirements for 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.

Region 2 uses the federal NPDES permit application forms for POTW and non-POTW NPDES permits. As of February 2023, DNER requires applicants that discharge to inland receiving streams to submit an additional form (Form WLA-1) when applicants choose to request a wasteload allocation, instead of end-of-pipe limitations in DNER's calculation of WQBELs.

Region 2 sends compliance assistance letters to permittees notifying them of upcoming deadlines for submittal of permit renewal applications and providing contact information for submitting applications. In 2019, the Region sent letters to all permittees notifying them of the new EPA application forms, that applications could be submitted via email to a centralized inbox in addition to being submitted in hard copy (as hard copy was required in most permits prior to 2019), and that public notices would be posted only on EPA's website. Since 2019, the Region has started incorporating permit language requiring electronic application submission to a centralized inbox. The Region recently developed a system that automatically generates letters to notify permittees when renewal applications are due; the system will automatically send letters to permittees 6 months prior to the permit expiration date.

Upon receipt of an NPDES permit application, the permit writer assigned to the facility reviews the application for administrative and technical completeness. Following review, the permit writer sends the applicant either a Notice of Complete Application or a Notice of Deficiency, depending on the content of the application package. Notices of Complete Application identify the next steps for the permittee, including information regarding the applicant's responsibility to request a WQ Certificate from DNER and to request a coastal zone consistency

determination from the PRPB. Notices of Deficiency identify the information required to be submitted for Region 2 to consider the application complete. The Region uses templates for both letters. The Region sends a copy of the permit application to DNER so that DNER can begin scheduling WQ Certificate development, site visits, and meetings with facilities to support WQ Certificate development; however, the applicant must request a WQ Certificate from DNER separately. Permit writing assignments are based on facility type and staff workloads. The Region uses SharePoint and spreadsheet tools to track applications and permit development progress.

Program Strengths

Most of Region 2's permit records consistently included appropriate and current EPA applications. Applications were signed consistent with federal signatory requirements.

Areas for Improvement

One application reviewed was submitted one month after the permit expiration date. The same application was deemed deficient and following issuance of a Notice of Deficiency, the applicant submitted additional information that still did not address the deficiency; parameters that were marked "believed present" lacked analytical data. In some applications reviewed for municipal facilities, certain data required by 40 CFR 122.21(j)(4)(iii) were absent and the applications noted that no data were reported because the permit did not require monitoring for the parameter(s). In some applications reviewed for non-POTWs, certain data required by 40 CFR 122.21(g)(7) were absent for some parameters, included those marked as "believed present."

One applicant submitted Form 2C for non-POTWs that discharge process wastewater, but since the facility was for a nursing home processing domestic waste, the appropriate application is Form 2E for non-POTWs that discharge only nonprocess wastewater.

Action Items

Essential	•Ensure that permit renewal applications are received at least 180 days prior to permit expiration, consistent with 40 CFR 122.21(d). •Ensure that permit renewal applications for non-POTWs are complete, including effluent testing data required by 40 CFR 122.21(g)(7). •Ensure that permit renewal applications for POTWs are complete, including effluent testing data required by 40 CFR 122.21(j)(4)(iii). •Ensure non-POTWs that discharge only nonprocess wastewater submit application Form 2E (40 CFR 122.21(a)(2)(i)(F)).
Recommended	•The PQR did not identify any recommended action items for this section.

B. Developing Effluent Limitations

1. 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 TBELs represent the minimum level of control that must be imposed in a permit.

TBELs for POTWs

Background and Process

POTWs must meet secondary or equivalent to secondary standards (including limits for 5-day biochemical oxygen demand [BOD_5], total suspended solids [TSS], pH, and percent pollutant removal), and permits must contain numeric limits for all of these parameters (or authorized alternatives) in accordance with the secondary treatment regulations at 40 CFR Part 133. Region 2 develops TBELs for POTWs and applies secondary treatment standards to the discharge.

NPDES regulations at 40 CFR 133.102(a) and (b) require the 30-day average percent removal shall not be less than 85 percent for BOD_5 and TSS. Region 2 permits for municipal facilities in Puerto Rico established minimum percent removal requirements consistent with secondary treatment standards.

Program Strengths

Permits established average weekly and average monthly effluent limitations for BOD_5 and TSS that were at least as stringent as those required by secondary treatment standards and limitations were in correct units. Permits also contained appropriate minimum percent removal requirements for BOD_5 and TSS that were consistent with secondary treatment standards. Fact sheets provided a basic understanding of the facility configuration and wastewater treatment processes.

Areas for Improvement

In several instances, fact sheets stated incorrectly that effluent limitations for BOD_5 were based on secondary treatment standards. For example, one permit contained an average monthly effluent limitation for BOD_5 of 25 mg/L, but the fact sheet indicated the effluent limitation was based on secondary treatment standards, which would be 30 mg/L. Nor did the fact describe why the limit was revised from the 30 mg/L in the previous permit. In another permit, the average monthly effluent limitation for BOD_5 was 29 mg/L (revised from the previous effluent limitation of 8 mg/L), even though the fact sheet said the limit was based on secondary treatment. Overall, both BOD_5 effluent limitations cited were more stringent than secondary treatment standards, but no rationale was provided.

Action Items

Essential	•Numeric effluent limitations for BOD_5 in municipal permits must be consistent with secondary treatment standards (40 CFR Part 133) or fact sheets must provide a clear explanation of the basis for an alternate effluent limitation (40 CFR 124.56).
Recommended	•The PQR did not identify any recommended action items for this section.

TBELs for Non-POTW Dischargers

Background and Process

Permits issued to non-POTWs must require compliance with a level of treatment performance equivalent to Best Practicable Control Technology Currently Available (BPT), 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 basis using best professional judgment (BPJ) in accordance with the criteria outlined at 40 CFR 125.3(d).

Region 2 typically develops TBELs for Puerto Rico non-POTW permits using ELGs or by applying BPJ. The Region assesses facility operations and resulting waste streams and consults ELGs to determine their applicability. The Region does not use any specific tools to calculate ELG-based TBELs. Fact sheets document the permit writer's determination of the applicability of ELGs.

Program Strengths

Fact sheets provided a basic understanding of facility operations, treatment processes, and expected discharges. Fact sheets identified applicable ELGs. Effluent limitations were established in appropriate units and forms.

Areas for Improvement

One permit for a non-POTW discharging nonprocess wastewater contained effluent limitations for BOD_5 and TSS based on secondary treatment standards. Two non-municipal permits included effluent limitations for BOD_5 based on BPJ, reflecting application of secondary treatment standards to the discharge. Fact sheets for these three permits did not discuss why the standards were appropriate for the facility or provide any other appropriate BPJ analysis to consider other effluent limitations. Discharges that are not associated with a POTW are not regulated in the same way as POTWs, and federal secondary treatment standards are not the

default basis for effluent limitations. Permit writers should conduct and document formal BPJ analysis, consistent with 40 CFR 125.3(d), to determine appropriate TBELs for non-POTWs.

A permit for a pharmaceutical company was reviewed and based on the facility's SIC code, ELGs at 40 CFR Part 439 (Pharmaceuticals Manufacturing Point Source Category) appear to be applicable to the discharge. The fact sheet did not mention these ELGs or if a determination was made that they do not apply to the discharge.

Action Items

Essential	•Ensure that permit writers determine appropriate effluent limitations for privately-owned treatment works and other non-municipal discharges for which ELGs do not exist, by conducting an analysis based on BPJ, consistent with 40 CFR 125.3(d). •Fact sheet must contain a clear discussion for non-POTWs subject to ELGs regarding ELG applicability (or why a seemingly applicable ELG does not apply) (40 CFR 124.56). •Fact sheets must document the determination of and basis for effluent limitations based on BPJ (40 CFR 124.56).
Recommended	•The PQR did not identify any recommended action items for this section.

2. Reasonable Potential and Water Quality-Based Effluent Limitations

Background

The NPDES regulations at 40 CFR 122.44(d)(1) 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" (WQBELs), the permitting authority must evaluate whether any pollutants or pollutant parameters cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

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

- determined the WQS applicable to receiving waters,
- evaluated and characterized the effluent and receiving water, including identifying pollutants of concern,
- determined critical conditions,
- incorporated information on ambient pollutant concentrations,
- assessed any dilution considerations,

- determined whether limits were necessary for pollutants of concern, 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 TMDLs. Region 2 indicated that in situations where a TMDL has not yet been developed, permits require monitoring for impairing pollutants. When data are available for impairing pollutants, DNER evaluates the data to determine reasonable potential and where the discharge demonstrates reasonable potential, DNER includes a condition in the WQ Certificate limiting that pollutant, which the Region implements in the permit as a WQBEL. Where TMDLs are effective, DNER and the Region implement the WLAs and provisions of the effective TMDL.

Process for Assessing Reasonable Potential

As of February 2023, DNER develops conditions as part of the CWA Section 401 WQ Certificate for each permit, which Region 2 incorporates into the permit. DNER evaluates the need for these conditions through an RPA when it develops the WQ Certificate, which is prior to or concurrent with the Region's development of the remainder of the draft permit and fact sheet. Pursuant to Puerto Rico WQS, Rule 1306.11, the permittee (referred to as "the petitioner" in Rule 1306.11) requests a WQ Certificate from DNER. DNER begins the RPA process once it receives the application and the request for a 401 WQ Certificate. The applicant proposes effluent limits based on historical effluent limitations and current DMR data. DNER reviews the request and inspects the facility to confirm operations and treatment processes.

