

FINAL

Region 4 NPDES Program and Permit Quality Review

FLORIDA

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EPA Region 4
61 Forsyth St SW
Atlanta, Georgia 30303

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Executive Summary

The Environmental Protection Agency (EPA) Region 4's National Pollutant Discharge Elimination System (NPDES) Program's Permit Quality Review (PQR) for Florida found that permits issued in the state were of sufficient quality and consistency to support and uphold the intent and resources of the NPDES permit program. The PQR supplements the EPA's routine review of Florida's draft NPDES permits during the issuance process. The EPA's routine review of draft permits is referred to as "real time review".

The PQR examined nine individual permits issued by the Florida Department of Environmental Protection (FDEP) from municipal utilities or Publicly Owned Treatment Works (POTWs) and industrial facilities. In addition, the PQR evaluated the state's Municipal Separate Storm Sewer System (MS4) Stormwater Phase II General Permit by reviewing two small MS4s programs covered by that permit, as well as two pretreatment permits issued to significant industrial users (SIUs). The permit review focused on several national and regional priority areas including:

- Permit controls for nutrients in non-Total Maximum Daily Limits (TMDL) waters,
- Effectiveness of POTW NPDES permits with food processor contributions
- Small MS4 permit requirements
- Wastewater reuse and ultra-violet (UV) disinfection

The PQR identified five areas for permit quality improvement that are categorized as "essential". The EPA identified 11 other areas for permit improvement that are categorized as "recommended". A summary of the recommended and essential findings of this PQR are found in Section VIII of this report (pp. 37-39). The EPA and FDEP will continue to work together to strengthen permit language and documentation in state NPDES permits. The EPA discussed all action items identified in the report with FDEP on April 26, 2019 and portions of this document reflect comments and feedback the EPA received from FDEP. The state agreed with many of the draft PQR's findings and committed to take action to address many of the proposed action items. Several of the recommended actions to improve the review of permit applications are underway.

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I. PQR BACKGROUND

The NPDES PQRs are an evaluation of a 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 the NPDES regulations. Through this review mechanism, the 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. The EPA conducted a previous PQR of the Florida NPDES permitting program on May 6, 2013. The previous PQR report is available at: <https://www.epa.gov/sites/production/files/2015-09/documents/srf-rd3-rev-fl.pdf>.

The 2013 PQR report included proposed action items to improve the Florida NPDES permitting program. As part of the current PQR, the EPA requested updates from Florida on progress made towards addressing previous action items. Of the five action items identified during the previous PQR as being Essential¹ tasks, four have been resolved and the last one is an action the state is still addressing. Also, the previous PQR identified 20 Recommended action items to improve Florida's program, many of which Florida has implemented. Sections VI and VII of this report contain a detailed review of the progress on action items identified during the last PQR.

During this review, the evaluation team proposed action items to improve Florida's NPDES permit program. The proposed action items are identified within Sections II, 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 the region and state.

- **Essential Actions** - "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.¹
- **Recommended Actions** – "Recommended" action items are recommendations to increase the effectiveness of the state's NPDES permit program.

Essential findings augment the existing list of "follow up actions" currently tracked by the EPA on an annual basis. These will be reviewed during subsequent PQRs.

Three members of the NPDES Permitting Section from the EPA Region 4 made up the review team. The PQR was conducted at FDEP's main office in Tallahassee, Florida on February 26 -27, 2018. The process continued February 28 - March 1, 2018, at FDEP's Northwest District office in Pensacola, Florida.

The Florida PQR included reviews of core permit components and national topic areas, as well as discussions between the PQR review team and FDEP staff addressing their program status and permit issuance process. The permit reviews focused on core permit quality and included a

¹ During the 2012-2017 PQR cycle, these action items were known as "Category 1" and address deficiencies or noncompliance with respect to federal regulations. The EPA is now referring to these action items going forward, as Essential. In addition, previous PQR reports identified recommendations as either "Category 2" or "Category 3" action items. The EPA is now consolidating these categories of action items into a single category: Recommended.