DNER determines pollutants of concern based on effluent data provided in the NPDES permit application, WQ Certificate request, WLA application, DMR data, and receiving water characterization data collected by either DNER or the U.S. Geological Survey (USGS). DNER typically identifies metals as pollutants of concern. Further, DNER indicated that if a pollutant contributes to a receiving water impairment, the WQ Certificate will include an effluent limitation for that pollutant. DNER uses any available data but ideally DMR data from at least the past 3 years if the permittee is conducting monthly monitoring or the past 5 years if the permittee is required to conduct quarterly or annual monitoring. DNER ensures the data used in the RPA reflect current facility performance. DNER does not have formal guidance to evaluate outliers, but technicians use a statistical test to identify outliers and limit data exclusion to one data point after further evaluating the data point to determine whether it is representative of the permitted discharge.

DNER applies the most current WQS in RPAs and continually educates permit technicians on updates to the WQS or implementation procedures.

DNER technicians/permit officers conduct RPAs following long-standing procedures (i.e., 25 years) using a spreadsheet tool that contains calculations based on EPA's TSD procedures. For major non-POTW permits, Region 2 conducts an RPA using up to the last 5 years of the facility's DMR data. Region 2 independently conducts an RPA to ensure effluent limitations are

established for all pollutants that demonstrate reasonable potential. If DNER's WQ Certificate did not include a condition for a parameter that is more stringent than the WQBEL EPA would have established in the permit, then Region 2 develops and implements the required WQBEL. As discussed in section II.A, the Region is currently in the beta testing phase of its latest RPA tool. The Region anticipates the release and full use of the RPA tool during calendar year 2024, with plans to use it internally and to share with DNER for their use.

Region 2 evaluates reasonable potential for WET. Puerto Rico's WQS include criteria in the definitions, Rule 1301.1, but do not specify implementation procedures for WET. One permit reviewed included a discussion of the Region's RPA for WET. Based on the discussion in the fact sheet, the Region used the criterion maximum concentration and criterion continuous concentrations defined in Rule 1301.1 as the numeric interpretation of the narrative water quality criterion of "no toxics in toxic amounts" to ensure aquatic life protection against toxicity. The Region reviewed and evaluated available WET DMR data and determined the discharge demonstrated reasonable potential and established a maximum daily effluent limitation for chronic toxicity and required the discharger to develop a toxicity reduction evaluation (TRE) plan. The fact sheet indicated that violation of the effluent limitation would trigger accelerated monitoring and if during the accelerated monitoring period, an additional effluent limitation violation occurred, the permittee would be required to activate its TRE workplan to identify and abate the source of toxicity.

Region 2 identifies the receiving stream name and designated use classification code in permits and fact sheets. Fact sheets identify waterbody impairments for parameters for which TMDLs exist, but generally do not identify all impairments.

Process for Developing WQBELs

As of February 2023, Region 2 is primarily using the conditions in DNER's WQ Certificate as WQBELS and, when necessary, including additional EPA-developed WQBELs. DNER develops conditions in the WQ Certificate that limit all pollutants with RPA except for WET and includes general basis for the conditions in the certificate. The Region develops WET effluent limitations and permit conditions.

Fact sheets for all permits reviewed indicated that all of the WQBELs were based on DNER's WQ Certificate. These certifications typically address a significant number of pollutants and establish stringent discharge limits. In general, DNER applies water quality criteria at the end of pipe as effluent limitations. Ambient background water quality data are collected only when the applicant requests a WLA or mixing zone; otherwise, ambient data available from existing sources are used in DNER's calculations. DNER technicians use spreadsheets to calculate WQ Certificate conditions which mimic WQBELs, and a model developed by the Region to develop specific conditions for BOD, dissolved oxygen, and ammonia.

Puerto Rico's mixing zone provisions are contained in Rule 1305 of the WQS. Mixing zones must be approved by DNER and if granted, are identified in the WQ Certificate. Applicants discharging to ocean waters may apply for a mixing zone by submitting information specified in Rule 1305.3. Applicants discharging to inland waters seeking a WLA in the calculation of their

WQ Certificate conditions, which is how DNER characterizes effluent limitations developed to allow some mixing, must apply to DNER using DNER Form WLA-01. DNER indicated that technicians rely on mixing model information submitted by applicants because currently the agency does not have an in-house mixing zone model. Region 2 indicated that DNER's WQ Certificate and the permit fact sheet will specify that a mixing allowance was granted for the calculation of WQ Certificate conditions. DNER indicated that, currently, only facilities owned by the Puerto Rico Aqueduct and Sewer Authority (PRASA) receive mixing zone provisions.

The permit files included the draft and final WQ Certificate, which served as the basis for WQBELs, and the permit limits were consistent with the limits in the WQ Certificate.

Fact sheets discussed whether permit limits reflected mixing zones. However, fact sheets did not contain documentation of Region 2's RPA. Region 2 indicated that it conducts an RPA to ensure that the permit contains limits for all pollutants that demonstrate RP, as required by 40 CFR 122.44(d).

Program Strengths

Region 2's permits and fact sheets issued in Puerto Rico consistently identified the receiving water and specified the applicable designated use code.

Areas for Improvement

The fact sheets discussed impairment status only for those pollutants with a TMDL. As discussed in section III.A.1, fact sheets identify the receiving stream name but not the stream segment where the discharge occurs. Identification of the specific discharge location within a waterbody segment would allow for clear determination of waterbody impairments as listed in Puerto Rico's 303(d) list and ensure that all impairments, not just those for which there are already TMDLs, are addressed adequately in permit conditions. Additionally, fact sheets did not discuss how pollutants of concern were identified.

The process by which Region 2 incorporates DNER's 401 certification conditions as WQBELs is not consistent with federal regulations at 40 CFR 122.44(d). As the permitting authority, Region 2 should conduct the RPA, develop WQBELs independently of the WQ Certificate, and include a discussion of the WQBEL rationale and calculations in the fact sheet (40 CFR 124.56). DNER may establish any additional or more stringent limitations or conditions in the WQ certificate. The requirement to conform to conditions in a state certification (40 CFR 122.44(d)(3)) does not replace the requirements for the permitting authority to establish WQBELs (40 CFR 122.44(d)(1)) and other applicable permit conditions.

Region 2 reports conducting RPA for WET and including limits, where applicable. However, fact sheets did not consistently discuss whether Region 2 conducted an RPA for WET.

Action Items

Essential	•Fact sheets must contain any calculations or other necessary explanation of the derivation of WQBELs, including RPA (40 CFR 124.56). •Region 2, as the permitting authority, must develop WQBELs, where applicable, consistent with 40 CFR 122.44(d)(1).
Recommended	•The PQR did not identify any recommended action items for this section.

3. Final Effluent Limitations and Documentation

Background and Process

Permits must reflect all applicable statutory and regulatory requirements, including technology and water quality standards, and must include effluent limitations that ensure that all applicable CWA standards are met. The permitting authority must identify the most stringent applicable effluent limitations and establish them as the final effluent limitations in the permit. In addition, for reissued permits, if any of the limitations are less stringent than the corresponding limitations in the previous NPDES permit, the permit writer must conduct an anti-backsliding analysis, and if necessary, revise the limitations accordingly. In addition, for new or increased discharges, the permitting authority should conduct an antidegradation review, to ensure the permit is written to maintain existing high quality of surface waters, or if appropriate, allow for some degradation. The water quality standards regulations at 40 CFR 131.12 outline the common elements of the antidegradation review process.

In addition, permit records for POTWs and industrial facilities must contain comprehensive documentation (40 CFR 124.56) of the development of all effluent limitations. Documentation for TBELs should include assessment of applicable standards, data used in developing effluent limitations, and actual calculations used to develop effluent limitations including the RPA. The procedures to determine the need for WQBELs and the basis for establishing, or for not establishing, WQBELs should be clear and straightforward. The permit writer should adequately document changes from the previous permit, ensure draft and final limitations match (unless the basis for a change is documented), and include all supporting documentation in the permit file. The permit writer should sufficiently document determinations regarding anti-backsliding and antidegradation requirements.

NPDES regulations at 40 CFR 122.45(d) provide that permit limits for continuous, non-POTW dischargers are, unless impracticable, to be stated as maximum daily and average monthly limits, and permits for POTWs must establish average weekly and average monthly. DNER establishes WQ Certificate conditions as maximum daily effluent limitations and Region 2 incorporates these values into the permit as WQBELs.

As required by 40 CFR 124.8, Region 2's fact sheets consistently provided a useful description of the facility operations and wastewater treatment processes. The Region's fact sheets and DNER's WQ Certificate identified the regulatory basis for each effluent limitation and whether effluent limitations were TBELs or WQBELs. In most cases, fact sheets stated that WQBELs were based on the water quality criterion for the waterbody's designated use classification and referred to the WQ Certificate. Fact sheets lacked documentation of RPA by Region 2 and did not discuss whether the Region determined that the conditions in the WQ Certificate were sufficiently stringent to be established in the permit as WQBELs. Permits clearly presented final effluent limitations in tables with appropriate footnotes either to provide clarification on effluent limitations or to specify compliance determination provisions. Some fact sheets included a table comparing applicable effluent limits, but this practice was not consistent.

As of February 2023, permit fact sheets and records did not maintain detailed effluent limitation development documentation and calculations for the development of TBELs or WQBELs.

The Region 2 Anti-backsliding Policy (August 10, 1993) provides guidance for permits issued in Puerto Rico regarding relaxation or removal of effluent limitations based on water quality. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit with certain exceptions. If the Region receives a WQ Certificate with a limit that is less stringent than that in the previous permit, there may be reasons where a relaxation would be appropriate. Based on the Region's anti-backsliding policy, if the permittee can meet the previous permit limit, the Region does not establish a less stringent limit but instead holds the permittee to the previous limit. Further, if the 95th percentile of the facility's monitoring data is higher than the previous limit, the Region applies a less stringent limit. If an existing pollutant level is higher than the existing limit but lower than the proposed less stringent limit, the Region applies the existing effluent quality as the effluent limitation. The Anti-backsliding Policy directs permit writers to perform a case-by-case analysis for each discharge and to document in fact sheets the reasons for anti-backsliding decisions. For removal of effluent limits, fact sheets provided adequate rationales, but for relaxation of limits, fact sheets simply stated that anti-backsliding provisions had been meet without further justification.

Puerto Rico's antidegradation policy is contained in Rule 1300.4 of the Puerto Rico WQS and the implementation procedure is included as Attachment A to the WQS. Region 2's permit writers consider antidegradation during every permit renewal cycle; as does DNER during the WQ Certificate development, and when evaluating the retention, relaxation, or deletion of effluent limitations. DNER examines antidegradation on a parameter-by-parameter basis and evaluates antidegradation upon receipt of the WQ Certificate request. Three tiers of protection exist: 1) Existing and Designated Uses; 2) Protection of High Quality Waters; and 3) Protection of Outstanding National Resource Waters. In certain cases, this procedure requires that WQS be applied at the point of discharge (i.e., "end of pipe"). When applying the antidegradation policy, conditions for the WQ Certificate are determined based on consideration of several factors, including the requested limits, the applicable WQS, the social or economic need for

reduction of water quality, the existing water quality in the receiving water body, and the projected water quality resulting from the discharge based on a WLA or mixing zone analysis.

The fact sheets reviewed generally cited the basis for final effluent limits (e.g., regulations, ELGs, WQ Certificate), and stated that the WQ Certificate established permit limits that comply with Puerto Rico's WQS, anti-backsliding provisions, and antidegradation policy.

Permits issued in Puerto Rico presented narrative limitations following the table of numeric effluent limitations, and the special conditions section of the permits included a heading to identify special conditions provided as part of the WQ Certificate.

Program Strengths

Permits and fact sheets presented effluent limitations clearly. Fact sheets identified whether each limitation was a TBEL or WQBEL. Fact sheets also included a table that summarizes effluent limitations, including the previous and proposed effluent limitations, to illustrate a comparison of certain applicable limitations.

Areas for Improvement

NPDES regulations at 40 CFR 122.45(d) provide that permit limits for continuous non-POTW dischargers are, unless impracticable, to be stated as maximum daily and average monthly limits. Effluent limitations in most permits reviewed were expressed as maximum daily effluent limitations only, and fact sheets did not discuss the basis for or appropriateness of establishing effluent limitations over a single averaging period. The fact sheet (40 CFR 124.56) must describe the basis for the determination that establishing both short- and long-term effluent limitations is impracticable, per 40 CFR 122.45(d).

Some effluent limitations were expressed as average monthly limits in the current permit but maximum daily limits in the previous permit. Fact sheets did not discuss the change in how the effluent limitation was expressed. Some effluent limitations were relaxed from the previous permit and fact sheets did not provide a detailed discussion of the rationale for the relaxed limitation. In addition, some fact sheets cited the "new information" exception to the prohibition against relaxation of effluent limitations under CWA Section 402(o)(2) but did not describe what or how the new information was evaluated. Region 2 permit writers compare applicable TBELs and WQBELs and, where appropriate, the more stringent limit is selected for the final permit limit. However, fact sheets lacked consistent demonstration of this process.

Action Items

Essential	•For continuous non-POTW dischargers, all effluent limitations must be stated as both maximum daily and average monthly discharge limitations consistent with 40 CFR 122.45(d). •When permits do not express an effluent limitation as both a short-term and long-term limitation, provide documentation about why expressing the limit in both forms is impracticable, per 40 CFR 122.45(d). •Address anti-backsliding in the rationale for all permits where a permit condition is being removed or relaxed and provide specific application of regulatory exceptions to anti-backsliding (40 CFR 124.8(a) and 124.8(b)(4)).
Recommended	•Fact sheets should discuss the basis for revision in effluent limitations, such as average monthly limit (AML) in the previous permit and maximum daily limit (MDL) in the reissued permit. •Fact sheets should contain documentation that the final effluent limitations are protective of both technology and water quality standards. The approach to compare TBEL and WQBEL limits and select the most stringent as the final limit should be consistently documented.

C. Monitoring and Reporting Requirements

Background and Process

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

Specifically, 40 CFR 122.44(i) requires NPDES permits to establish, at minimum, annual reporting of monitoring for all limited parameters sufficient to ensure 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(b) requires that permits specify the type, intervals, and frequency of monitoring sufficient to yield data which are representative of the monitored activity. The regulations at 40 CFR 122.44(i) also require reporting of monitoring results with a frequency dependent on the nature and effect of the discharge. 40 CFR Part 127 requires NPDES-regulated entities to submit certain data electronically, including discharge monitoring reports and various program-specific reports, as applicable.

NPDES permits should specify appropriate monitoring locations to ensure compliance with the permit limitations and provide the necessary data to determine the effects of an effluent on the

receiving water. A complete fact sheet will include a description and justification for all monitoring locations required by the permit. States may have policy or guidance documents to support determining appropriate monitoring frequencies; documentation should include an explicit discussion in the fact sheet providing the basis for establishing monitoring frequencies, including identification of the specific state policy or internal guidance referenced. Permits must also specify the sample collection method for all parameters required to be monitored in the permit. The fact sheet should present the rationale for requiring grab or composite samples and discuss the basis of a permit requirement mandating use of a sufficiently sensitive 40 CFR Part 136 analytical method.

As of February 2023, DNER establishes monitoring requirements in the WQ Certificate. Region 2 reviews the monitoring requirements and occasionally recommends a more stringent monitoring requirement when deemed appropriate. DNER considers existing monitoring requirements and requirements in similar permits to develop monitoring provisions. Technicians review DMR data and compliance history in addition to the monitoring frequency in the previous permit to determine, on a parameter-by-parameter basis, whether it is appropriate to reduce the monitoring frequency. For example, if a facility did not violate effluent limitations but the parameter demonstrated reasonable potential, DNER considers reducing monthly monitoring to quarterly, or quarterly to annual. Further, if a facility did not violate effluent limitations and the parameter did not demonstrate reasonable potential, the DNER technician considers removing monitoring or reducing the frequency to one sample during the permit term, to continue surveillance of the parameter. All permits reviewed included WET monitoring requirements, which were established by Region 2. EPA's ECAD works with permittees to ensure that all are submitting DMRs electronically through NetDMR. Some permits contained clear requirements to submit DMRs and sewage sludge/biosolids annual reports electronically.

Program Strengths

Permits clearly presented monitoring and reporting requirements and provided a clear description of monitoring locations in multiple parts of the permit. Permits identified monitoring requirements such as location, frequency, and type alongside effluent limitations, in a single table for each outfall. Permits for POTWs included appropriate influent monitoring requirements for BOD and TSS to enable calculation of percent removal. Monitoring requirements were sufficient to determine compliance with effluent limitations. Permits required use of EPA-approved analytical methods consistent with 40 CFR Part 136. Permits presented clear reporting requirements including reporting due dates.

Areas for Improvement

Some permits reviewed provided the option of submitting either hard copy or electronic DMRs and did not specify a date after which electronic reporting was required. Region 2 noted during the PQR closing meeting that the permit language is out of date, and they have been correcting that permit provision in newer permits. Permits also lacked an explicit requirement to use sufficiently sensitive EPA-approved analytical methods.

As with WQBELs, Region 2 also incorporated monitoring requirements based on conditions provided by DNER in the WQ Certificate. As the permitting authority, Region 2 is responsible for determining the appropriate monitoring conditions for limited parameters, and other parameters as needed and appropriate.

Action Items

Essential	•Ensure that permits require use of sufficiently sensitive EPA-approved analytical methods, consistent with 40 CFR 122.44(i)(1)(iv). •Region 2, as the permitting authority, must establish monitoring conditions consistent with 40 CFR 122.44(i) and 122.48(b).
Recommended	•Continue making updates to boilerplate permit language to ensure that permits require electronic reporting of DMRs in accordance with 40 CFR 127.16.

D. Standard and Special Conditions

Background and Process

Federal regulations at 40 CFR 122.41 require that all NPDES permits, including NPDES general permits, contain certain "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 those in the federal regulations.

Permits may also contain additional requirements that are unique to a particular discharger. These case-specific requirements are generally referred to as "special conditions." Special conditions might include requirements such as: additional monitoring or special studies such as a mercury minimization plan; a toxicity identification evaluation (TIE) or TRE to resolve measured toxicity; 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.