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 involved conversations between the EPA and the state on program status, the permitting process, responsibilities, organization, staffing, and program challenges the state is experiencing.

A total of 14 active permits were selected and reviewed as part of this PQR:

NPDES No.	Permit Name
FL0037966	Iron Bridge WRF (Reuse/UV)
FL0033251	Altamonte Springs WWTF (Reuse/UV)
FLR04E011	Daytona Beach MS4
FLR04E026	Indian Harbour Beach MS4
FL0040436	City of St. Petersburg (Pretreatment)
Industrial User permits	Captain's Fine Foods, LLC, and Bama Sea Products, Inc.
FL0031801	ECUA-Bayou Marcus
FL0024007	Emerald Coast Utilities Authority
FL0000655	PCS Phosphate - White Springs
FL0023981	Santa Rosa County, Navarre Beach Division
FL0025984	Daytona Beach, City of
FL0000043	Tropicana Manufacturing Co., Inc.
FL0105619	Cultrale Citrus Juices USA, Inc

All permits received a core review; nine permits were reviewed for the national topic areas; and two permits were reviewed for the regional topic area of nutrients. Two permits specific to the MS4 program were reviewed. One POTW permit was reviewed for the Food Processing/Pretreatment National Topic area with two associated industrial-user pretreatment permits evaluated. Two permits were selected to review water reuse activities with UV disinfection. All the reviewed permits were issued within the previous five-calendar years and reflected current permitting practices. FDEP provided all documents electronically in advance of the PQR visit via the state's electronic data system called "OCULUS".

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 the permit writers and the FDEP managers regarding the permit development process. The core review focused on the *Central Tenets of the NPDES Permitting Program*² to evaluate the Florida NPDES program. Core topic area permit reviews are conducted to evaluate similar issues or types of permits in all states.

Topic Area Reviews

The national topics reviewed in the Florida NPDES program were: Permit controls for nutrients in non-TMDL waters; Effectiveness of POTW NPDES permits with food processor contributions; and Small MS4 permit requirements.

Regional topic area reviews target regionally specific permit types or aspects of permits. The regional topic area selected by the EPA was a review of permitting requirements for wastewater reuse and UV disinfection. This regional topic area provides important information to Florida, the EPA Region 4, the EPA Headquarters, and the public on specific program areas.

II. STATE PERMITTING PROGRAM GENERAL OVERVIEW

1. Program Structure

The FDEP's main office is in Tallahassee, Florida. From the Tallahassee office, FDEP's Division of Water Resource Management (DWRM) staff oversee and administer the NPDES permitting program under 40 C.F.R. § 123 in accordance with the CWA Section 402, and the Memorandum of Agreement signed with EPA on November 30, 2007.

The FDEP main office issues individual NPDES permits for steam electric power generating facilities, individual and general MS4 permits, the Multi-Sector General Permit (MSGP) for industrial stormwater, the Construction General Permit (CGP), and a general permit for pesticide applications. This office also administers the Concentrated Animal Feeding Operations (CAFOs) program, and the development of program rule(s) and oversight and application of the

² <https://www.epa.gov/npdes/central-tenets-npdes-permitting-program>

Pretreatment and Reuse programs. Florida is a Cross-Media Electronic Reporting Rule (CROMERR) authorized state.

All remaining municipal and industrial wastewater permitting activities are conducted from FDEP's six district offices located throughout the state. These offices also perform NPDES permit compliance monitoring, inspection, and enforcement activities. Florida does not have CWA Section 503 delegation and implements its own biosolids and sludge disposal regulations.

Training is conducted by senior staff from the Tallahassee office on a number of permitting topics. The state is recording webinar trainings so that an electronic library of permit writer training topics is available to staff on demand.

2. Universe and Permit Issuance

The EPA determined the universe of active state-issued permits at the time of the on-site permit quality review. FDEP administers 669 individual NPDES permits, including 175 permits for POTWs (94 major permits and 81 minor permits), and 263 permits for non-municipal facilities (81 major permits and 182 minor permits; 59 CAFO permits). In addition, FDEP administers stormwater general permits that cover municipal, industrial, and construction permittees.

The FDEP has four NPDES non-stormwater general permits that address approximately 1,626 dischargers. The state has an electronic Interactive Notice of Intent system to issue coverage under their storm water general permits. The FDEP General Permit for Discharge of Stormwater from Phase II MS4s had 147 active permittees at the time of the site review. These are identified by a Notice of Coverage (NOC) for tracking purposes. The Multi-Sector General Permit for Stormwater Discharge Associated with Industrial Activity (MSGP) had 2,496 active overages at the time of the review. There are general permits for stormwater discharge from large and small construction activities, which totaled 13,657 NOCs. Finally, the state reported 988 No Exposure Certifications for Exclusion from NPDES Stormwater Permitting.

Significant industries within Florida include: mining (phosphate, limestone, sand, certain metals), building construction and construction materials, fertilizer manufacturing, pulp and paper and associated products, wood preserving, electric power services, concrete products, fruit and vegetable processing, beverage production, meat and seafood processing, dairy farming and dairy products, and other industries. FDEP estimated at the time of the PQR that the overall backlog of domestic and industrial NPDES permits was 17 major permits (two stormwater and 15 wastewater), and three non-major wastewater permits. There was one industrial wastewater facility covered by a general permit (Concrete Batch Plants) that had not renewed coverage at the time of the PQR. Florida has steadily maintained a backlog of about 10 percent. FDEP's permitting delays are typically due to application coordination and completeness. Other noted delays are permit specific.

FDEP permits cover other aspects of FDEP's programs such as deep well injection and reuse. This procedure makes it easier for the permittee and FDEP so that other permitting programs

(outside of NPDES) are fully integrated and covered. Any reuse system that has an ultimate discharge to surface waters of the state also has a NPDES permit that prescribes effluent limits and monitoring and reporting requirements. A database of these reuse permits is available on the internet.

Specific permit development is supported by FDEP's Wastewater Permit Builder. Wastewater Permit Builder is an online application used by permitting staff to generate permit documents, including the permit, legal notices, fact sheets, amended fact sheets, and discharge monitoring reports. Wastewater Permit Builder helps facilitate accurate, uniform, and consistent permits across District permitting offices by utilizing a common set of permit conditions that can be modified to include specific permit conditions and monitoring requirements.

The FDEP permitting staff uses their Wastewater Facility Regulation (WAFR) database to track permitting and compliance and enforcement information, for both NPDES and state programs. Specific permitting actions (PAs), are tracked using the WAFR/PA section in the database. The Compliance and Enforcement Tracking System, which is part of WAFR, is used to track compliance and enforcement activities. Additional information management systems used by FDEP includes a TMDL Tracker program, and a Pretreatment Program Tracking System. The FDEP uploads state NPDES permitting data into the federally supported Integrated Compliance Information System (ICIS) database. All FDEP issued permits require the utilization of an electronic DMR (eDMR) reporting system in compliance with the Federal E-Reporting regulations. Monitoring requirements from WAFR are loaded into eDMR and monitoring data received from permittees and others is up-loaded into the ICIS database.

New to the FDEP data systems is a wide variety of interactive Geographic Information System mapping applications on CWA/NPDES-related topics. These are used to support NPDES permit development and implementation. These applications apply to the Numeric Nutrient Criteria (NNC) Tracker, Watershed Information Network (WIN 303d), assessment and TMDL mapping, and other water quality monitoring locations and data. These mapping applications help assure that FDEP staff can quickly locate information and data relevant to wastewater and stormwater permitting. These applications are available to the public and the EPA on FDEP's NPDES website (<https://www.epa.gov/npdes-permits/florida-npdes-permits>).