Region 2 permits issued in Puerto Rico included standard conditions as a stand-alone attachment, using boilerplate language that is consistent with federal standard conditions. Special conditions are included as appropriate, often incorporated into the permit from the CWA Section 401 certification. Special conditions can include provisions that address WET, toxicity reduction evaluations, best management practices and pollution prevention plans, pretreatment, and biosolids, as applicable.

Program Strengths

Permits presented standard conditions completely and clearly. Standard conditions language was consistent with federal standard conditions. The additional reporting requirements at 40 CFR 122.42(a) and (b) are appropriately included in non-POTW and POTW permits, respectively. Permits presented special conditions clearly and fact sheets provided adequate rationales.

Areas for Improvement

The review team did not identify any areas for improvement in this core area.

Action Items

Essential	•The PQR did not identify any essential action items for this section.
Recommended	•The PQR did not identify any recommended action items for this section.

E. Administrative Process

Background and Process

The administrative process includes documenting the basis of all permit decisions (40 CFR 124.5 and 40 CFR 124.6); coordinating EPA and state review of the draft (or proposed) permit (40 CFR 123.44); providing public notice (40 CFR 124.10); conducting hearings if appropriate (40 CFR 124.11 and 40 CFR 124.12); responding to public comments (40 CFR 124.17); and modifying a permit (if necessary) after issuance (40 CFR 124.5). Reviewers discussed each element of the administrative process with Region 2, and reviewed materials from the administrative process as they related to the core permit review.

Permit development for facilities in Puerto Rico involves two public notice periods, both of which provide 30 days for review and comment. Region 2 publishes a public notice for draft permits and DNER provides one for draft WQ Certificates. Region 2 posts public notices for draft permits on the Region's website while DNER publishes public notices for draft WQ Certificates in a local newspaper of general circulation in Puerto Rico. Region 2 receives public comments via email or standard mail, and for individual permits, comments are rarely from parties other than the applicant/permittee. Region 2 conducts outreach to educate the public about draft and final general permits during the renewal process and feels those efforts have been successful. Region 2 develops responses to all comments received and prepares a response to comments document, which also documents any changes made to the permit based on comments. If several similar permits were public noticed at the same time, the response to comments document may compile comments and responses for more than one permit. Region 2 prepares a request to finalize permits (which includes the response to comments document) via a memorandum to either the WD Director, or the CEPD Director.

When applicable, the memorandum also documents that comments were not received during the public notice period.

Region 2 proactively offers to hold public hearings to provide outreach to the community. Region 2 selects meeting locations to ensure meetings are in an appropriate area for the community and provides simultaneous translation during the hearings.

Region 2 indicated that few permits are appealed following issuance. Historically, appeals have been addressed through an alternate dispute resolution process or heard by an administrative law judge.

Program Strengths

Files reviewed consistently included documentation that proper public notice was provided. Public notices for the Region's draft permits and DNER's draft WQ Certificates were included in the permit records reviewed. The files reviewed typically contained the response to comments document developed by regional permit staff. In addition, the response to comments document clearly identified when the draft permit was revised and the basis for the revisions.

Areas for Improvement

Region 2 CEPD typically issues a single public notice for multiple facilities that are under the same ownership. Reviewers noted that such notices lacked the facility address, discharge location, and a brief description of the business activity. Currently, the Region's web link for public notices leads to the Region's permitting page. It would be more helpful to provide a web link that leads directly to the available public notices.

Action Items

Essential	•In instances where multiple permits are included in one public notice, the public notice must include all the contents required at 40 CFR 124.10(d), including the address of the applicant (40 CFR 124.10(d)(ii)), a brief description of the business or activities conducted at the permitted location (40 CFR 124.10(d)(iii)), and a general description of the location of each discharge point (40 CFR 124.10(d)(vii)) for each permit included in the notice.
Recommended	•Consider providing a direct web link to Region 2's public notice page rather than to the Region's permitting page.

F. Administrative Record and Fact Sheet

Background and Process

The administrative record is the foundation that supports the NPDES permit. If EPA issues the permit, 40 CFR 124.9 identifies the required content of the administrative record for a draft permit and 40 CFR 124.18 identifies the requirements for a final permit. Authorized state

programs should have equivalent documentation. The record should contain the necessary documentation to justify permit conditions. At a minimum, the administrative record for a permit should contain the permit application and supporting data; draft permit; fact sheet or statement of basis;[3] 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.

NPDES regulations at 40 CFR 124.8 and 124.56 require that fact sheets include information regarding the type of facility or activity permitted, the type and quantity of pollutants discharged, the technical, statutory, and regulatory basis for permit conditions, the basis and calculations for effluent limits and conditions, the reasons for application of certain specific limits, rationales for variances or alternatives, contact information, and procedures for issuing the final permit. Generally, the administrative record includes the permit application, the draft permit, any fact sheet or statement of basis, documents cited in the fact sheet or statement of basis, and other documents contained in the supporting file for the permit.

Region 2 uses templates to develop fact sheets and DNER uses templates for the WQ Certificate. All the core permits reviewed were accompanied by a fact sheet. Most of these were relatively brief and all included information regarding the applicant, facility, receiving water, discharge location, description of the facility and discharge, description of the permit, permitting history and permit administrative milestones, state certification requirements, procedures for reaching a final decision on the draft permit, and EPA contact information. The fact sheets included a brief description of relevant TBELs. They also indicated that WQBELs are based on the WQ Certificate developed by DNER and discuss how WQBELs have changed from the prior permit based on the most current WQ Certificate. However, fact sheets lacked any documentation of the RPA or limit calculations, as discussed in section III.B.2.

Region 2 maintains the administrative record electronically on a SharePoint site, to which both Regional and DNER staff have access and ability to add files. Public notice documentation, comments received on the draft permit, and responses to those comments are maintained in the permit administrative record.

Program Strengths

Fact sheets reviewed were consistent in content and organization. The permit record files were easy to navigate.

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

Areas for Improvement

Some applications reviewed referenced additional information submittals, but the additional submittals were not consistently included in the permit administrative record. Permit records did not contain facility monitoring data or any documentation of Region 2's RPA. Permit records also appeared to lack correspondence related to permit development. It is critical to ensure that the permit record includes all information used to develop effluent limitations and permit conditions. As noted earlier, fact sheets did not consistently demonstrate that the permit writer compared TBELs and WQBELs and applied the most stringent effluent limitation as the final limitation. Fact sheet discussions about environmental justice and climate change impacts lacked facility-specific information; language appeared to be boilerplate. As assessments regarding environmental justice and climate change impacts continue, fact sheets would be strengthened with site-specific discussions about the Region's efforts and evaluations.

Action Items

Essential	•Essential action items are identified in section III.B.2 and III.B.3.
Recommended	•Improve file sharing protocols to ensure that permit development supporting information is routinely added to the permit record. •Ensure that complete application data are maintained with application records. •Consider including more specific facility and permit information on how the Region's analyses related to environmental justice and climate change impacts affected permit conditions.

IV. NATIONAL TOPIC AREA FINDINGS

National topic areas are aspects of the NPDES permit program that warrant review based on the specific requirements applicable to the selected topic areas. These topic areas have been determined to be important on a national scale. National topic areas are reviewed for all PQRs. The national topic areas are: Permit Controls for Nutrients in Non-TMDL Waters, Effectiveness of POTW NPDES Permits with Food Processor Contributions, and Small MS4 Permit Requirements.

A. Permit Controls for Nutrients in Non-TMDL Waters

Background

Nutrient pollution is an ongoing environmental challenge; however, nationally permits often lack nutrient limits. It is vital that permitting authorities actively consider nutrient pollution in their permitting decisions. Of the permits that do have nutrient limits, many are derived from wasteload allocations in TMDLs, since state criteria are often challenging to interpret. This

section considers waters that do not have a nutrient TMDL. These waters may already be impaired by nutrient pollution or may be vulnerable to nutrient pollution due to their hydrology and environmental conditions. For the purposes of this program area, ammonia is considered as a toxic pollutant, not a nutrient.

Federal regulations at 40 CFR 122.44(d)(1)(i) require permit limits to be developed for any pollutant which causes, has the reasonable potential to cause, or contributes to an excursion of water quality standards, whether those standards are narrative or numeric.

Puerto Rico's WQS contain numeric criteria for dissolved oxygen and numeric causal criteria for total phosphorus (TP), total nitrogen (TN), nitrite (as N), and nitrate plus nitrite (as N). The WQS establish "not to exceed" values for TN and TP in coastal and estuarine (class SB), and surface (inland) waters (SD). TN is the sum of nitrate-nitrogen, nitrite-nitrogen, ammonia-nitrogen, and organically bonded nitrogen. Puerto Rico's WQS do not appear to have water quality criteria for ammonia, except as a component of TN. Region 2 indicated there are no formal implementation procedures for permitting nutrient discharges. At the time of the review, DNER included conditions for nutrient parameters in the WQ Certificate, based on Puerto Rico's WQS, for all POTW permits and certain non-POTW permits.

To assess how nutrients are addressed in the NPDES program for Puerto Rico, EPA HQ reviewed two non-POTW permits and one POTW permit. The PRASA Guaynabo Water Treatment Plant (WTP) is a major non-POTW facility that treats raw water from the Bayamon River to provide potable water to the municipality of Guaynabo and filter backwash water and sedimentation tank drain water. The Pfizer Pharmaceutical Limited facility is a major non-POTW that discharges process wastewater generated during the manufacture of pharmaceutical and consumer products; sanitary waste; and boiler and cooling tower blowdown to the Rio Cibuco. Table 1, below, identifies general information for the three permits selected for the topic area.