Enterprise Self-Service Authorizations (ESSA) is an intranet-based application that allows applicants to submit online requests for coverages under most of the states' general permits (GP). The ESSA system currently allows electronic requests for Stormwater-Construction General Permits (CGP), MSGPs, and Industrial Wastewater General Permit (IWGP) coverage for dewatering.

The FDEP has an extensive Quality Assurance/Quality Control (QA/QC) process. Draft permit documents for major wastewater facilities, demineralization concentrate or reverse osmosis facilities, and other facilities required to develop pretreatment programs, and CAFOs are reviewed in the Tallahassee office by qualified staff. Checklists are used in the QA/QC process. Tallahassee staff use a consistent QA/QC process for each permit they review and issue.

However, each district office may apply a slightly different, yet approved internal QA/QC process.

3. Current State Initiatives

The FDEP is developing or implementing the following state initiatives that will strengthen the permitting program:

- incoming documents (e.g. DMRs and permit applications) are uploaded to OCULUS. The Department maintains current and historic NPDES administrative records including copies of permits, correspondence, monitoring and reporting records (e.g. DMRs) and compliance-related documents in the OCULUS electronic storage and retrieval system.
- OCULUS can be accessed via the Department's internet site³ by staff and the public, or directly via various public internet search engines without going through the FDEP website.
- The Department also operates and maintains the Electronic Discharge Monitoring Report System (EzDMR), a secure web-based information system that allows wastewater facilities to electronically submit their DMRs to the Department. By offering several streamlined reporting options, EzDMR offers significant labor savings for both the Department and the regulated community and improves the accuracy of compliance data by helping to eliminate data entry errors. EzDMR is CROMERR compliant and consistent with the federal e-Reporting rule.

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 C.F.R. § 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.

FDEP develops and administers NPDES permits pursuant to applicable regulations and its Permit Writer Manual (PWM). FDEP uses its own NPDES permit applications forms, which are consistent with EPA forms. Each district sends out permit renewal reminder letters to facilities located in their district. FDEP staff process the applications and a permit writer familiar with the facility processes is assigned to write the permit.

³

https://depdms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&%5bguid=38.557482.1%5d&%5bprofile=Permitting_Authorization

Basic facility information is described well in Florida’s NPDES permits and fact sheets including:

- a description of the facility in the fact sheet, and in the notice to issue the permit;
- a description of processes or services conducted by the facility (including if the facility is an existing or new source);
- identification of outfalls and description of waste streams associated with each permitted outfall; and
- location information relative to receiving waters.

Program Strengths

Overall, FDEP provides very clear directions to permittees regarding their responsibilities to provide facility information as required in applications. FDEP has taken great care to duplicate the requirements of the federal permit applications in their NPDES permit program.

Areas for Improvement

None.

Action Items

Essential	• None
Recommended	•None

2. Permit Application Requirements

Background and Process

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

Program Strengths

Notable improvements to FDEP’s permitting program since the Cycle 1 PQR include the notice documents, permit, fact sheet, and DMR templates that are programmed into the Department’s Wastewater Permit Builder application, which automatically generates facility-specific draft permit documents. To generate these documents, Permit Builder relies on information entered directly into Permit Builder by the permit writer, as well as data already stored in the FDEP’s WAFR database.

Areas for Improvement

No areas for improvement were noted.

Action Items

Essential	•None
Recommended	•None

B. Developing Effluent Limitations

1. Technology-based Effluent Limitations (TBELs)

40 C.F.R. § 125.3(a) requires 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 Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), pH, and percent pollutant removal), and must contain numeric limits for these parameters (or authorized alternatives) in accordance with the secondary treatment regulations at 40 C.F.R. § 133. For this PQR, six permits were reviewed to evaluate application of TBELs for POTWs in Florida.

Program Strengths

The Department’s Wastewater Permit Builder, which automatically generates facility specific draft permit documents, is continuously updated and revamped. This system saves time and increases consistency among the district permit writers.

Areas for Improvement

Two permits (FL0031801 ECUA Bayou Marcus WRF and FL0024007 ECUA Pensacola Beach WWTP) cite the Florida regulation in place of the numeric value as the basis for effluent limits. The permit writers should ensure that permit documentation includes calculations of TBELs. In addition, percent removal criteria for BOD and TSS were not included for advanced wastewater treatment (AWT) facilities, and no explanation was provided in the rationale. The permits should explain why AWT provides more stringent removal treatment, negating the need for percent removal criteria for BOD and TSS of 85 percent as effluent limits. This issue was identified in the previous PQR.

Action Items

- | | |
|-------------|---|
| Essential | <ul style="list-style-type: none"> • Provide discussion of removal criteria (85 percent) for BOD and TSS at final discharge point(s) for facilities with or without AWT. (40 CFR 133.105 and 133.101(g)) |
| Recommended | <ul style="list-style-type: none"> • Ensure that permit documentation includes calculations of TBELs. |

TBELs for Non-POTW Dischargers

Background and Process

Permits issued to non-POTWs must require compliance with a level of treatment performance equivalent to Best Available Technology Economically Achievable (BAT) or Best Conventional Pollutant Control Technology (BCT) for existing sources, and consistent with New Source Performance Standards (NSPS) for new sources. Where federal Effluent Limitation Guidelines (ELGs) have been established for a category of dischargers, the TBELs in a permit must reflect 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 C.F.R. § 125.3(d). For Florida, Section 6.4.2 of the PWM describes how TBELs are established for industrial wastewater facilities. Industrial wastewater ELGs are established by EPA in 40 C.F.R. § 400-471 and the state has adopted 51 of these guidelines under Rule 62-660.400, F.A.C.

Program Strengths

FDEP has well documented their process for consideration of TBELs in their PWM.

Areas for Improvement

The permit FL0000043 (Tropicana Manufacturing Co., Inc.) did not recognize the ELG criterion for total nitrogen (TN). Because the application did not provide production data, there was no basis to determine TBELs or to include any BPJ criteria for any pollutant.

In another industrial permit (FL0105619-Cultrale Citrus Juices USA, Inc.) the facility is subject to 40 C.F.R. subpart C Citrus Products, but these ELGs are not applied.

Action Items

Essential	<ul style="list-style-type: none"> •When applicable, address pollutants of concern associated with an ELG and include limits for these pollutants in the permit (40 CFR 125.3(a) and 40 CFR Part 407, Subpart C, §407.30).
Recommended	<ul style="list-style-type: none"> •None

2. Reasonable Potential and Water Quality-Based Effluent Limitations

Background

40 C.F.R. § 122.44(d) requires 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 water quality-based effluent limits (WQBEL), the permitting authority must evaluate whether any pollutants or pollutant parameters cause, have the reasonable potential (RP) to cause, or contribute to an excursion above any applicable water quality standard.

The PQR for Florida 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:

- determined the appropriate water quality standards applicable to receiving waters,
- evaluated and characterized the effluent and receiving water including identifying pollutants of concern,
- determined critical conditions,
- incorporated information on ambient pollutant concentrations,
- assessed [any] dilution considerations,
- determined whether limits were necessary for pollutants of concern and, where necessary,
- calculated limits or other permit conditions when receiving stream has a TMDL.

Process for Assessing Reasonable Potential

The PQR identified that FDEP has transitioned away from a pace driven TMDL development schedule based on meeting consent decree requirements and instead is focused on TMDLs and impaired waters by applying Florida's August 2014 priority framework document available on FDEP's web site. With this document FDEP actively considers nutrient pollution in their permitting decisions and where permit writers have determined that RP exists to cause or

contribute to an exceedance of these criteria, appropriate effluent limits are included in the permit.

Process for Developing WQBELs

FDEP has a two-tiered approach to developing WQBELs. The Level I process is a “desktop” analysis typically used for renewals or new permits when data are sufficient to determine that the receiving water will meet WQS when subject to the discharge. The Level II analysis is used for new permits and for renewals when water quality data are insufficient to evaluate expected impacts.