Table 1. Permits Selected for the Nutrients in Non-TMDL Waters Topic Area

Permit Name	Permit No.	Facility Type	Receiving Water	Impairment Status	Effluent Limits for Nutrients?
PRASA Caguas WTP	PR0025976	Major POTW	Bairoa River (SD)	TP, TN, Cr (VI), Enterococcus, Surfactants	TP, TN
Pfizer Pharmaceuticals Limited	PR0023451	Major non-POTW	Rio Cibuco (SD)	N/A	TP, TN
PRASA Guaynabo WTP	PR0022438	Major non-POTW	Bayamon River (SD)	TP, TN, Ammonia, Cr (VI), Enterococcus, pH, Turbidity	TP

All permits reviewed contained effluent limitations for TP, while PRASA Caguas WWTP and Pfizer Pharmaceuticals also contained effluent limitations for TN. None of the fact sheets specified that the receiving streams are impaired by nutrient parameters, but EPA's 2020 303(d) List and the *How's My Waterway?* website indicate that two of the water bodies are impaired by TN and TP. Waterbody assessment information is unavailable for the receiving water to which Pfizer discharges; the Pfizer permit established effluent limitations for TP and TN. The PRASA Guaynabo Water Treatment Plant discharges to a waterbody that is impaired by TN, but the permit and fact sheet did not address TN. None of the fact sheets included any RP discussion for nutrient parameters or analysis by Region 2 to ensure that limits were included for all nutrient parameters where necessary and that the limits were protective of the WQS. The lack of discussion of RPA for nutrient parameters is consistent with the reviewer's observations regarding RPA for other pollutants of concern.

Program Strengths

Permits established maximum daily effluent limitations for TP and TN that were consistent with Puerto Rico's WQS. Permits required monitoring sufficient to determine compliance with effluent limitations for TP and TN.

Areas for Improvement

The permit for the PRASA Guaynabo WTP only required monitoring for total ammonia nitrogen, which does not provide sufficient data for DNER or Region 2 to evaluate whether the discharge demonstrates reasonable potential to violate Puerto Rico's WQS for TN. The fact sheets reviewed did not specify that the receiving water bodies are impaired by nutrient parameters. Fact sheets for nutrient parameters stated that the WQBELs were based on WQS but did not include any analysis by Region 2 to ensure that limits were included for all nutrient parameters where necessary (e.g., an RPA). Application data for the PRASA facilities indicated that the effluent discharge exceeded existing effluent limitations for TP; however, the permit (based on conditions from the WQ Certificate) carried forward the effluent limitation for TP from the last permit issued to the facility and the fact sheet did not address whether the effluent data was considered in re-evaluating the permit conditions.

Action Items

Essential	•For permits with nitrogen monitoring, ensure that monitoring is required for all nitrogen forms that comprise TN (i.e., nitrate-nitrogen, nitrite-nitrogen, ammonia-nitrogen, and organically bonded nitrogen) or monitoring for TN, to evaluate whether the discharge demonstrates reasonable potential to result in an excursion above Puerto Rico's WQS for TN. •Include sufficiently detailed discussion in the fact sheet (40 CFR 124.56) on whether RPAs were conducted for nutrient parameters and discuss the outcomes, to ensure limits are included for all necessary nutrient parameters (40 CFR 122.44(d)).
Recommended	•Fact sheets should address data reported in the application, especially when the data indicate the facility has exceeded existing effluent limitations and applicable water quality criteria.

B. Effectiveness of POTW NPDES Permits with Food Processor Contributions

The general pretreatment regulations (40 CFR 403) establish responsibilities of federal, state, and local government, industry, and the public to implement pretreatment standards to control pollutants from industrial users which may cause pass through or interfere with POTW treatment processes, or which may contaminate sewage sludge.

Background

The PQR national topic area *Effectiveness of POTW NPDES Programs with Food Processor Contributions* evaluates successful and unique practices with respect to food processor industrial users (IUs) by evaluating whether appropriate controls are included in the receiving POTW's NPDES permit and documented in the NPDES permit fact sheet or statement of basis. This topic area aligns with the EPA Office of Enforcement Compliance and Assurance National Compliance Initiative, Reducing Significant Noncompliance with National Pollutant Discharge Elimination System Permits by gathering information that can be used to provide permit writers with tools to maintain or improve POTW and IU compliance with respect to conventional pollutants and nutrients.

The food processing sector manufactures edible foodstuffs such as dairy, meat, vegetables, baked goods, and grains from raw animal, vegetable, and marine material. The main constituents of food processing wastewaters are conventional pollutants (BOD, TSS, oil and grease [O&G], pH, and bacteria) and non-conventional pollutants (such as phosphorus and ammonia). These pollutants are compatible with POTW treatment systems. However, POTWs may not be designed or equipped to treat the intermittent or high pollutant loadings that can result from food processing indirect discharges.

The General Pretreatment Regulations at 40 CFR 403.5(c)(1) require POTWs with approved pretreatment programs to continue to develop and apply local limits as necessary to control any pollutant that can reasonably be discharged into the POTW by an IU in sufficient amounts to pass through or interfere with the treatment works, contaminate its sludge, cause problems in the collection system, or jeopardize workers. POTWs that do not have approved pretreatment programs may also be required to develop specific local limits as circumstances warrant (see 40 CFR 403.5(c)(2)). Local limits and other site-specific requirements are enforced by the POTW through IU control mechanisms.

The General Pretreatment Regulations require an Approval Authority to ensure that all substantive parts of the POTW's pretreatment program are fully established and implemented, including control mechanisms a POTW issues to its IUs to reduce pollutants in the indirect discharge (see 40 CFR 403.11). Region 2 issues NPDES permits to the POTWs in Puerto Rico and is the Approval Authority for Puerto Rico POTWs. EPA Region 2 is responsible for administering the pretreatment program for Puerto Rico, which consists of one pretreatment program covering all the POTW plants. This includes identifying appropriate conditions to be incorporated into POTW NPDES permits concerning pretreatment requirements, approving pretreatment programs established by local Control Authorities, and reviewing and approving modifications of existing approved program elements, such as sewer use ordinances (SUOs), local limits, and enforcement response plans (ERPs). Region 2 also reviews the annual pretreatment program report and takes enforcement actions when necessary. PRASA has the authority to issue permits to IUs discharging to the POTWs in Puerto Rico.

Table 2 identifies the pretreatment and NPDES requirements considered during this PQR. In this table, the term Director refers to EPA Region 2. The term Permitting Authority refers to EPA Region 2. Although not in the table, the term Control Authority refers to PRASA for all POTWs. Some PRASA POTWs accept wastewater from SIUs while others do not. The PRASA annual report lists all POTWs that receive wastewater from SIUs. Additionally, the NPDES permits for all POTWs include pretreatment requirements.

Table 2. Regulatory Focus for this Section of the PQR

Citation	Description
40 CFR 122.42(b)	POTW requirements to provide adequate notice of new pollutants to the Director
40 CFR 122.44(j)	Pretreatment Programs for POTW
40 CFR 124.3(a) and (c)	The POTW must submit a timely and completed application for an NPDES permit or NPDES permit renewal
40 CFR 124.8(a) and (b)	The permitting authority must prepare a fact sheet for every draft permit for a major NPDES facility. Fact sheets must briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit including references.
40 CFR 403.5(a), (b) and (c)	National pretreatment standards: Prohibited discharges
40 CFR 403.3	Definitions
40 CFR 403.8	Pretreatment program requirements: Development and implementation by POTW

40 CFR 403.10	Development and submission of NPDES state pretreatment programs
40 CFR 403.11	Approval procedures for POTW pretreatment programs and POTW granting of removal credits
40 CFR 403.12	Annual POTW reports

Findings

As shown in Table 3, 19 POTWs in Puerto Rico (37%) receive wastewater from SIUs and are subject to PRASA's approved pretreatment program. PRASA is the Control Authority for 49 non-categorical significant industrial users (NCSIUs) and 45 categorical industrial users (CIUs). EPA Region 2 does not directly issue permits to any SIUs or CIUs.

Table 3. Puerto Rico SIUs by Pretreatment Program Status

SIU Description	Number of SIU(s) Controlled by an Approved Pretreatment Program (19 POTWs)[1]	Number of SIU(s) Not Controlled by an Approved Pretreatment Program	Total
CIU	45[2]	Unknown	**45**
NCSIU	49	Unknown	**49**
Total SIUs	**94**	**Unknown**	**94**

[1] Data source: PRASA's September 2020 to August 2021 Annual Pretreatment Program Report.
[2] Data source: As identified by PRASA in its September 2020 to August 2021 Annual Pretreatment Program Report.

PRASA is responsible for annually updating the IU inventory for all POTWs through activities such as inspections, newspaper reviews, reviews of new connection requests, and reviews of the PRASA Industrial Development Company Annual Directory. PRASA also completes and submits the annual pretreatment program report to EPA Region 2.

This PQR reviewed four POTW permits issued by Region 2. Two of the POTWS receive wastewater from SIUs and two do not. Table 4 identifies the POTW NPDES permits selected for this topic area.

Table 4. Puerto Rico POTW Permits Selected for Pretreatment Topic Area

Permittee	Permit No.	Approved Program?	Design Average Flow (MGD)	No. of SIUs	No. of Food Processor IUs
Puerto Nuevo RWWTP	PR0021555	Yes[1]	144	12	5
Caguas WWTP	PR0025976	Yes[1]	40	9	1
Ciales WWTP	PR0020427	No	1.5	0	0
Comerio WWTP	PR0025658	No	1	0	0

[1] Puerto Nuevo and Caguas are both subject to PRASA's approved pretreatment program.

EPA also reviewed six IU discharge permits, issued by PRASA for food processors discharging into the two POTWs subject to the approved pretreatment program, to identify whether any IU controls on conventional pollutants (and some non-conventional pollutants, such as phosphorus and ammonia) are being implemented in permits. Table 5 lists these IU permits and monitored pollutants.

Table 5. Summary of Puerto Rico IU Discharge Permit Conditions

Facility Name	Permit Number	Receiving POTW Plant[1]	Type of Food Processor	Classification by PRASA	Average Process Wastewater Discharge (gallons per day [gpd])[2]	Monitored Pollutants[3]
Industria Lechera de Puerto Rico, Inc. (Indulac)	GDA-088-104-014	Puerto Nuevo	Dairy Products Processing	40 CFR 405 Subparts B, D, F, I, and J[4]	157,710	O&G, Ar, Be, BOD_5, Cd, CN, Zn, Cu, Cr, Toxic phenols, flow, Hg, Ni, N, pH, Ag, Pb, Se, TSS, Tl, Temp, Flash point, TTO
Marvel International, Inc. DBA Marvel Specialties, Inc.	GDA-10-701-006	Puerto Nuevo	Sausages and other prepared meat products	40 CFR 432 Subpart E[4]	676	O&G, Ar, Be, BOD_5, Cd, CN, Zn, Cu, Cr, Toxic phenols, flow, Hg, Ni, N, pH, Ag, Pb, Se, TSS, Tl, Temp, Flash point
Northwestern Selecta/NU Meat Packing, Inc.	GDA-15-107-001	Puerto Nuevo	Preparation, storage and distribution of meat	40 CFR Part 432, Subparts E and F[4]	5,943	O&G, Ar, Be, BOD_5, Cd, CN, Zn, Cu, Cr, Toxic phenols, Hg, Ni, N, pH, TTO, Ag, Pb, Se, TSS, Tl, Temp, Flash point

Facility Name	Permit Number	Receiving POTW Plant[1]	Type of Food Processor	Classification by PRASA	Average Process Wastewater Discharge (gallons per day [gpd])[2]	Monitored Pollutants[3]
Suiza Dairy Corporation	GDA-88-106-013	Puerto Nuevo	Milk, milk byproducts, and fruit beverages	40 CFR Part 404, Subparts A and B[4]	55,000	O&G, Ar, Be, Cd, CN, Zn, Cu, Cr, BOD_5, Toxic phenols, flow, Hg, Ni, Hg, TTO, Ph, Ag, Pb, Se, TSS, Tl, Temp, Flash Point
Vaqueria Tres Manjitas, Inc	GDA-88-104-004	Puerto Nuevo	Milk, milk byproducts, and fruit beverages	40 CFR Part 404, Subparts A and B[4]	75,000	O&G, Ar, Be, Cd, CN, Zn, Cu, Cr, BOD_5, toxic, phenols, flow, Hg, Ni, TTO, pH, Ag, Pb, Se, TSS, Tl, Temp, Flash Point
Procesadora La Hacienda	GDA-16-613-003	Caguas	Meat Packing	40 CFR 432, Subpart E, Existing Source[4]	12,800	O&G, As, BOD_5, Cd, CN, Zn, Cl, Cu, Cr6, Cr, Toxic Phenols, Mn, Hg, Ni, pH, Ag, Pb, Se, TDS, TSS, Surfactants, Temp, Flash Point

[1] No food processing IUs were identified for Ciales or Comerio.
[2] Based on information included in the POTW's NPDES permit application or the IU permit.
[3] Includes parameters identified in the permit with numerical discharge limits or monitoring only requirements.
[4] PRASA incorrectly classified these SIUs as CIUs. However, the categorical standards listed do not have limits for indirect dischargers, and these facilities should be classified as non-categorical SIUs.

Materials reviewed included the POTW permit application, the current permit and fact sheet, the response to comments for the current permit, PRASA's current SUO, the most recent

pretreatment program annual report, any previous audit or inspection results, and the IU permits and fact sheet.

These materials, supplemented by research using EPA's ICIS-NPDES and Enforcement and Compliance History Online (ECHO) databases and other online resources, suggest that food processors make up 29 percent (6 out of 21) of the SIUs in the program reviewed as part of this PQR (as shown in Table 3). There are currently no federal categorical pretreatment standards for food processors. The four POTW permits reviewed were selected based on a review of data retrieved from ECHO and ICIS-NPDES databases, the annual report submitted to Region 2, and discussions with state and local officials.

PRASA has one SUO and one set of local limits for all POTWs covered by its pretreatment program. Local limits have been developed for the parameters BOD_5, cadmium, chromium, copper, cyanide, lead, manganese, mercury, nickel, O&G, pH, phenols, selenium, silver, TSS, and zinc.

Insufficient monitoring (non-representative sampling) of a potentially inconsistent-quality IU discharge could prevent a POTW from detecting and expeditiously reacting to influent quality changes. To evaluate whether IU permit requirements supported timely detection of changes in IU discharges, EPA compared IU permit effluent limitations and monitoring frequencies with the effluent limitations and monitoring requirements in the NPDES permits for the receiving POTWs (Table 6). The permits for both POTWs have conditions for most food-related pollutants (all except oil and grease), either in the form of numeric limits or monitor-only requirements.

Table 6. Puerto Rico POTW and IU Discharge Permit Conditions

IU and Receiving POTW	Pollutant Monitoring Frequency and Limit[1]									
	Total P		Ammonia		BOD		TSS		O&G	
	frequency	limit	frequency	limit	frequency	limit	frequency	limit	frequency	limit
Puerto Nuevo										
Puerto Nuevo Regional Wastewater Treatment Plant (RWWTP)	N/A	N/A	N/A	N/A	2/week	117 mg/L MA; 35,465 kg/day MA; 70,930 kg/day WA; 30% removal MA	2/week	68 mg/L MA; 24,460 kg/day MA; 40,920 kg/day WA; 60% removal MA	Monthly	N/A
Industria Lechera de Puerto Rico, Inc. (Indulac)	N/A	N/A	N/A	N/A	Monthly	250 mg/L[2]	Monthly	250 mg/L[2]	3/year	50 mg/L
Marvel International, Inc. DBA Marvel Specialties, Inc.	N/A	N/A	N/A	N/A	Monthly	250 mg/L[2]	Monthly	250 mg/L[2]	Monthly	50 mg/L
Northwestern Selecta/NU Meat Packing, Inc.	N/A	N/A	N/A	N/A	Monthly	250 mg/L[2]	Monthly	250 mg/L[2]	Monthly	50 mg/L
Suiza Dairy Corporation	N/A	N/A	N/A	N/A	Monthly	250 mg/L[2]	Monthly	250 mg/L[2]	Monthly	50 mg/L

IU and Receiving POTW	Pollutant Monitoring Frequency and Limit[1]									
	Total P		Ammonia		BOD		TSS		O&G	
	frequency	limit	frequency	limit	frequency	limit	frequency	limit	frequency	limit
Vaqueria Tres Manjitas, Inc	N/A	N/A	N/A	N/A	Monthly	250 mg/L[2]	Monthly	250 mg/L[2]	Monthly	50 mg/L
Caguas										
Caguas WWTP	Monthly	160 ug/L	Monthly	0.57 mg/L	2/week	29 mg/L MA, 45 mg/L WA, 4389.9 kg/day MA, 6812.1 WA, 85% removal MA	2/week	30 mg/L MA, 45 mg/L WA, 4541.4 kg/day MA, 6812.1 kg/day WA, 85% removal MA	2/month	N/A
Procesadora La Hacienda	N/A	N/A	N/A	N/A	Monthly	250 mg/L[2]	Monthly	250 mg/L[2]	Monthly	50.0 mg/L

[1] For this table, not applicable is abbreviated N/A, daily maximum is abbreviated DM, weekly average is abbreviated WA, and monthly average is abbreviated MA.

[2] The IU permits do not contain specific discharge limits, but the values in the table are the threshold for assessing a surcharge.

Program Strengths

POTWs with SIUs

The NPDES permit for Caguas contains effluent limitations for BOD, TSS, and pH based on secondary treatment standards in accordance with 40 CFR 133.102. In accordance with Section 301(h) of the CWA, the NPDES permit for Puerto Nuevo contains effluent limitations for BOD, TSS, and pH based on secondary treatment standards that have been adjusted due to the fact that the RWWTP discharges to the Atlantic Ocean.[4] Both permits also include requirements to monitor and report on TN (the sum of nitrite, nitrate, and total Kjeldahl nitrogen). In addition, the Caguas permit contains limits for TP and ammonia.

The permits for Puerto Nuevo and Caguas require the permittees to implement POTW pretreatment requirements in accordance with the federal General Pretreatment Regulations at 40 CFR Part 403, state, and local laws and regulations, and the approved pretreatment program and any approved modifications. Additionally, the permits include requirements for the identification of SIUs discharging to the POTW, sampling at SIUs, permit renewal timelines, noncompliance remedies, and maintaining adequate resources for implementing the pretreatment program.