Program Strengths

FDEP databases are kept up to date with current information and field office personnel use this information in discussions with applicants. FDEP encourages permittees to apply early for permit renewal and meetings are offered to work out any new problems or hold over issues that may be plaguing operations at a facility to encourage better permit compliance.

Areas for Improvement

Several permits lacked clear and concise numeric data with which to re-create the reasonable potential analysis (RPA). Federal regulations at 40 C.F.R. §§ 122.21 and 122.22 specify application requirements for facilities seeking NPDES permits. Florida Administrative Rules found under Chapter 62-620.100, which adopt and incorporate these same rules, require that permit applicants must provide numeric data when submitting applications and claiming reasonable assurance (RA) of no adverse effects to the receiving streams. Since the PQR, FDEP has updated their fact sheets to include new language that addresses this issue. FDEP permit writers use the RA Verification Workbook to evaluate RPA for all parameters detected above the method detection limit (MDL).

The major industrial permit (FL0000655-PCS Phosphate-White Springs) identifies four surface water discharge outfalls, but no limits apply to these surface water outfalls. Limits were imposed on 11 internal outfalls. A local wastewater treatment facility (WWTF) discharges to a surface water pond permitted for this site, which then discharges to waters of the state. During the public comment period, FDEP was asked to add fecal coliform and *Escherichia coli* (*E. coli*) limits or monitoring to this discharge location to ensure they are not causing or contributing to an exceedance of water quality criteria. FDEP responded that they will revise at reissuance. During their review of the draft version of this PQR report, FDEP indicated that the WWTF discharges effluent after secondary treatment that meets WQS for bacteria. Therefore, FDEP didn't include bacteria limits and/or monitoring requirements for discharges from the pond. FDEP agreed that additional documentation in the fact sheet was needed to clarify this issue.

The permittee may be using the settling ponds at active mining sites as a pretreatment processor for their contaminated non-process wastewater. The chemical plant discharges to the receiving stream without additional monitoring. The receiving stream was listed as impaired in the EPA's 303(d) list of impaired waters for low dissolved oxygen (DO) and excess nutrients from

outfall 001 to Swift Creek at the time of the PQR review. These parameters are not included in FDEP’s impaired waters list, which is based on more recent representative data. Monitoring for DO is included in the permit but is not numerically limited. FDEP indicated that a later version of the permit that the EPA did not review as part of the PQR has monitoring and limitations requirements for discharge to Swift Creek from Outfall D-001 including numeric effluent limitations for DO that are consistent with the water quality criterion for %DO saturation in 62-302.533, F.A.C.

Ambient monitoring data presented in the rationale for FL0024007-Emerald Coast Utilities Authority is cited as evidence that the facility’s current nutrient loading does not “appreciably change” ambient nutrient concentrations. This could be better verified through a comparative modeling analysis of its permitted and actual loadings or by implementing end-of-pipe criteria.

The state should provide clearer assessments of any data used for RA and/or RPA presented in their fact sheets.

In response to the PQR, FDEP has included additional documentation of the RPA using the RA Verification Workbook and included it as an attachment to fact sheets in recently issued permits. EPA considers this recommendation to be implemented.

Action Items

<p>Essential</p>	<ul style="list-style-type: none"> •Provide discussion of the CWA 303(d) status of the receiving waters in order to determine if a TMDL is appropriate or not. (40 CFR 130.2(h))
<p>Recommended</p>	<ul style="list-style-type: none"> •Provide clearer assessments of any RA and/or RPA data presented in fact sheets. •Require numeric data in fact sheets for all RP evaluations.