Overall, the permits appear to have adequate procedures in place for the POTWs to identify SIUs, including food processors, and PRASA has adequate procedures to issue control mechanisms to control these discharges. Specifically, IU permits contained discharge limits or monitoring requirements for all food-related pollutants (including O&G), enabling the POTWs to appropriately track food processor discharges. Neither POTW appeared to have any issues with POTW performance related to waste from food processors, nor did the food processors reviewed appear to have a history of significant compliance issues.

Both POTW NPDES permit applications correctly identified the food processors as food processing SIUs.

Both POTW NPDES permits required monitoring for multiple forms of nitrogen. In accordance with 40 CFR 122.42(b), both permits also contained appropriate language for the POTW to notify EPA about the introduction of new pollutants from an indirect discharger or changes in the volume or nature of influent from indirect dischargers.

POTWs without SIUs

The NPDES permits for Ciales and Comerio contained effluent limitations for BOD, TSS, and pH based on secondary treatment standards in accordance with 40 CFR 133.102. Both permits also included monitoring requirements for TN, ammonia, and TP.

[4] The Puerto Nuevo NPDES permit was not reviewed for pretreatment requirements under 40 CFR Part 125. EPA does not currently have a PQR checklist for reviewing pretreatment requirements for NPDES permits that have limits adjusted in accordance with Section 301(h) of the Clean Water Act.

Areas for Improvement

POTWs with SIUs

The permits for Puerto Nuevo and Caguas required dischargers to meet the notification requirements of 40 CFR 122.42(b). However, both permits only required notification "when the new introduction of pollutants exceeds 1,000 gallons/day." This does not reflect the language at 40 CFR 122.42(b) which does not have a minimum flow amount for the notification requirement. Additionally, neither permit defined the timeframe for "adequate" notice. While a timeframe for this notification is not required by federal regulations, a timeframe in the permit would improve POTW accountability and permit enforceability.

Both permits required a technical evaluation of local limits as required in 40 CFR 122.44(j)(2)(ii), but did not specify the timeframe for submission of the local limits evaluation. While a timeframe for this notification is not required by federal regulations, a timeframe in the permit would improve POTW accountability and permit enforceability.

In general, the NPDES permit fact sheets for Puerto Nuevo and Caguas contained minimal information about the pretreatment program. They noted that a pretreatment program is required but give no further information. The fact sheets lacked the following:

- The basis for requiring the POTW to implement a pretreatment program. This information is important for documenting the rationale for the POTW's monitoring and sampling requirements. The criteria for requiring a program are found at 40 CFR 403.8(a).
- The approval date for the pretreatment program, or the dates of any program modifications. This information can help ensure that the program has been updated to conform with current federal regulations.
- The date local limits were last evaluated and the date that the current limits were adopted. While the permits do appropriately require a review of the local limits during each permit renewal, permit writers should specify PRASA's most recent local limits submission date in the permit or fact sheet to ensure that the program is adequately evaluating its local limits.
- Discussion of hauled waste. PRASA's SUO appeared to include provisions to accept hauled waste, but there was no indication (in the SUO or fact sheets) which facility(ies) accept hauled waste. However, the permit application for Caguas indicated that the POTW accepts hauled septage waste. The POTW permit fact sheets should include information on any hauled wastes being contributed to the POTWs to inform permit writers of the current pollutant loadings from hauled waste to the POTW and identification of changes in pollutant loadings from hauled waste sources for future permit revisions.
- Identification and characterization of any contributing industrial dischargers (including food processors), and identification of the POTW's organic (conventional) and nutrient

pollutant capacity. A minimal amount of information was provided in the PRASA annual report, but the fact sheet is the appropriate location to describe the basis for POTW pretreatment program requirements, how its effluent limits and monitoring requirements were developed, how the permit writer's RPA assessed if industrial loading exceeds what the POTW can safely accept and treat, and other information. The fact sheet can also document the permit writer's understanding of the pollutant loading from the IUs, whether the IUs are subject to categorical standards, and how appropriate limits were subsequently developed.

POTWs without SIUs

The records for both Ciales and Comerio did not sufficiently discuss hauled waste. The POTW permit fact sheets should include information on any hauled wastes being contributed to the POTW.

Both permits required the POTWs to meet the notification requirements at 40 CFR 122.42(b). However, both permits only required notification "when the new introduction of pollutants exceeds 1,000 gallons/day." This does not reflect the language at 40 CFR 122.42(b) which does not have a minimum flow amount for the notification requirement. Additionally, neither permit defines the timeframe for "adequate" notice. While a timeframe for this notification is not required by federal regulations, a timeframe in the permit would improve POTW accountability and permit enforceability.

Both permits required a technical evaluation of local limits as required in 40 CFR 122.44(j)(2)(ii) if an SIU is identified, but did not specify the timeframe for submission of the local limits evaluation. While a timeframe for this notification is not required by federal regulations, a timeframe in the permit would improve POTW accountability and permit enforceability.

Action Items

Essential	•POTW permits must specify notification of all changes in discharges to the POTW as identified in 40 CFR 122.42(b). •Fact sheets must characterize the industrial loadings to the POTW; list all SIUs and the nature and volume of their wastestreams (per 40 CFR 122.44(j)(1)); characterize hauled wastes; and evaluate the POTW's treatment capacity and the relative contribution by the IUs in order to comprehensively identify type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted, or discharged (40 CFR 124.8(b)(2)).
Recommended	•Fact sheets for POTWs with approved programs should specify the basis for requiring a pretreatment program (see 40 CFR 403.8). •Fact sheets should include the dates of program approval and any program modifications (see 40 CFR 403.8), including the most recent local limits submission date. •POTW permits should specify an "adequate" timeframe to provide the notice after the POTW becomes aware of changes identified in 40 CFR 122.42(b). •POTW permits should specify a timeframe for submittal of a technical evaluation of local limits (see 40 CFR 122.44(j)(2)(ii)).

C. Small MS4 Permit Requirements

Background

As part of this PQR, HQ reviewed Region 2's draft 2022 General Permit for Small MS4s in the Commonwealth of Puerto Rico (PRRR040000) for consistency with the Phase II stormwater permit regulations. The Small MS4 GP was last issued in May 2016, prior to EPA's updates to the Phase II MS4 regulations, which became effective in January 2017. Region 2 has recently decided to make further modifications to the draft permit for consistency with the updated regulatory requirements, and to re-propose the revised draft permit in the near future. Acknowledging Region 2's plans for revising and re-proposing the draft permit, this PQR presents several initial findings from review of the current draft permit.

EPA recently updated the small MS4 permitting regulations to clarify: (1) the procedures to be used when coverage is by general permits (see 40 CFR 122.28(d)); (2) the requirement that the permit establish the terms and conditions necessary to meet the "MS4 permit standard" (i.e., "to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act"), including conditions to address the minimum control measures, reporting, and, as appropriate, water quality requirements (see 40 CFR 122.34(a) and (b)); and (3) the requirement that permit terms must be established in a "clear, specific, and measurable" manner (see 40 CFR 122.34(a)). These updates are referred to as the MS4 General Permit Remand Rule.[5]

[5] https://www.gpo.gov/fdsys/pkg/FR-2016-12-09/pdf/2016-28426.pdf

Program Strengths

There are a number of provisions in the draft permit that are noteworthy for the use of clear, specific, and measurable conditions.

The Illicit Discharge Detection and Elimination (IDDE) Program requirements specify in Part 2.4.4.2.c that the period between identification and elimination of illicit discharges is not considered a grace period, and that an illicit discharge to the MS4 remains a permit violation until it is eliminated. Similar language is included in the IDDE section for sanitary sewer overflow (SSO) discharges to the MS4 in Part 2.4.4.4.a. Part 2.4.4.6.a prescribes elements to be included in the storm sewer system map beyond the minimum outfalls and receiving waters that are required in the regulations. Additional mapping elements include pipes, open channel conveyances, catch basins, manholes, flood control pump stations, interconnections with other MS4s, municipally-owned stormwater treatment structures, catchment delineations, and impaired waterbodies. The draft permit categorizes these mapping elements by those that are required to be included in the storm sewer system map, elements that are required where available, and recommended elements to facilitate the identification of key infrastructure and factors influencing proper system operations. The IDDE section also includes a number of specific deadlines (e.g., Parts 2.4.4.4.b, 2.4.4.6, 2.4.4.7, and 2.4.4.8) for specific activities that establish minimum elements for compliance oversight.

The Construction Site Stormwater Runoff Control requirements include a noteworthy requirement in Part 2.4.5.3.d relating to site plan reviews indicating that the MS4's site plan review procedures may only approve plans that are consistent with EPA's CGP. This requirement is a good example of a clear, specific, and measurable condition because it establishes a minimum standard by which site plans are to be assessed. The requirements for Pollution Prevention and Good Housekeeping for Municipal Operations include several noteworthy provisions, particularly Part 2.4.7.1.d.2, which establish requirements for routine inspections, cleaning, and maintenance of catch basins based on when the catch basin sump is more than 50 percent full.

The draft permit's inclusion of specified requirements for non-conventional MS4s in Parts 4.0, 5.0, and 6.0 is noteworthy. These provisions recognize that differences in legal authority from traditional MS4s could prevent these non-conventional dischargers from enforcing aspects of their program. The draft permit and fact sheet outline options that non-conventional MS4s have for enacting/enforcing ordinances, by-laws, and other regulatory mechanisms. These options include relying on EPA, DNER, and/or other Commonwealth of Puerto Rico/federal offices for enforcement assistance; enacting alternative mechanisms such as related contract obligations or right-of-way permits; and coordinating with entities that do not have the authority to act. These provisions also include several clear, specific, and measurable requirements related to the establishment of adequate legal authority (Part 2.3.3.2) and to discharges to sensitive waters (Parts 5.5.1, 5.5.2, 6.4.1, and 6.4.2).

Areas for Improvement

As stated above, Region 2 has indicated that it is considering changes to the draft permit in order to further implement the Remand Rule requirements to, among other things, further incorporate the comprehensive general permit approach (40 CFR 122.28(d)(1)). Incorporation of the general permit approach into Region 2's revised draft permit requires, in accordance with 40 CFR 122.28(d), that the permit (or associated fact sheet) explicitly indicate that comprehensive general permit approach is being implemented. Additional changes that are necessary to comply with the comprehensive general permit approach include incorporation of additional clear, specific, and measurable conditions for key permit requirements. EPA HQ will work with Region 2-Puerto Rico's permitting program on these revisions and will evaluate the reissued permit in any future PQR of the program.

Action Items

Essential	•Reissued MS4 permit must clearly identify that it is implementing the Remand Rule's comprehensive general permit approach and must ensure the permit is consistent with the requirements for that approach (40 CFR 122.28(d)).
Recommended	•The PQR did not identify any recommended action items for this section.

V. REVIEW OF PROGRESS ON ESSENTIAL ACTION ITEMS FROM LAST PQR

A PQR of the Region 2-Puerto Rico NPDES permitting program was conducted in October 2014. As discussed previously, a draft report was developed but not finalized. No action items from the previous PQR are being reviewed.

VI. RECOMMENDED ACTION ITEMS FROM LAST PQR

A PQR of the Region 2-Puerto Rico NPDES permitting program was conducted in October 2014. As discussed previously, a draft report was developed but not finalized. No action items from the previous PQR are being reviewed.

VII. ACTION ITEMS FROM FY 2018–2022 PQR CYCLE

This section provides a summary of the main findings of the PQR and provides proposed action items to improve the Region 2-Puerto Rico NPDES permitting program, as discussed throughout sections III and IV of this report.

The proposed action items are divided into two categories to identify the priority that should be placed on each Item and facilitate discussions between Regions and states.

- **Essential Actions -** Proposed "Essential" action items address noncompliance with respect to a federal regulation. The permitting authority is expected to address these action items in order to come into compliance with federal regulations. As discussed earlier in the report, prior PQR reports identified these action items as Category 1. Essential Actions are listed in Table 3 below.
- **Recommended Actions -** Proposed "Recommended" action items are recommendations to increase the effectiveness of the state's or Region's NPDES permit program. Prior reports identified these action items as Category 2 and 3. Recommended Actions are listed in Table 4 below.

Table 7. Essential Action Items from FY 2018-2022 PQR Cycle

Topic	Action(s)
Permit Application Requirements	• Ensure that permit renewal applications are received at least 180 days prior to permit expiration, consistent with 40 CFR 122.21(d). • Ensure that permit renewal applications for non-POTWs are complete, including effluent testing data required by 40 CFR 122.21(g)(7). • Ensure that permit renewal applications for POTWs are complete, including effluent testing data required by 40 CFR 122.21(j)(4)(iii). • Ensure non-POTWs that discharge only nonprocess wastewater submit application Form 2E (40 CFR 122.21(a)(2)(i)(F)).
TBELs for POTWs	Numeric effluent limitations for BOD_5 in municipal permits must be consistent with secondary treatment standards (40 CFR Part 133) or fact sheets must provide a clear explanation of the basis for an alternate effluent limitation (40 CFR 124.56).

TBELs for Non-POTW Dischargers	• Ensure that permit writers determine appropriate effluent limitations for privately-owned treatment works and other non-municipal discharges for which ELGs do not exist, by conducting an analysis based on BPJ, consistent with 40 CFR 125.3(d). • Fact sheet must contain a clear discussion for non-POTWs subject to ELGs regarding ELG applicability (or why a seemingly applicable ELG does not apply) (40 CFR 124.56). • Fact sheets must document the determination of and basis for effluent limitations based on BPJ (40 CFR 124.56).
Reasonable Potential and WQBELs	• Fact sheets must contain any calculations or other necessary explanation of the derivation of WQBELs, including RPA (40 CFR 124.56). • Region 2, as the permitting authority, must develop WQBELs, where applicable, consistent with 40 CFR 122.44(d)(1).
Final Effluent Limitations and Documentation	• For continuous non-POTW dischargers, all effluent limitations must be stated as both maximum daily and average monthly discharge limitations consistent with 40 CFR 122.45(d). • When permits do not express an effluent limitation as both a short-term and long-term limitation, provide documentation about why expressing the limit in both forms is impracticable, per 40 CFR 122.45(d). • Address anti-backsliding in the rationale for all permits where a permit condition is being removed or relaxed and provide specific application of regulatory exceptions to anti-backsliding (40 CFR 124.8(a) and 124.8(b)(4)).
Monitoring and Reporting Requirements	• Permits must require use of sufficiently sensitive EPA-approved analytical methods, consistent with 40 CFR 122.44(i)(1)(iv). • Region 2, as the permitting authority, must establish monitoring conditions consistent with 40 CFR 122.44(i) and 40 CFR 122.48(b).
Administrative Process	In instances where multiple permits are included in one public notice, the public notice must include all the contents required at 40 CFR 124.10(d), including the address of the applicant (40 CFR 124.10(d)(ii)), a brief description of the business or activities conducted at the permitted location (40 CFR 124.10(d)(iii)), and a general description of the location of each discharge point (40 CFR 124.10(d)(vii)) for each permit included in the notice.
Nutrients	• For permits with nitrogen monitoring, ensure that monitoring is required for all nitrogen forms that comprise TN (i.e., nitrate-nitrogen, nitrite-nitrogen, ammonia-nitrogen, and organically bonded nitrogen), or monitoring for TN, to evaluate

	whether the discharge demonstrates reasonable potential result in an excursion above Puerto Rico's WQS for TN. • Include sufficiently detailed discussion in the fact sheet (40 CFR 124.56) on whether RPAs were conducted for nutrient parameters and discuss the outcomes, to ensure limits are included for all necessary nutrient parameters (40 CFR 122.44(d)).
Pretreatment: Food Processing Sector	• NPDES POTW permits must specify notification of all changes in discharges to the POTW as identified in 40 CFR 122.42(b). • Fact sheets must characterize the industrial loadings to the POTW; list all SIUs and the nature and volume of their wastestreams (per 40 CFR 122.44(j)(1)); characterize hauled wastes; and evaluate the POTW's treatment capacity and the relative contribution by the IUs in order to comprehensively identify type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, disposed of, injected, emitted, or discharged (40 CFR 124.8(b)(2)).
Municipal Separate Storm Sewer Systems (MS4s)	Reissued permit must clearly identify that it is implementing the Remand Rule's comprehensive general permit approach and must ensure the permit is consistent with the requirements for that approach (40 CFR 122.28(d)).

Table 8. Recommended Action Items from FY 2018-2022 PQR Cycle

Topic	Action(s)
Facility Information	• Ensure that facility descriptions are accurate, particularly concerning the distinction between POTWs, PrOTWs, and other non-POTW facilities. • Consider including specific stream segment or location within the receiving stream where the discharge occurs to ensure appropriate identification of stream characteristics and impairments.
Final Effluent Limitations and Documentation	• Fact sheets should discuss the basis for revision in effluent limitations, such as average monthly limits (AML) in the previous permit and maximum daily limits (MDL) in the reissued permit. • Fact sheets should contain documentation that the final effluent limitations are protective of both technology and water quality standards. The approach to compare TBEL and WQBEL limits and select the most stringent as the final limit should be consistently documented.

Monitoring and Reporting Requirements	Continue making updates to boilerplate permit language to ensure that permits require electronic reporting of DMRs in accordance with 40 CFR 127.16.
Administrative Process	Consider providing a direct web link to Region 2's public notice page rather than to the Region's permitting page.
Administrative Record and Fact Sheet	• Improve file sharing protocols to ensure that permit development supporting information is routinely added to the permit record. • Ensure that complete application data are maintained with application records. • Consider including more specific facility and permit information on how the Region's analyses related to environmental justice and climate change impacts affected permit conditions.
Nutrients	• Fact sheets should address data reported in the application, especially when the data indicate the facility has exceeded existing effluent limitations and applicable water quality criteria.
Pretreatment: Food Processing Sector	• Fact sheets for POTWs with approved programs should specify the basis for requiring a pretreatment program (see 40 CFR 403.8). • Fact sheets should include the dates of program approval and any program modifications (see 40 CFR 403.8), including the most recent local limits submission date. • POTW permits should specify an “adequate” timeframe to provide the notice after the POTW becomes aware of changes identified in 40 CFR 122.42(b). • POTW permits should specify a timeframe for submittal of a technical evaluation of local limits (see 40 CFR 122.44(j)(2)(ii)).