3. Final Effluent Limitations and Documentation

Background and Process

Permits must include all applicable statutory and regulatory requirements, including technology and water quality standards, and must include effluent limitations that ensure that all applicable

CWA standards are met. The permitting authority must identify the most stringent effluent limitations and establish them as the final effluent limitations in the permit. In addition, for reissued permits, if any of the limitations are less stringent than limitations on the same pollutant in the previous NPDES permit, the permit writer must conduct an anti-backsliding analysis and, if necessary, revise the limitations accordingly. In addition, for new or increased discharges, the permitting authority should conduct an antidegradation review to ensure the permit is written to maintain existing high quality of surface waters or, if appropriate, allow for some degradation. The NPDES regulations at 40 C.F.R. § 131.12 outline the common elements of the antidegradation review process.

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

Findings from the previous PQR report for individual permits indicated the need for additional explanation for how final permit limits were determined. In FL0023981 (Santa Rosa County Navarre Beach WWTP) the permit doesn't indicate whether limits are based on TBELs, WQBELs, or other considerations. The fact sheet or permit file should include a comparison of TBELs to WQBELs for each parameter and clearly identify the more stringent of the two.

In one permit (FL0031801-ECUA-Bayou Marcus) references were provided on the procedures to determine the effluent limits, but the fact sheet did not provide any details on how the final limits were determined.

Program Strengths

FDEP provided a demonstration of some of their electronic programs called Permit Builder, a tool designed to assist permit writers with developing individual wastewater permits that are consistent with Florida's rules and statutes, with regard to all permit language and conditions, including final effluent limits. These programs are data intensive and require some time to become proficient, but once mastered provide for faster development of draft permits.

Areas for Improvement

The Permit Builder application should allow the user to add more detail to the fact sheet(s) so that citizens not familiar with the Florida permitting process and laws can understand how all limits and monitoring requirements were derived. Additional clear documentation for selected final limitations would bolster the transparency that the Permit Builder tool supports.

Permit writers should include more specific details pertaining to final determinations for effluent limitations. Several reviewed permits provided limited explanation of how effluent limits were selected in the final permits.

Action Items

Essential	•None
Recommended	•Clarify in fact sheets how limits are derived. Include or reference relevant documentation of the process in the permit file.

C. Monitoring and Reporting Requirements

Background and Process

NPDES regulations at 40 C.F.R. § 122.41(j) require permittees to periodically evaluate compliance with the effluent limitations established in their permits and to 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 C.F.R. § 122.44(i) requires NPDES permits to establish, at minimum, annual reporting of monitoring for all limited parameters sufficient to assure compliance with permit limitations, including specific requirements for the types of information to be provided and the methods for the collection and analysis of such samples. In addition, 40 C.F.R. § 122.48 requires that permits specify the type, intervals, and frequency of monitoring sufficient to yield data which are representative of the monitored activity. The regulations at 40 C.F.R. § 122.44(i) also require reporting of monitoring results with a frequency dependent on the nature and effect of the discharge. 40 C.F.R. § 127 requires NPDES-regulated entities to submit certain data electronically, including discharge monitoring reports and various program-specific reports, as applicable.

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

discuss the basis of a permit requirement mandating use of a sufficiently sensitive Part 136 analytical method.

Program Strengths

All permits reviewed conformed to all monitoring and reporting requirements. FDEP has recently upgraded their electronic database to include more programs and methods for requiring sample collection and mandating use of sufficiently sensitive Part 136 analytical methods in final permits.

Areas for Improvement

None

Action Items

Essential	•None
Recommended	•None

D. Standard and Special Conditions

Background and Process

Federal regulations at 40 C.F.R. § 122.41 require that all NPDES permits, including NPDES general permits, contain certain “standard” permit conditions. Further, the regulations at 40 C.F.R. § 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; best management practices [see 40 C.F.R. § 122.44(k)] or permit compliance schedules [see 40 C.F.R. § 122.47]. Where a permit contains special conditions, such conditions must be consistent with applicable regulations.

FDEP state rules allows compliance schedules in permits. The process by which compliance schedules are evaluated, developed, and implemented in their permits is lengthy and detailed instructions for including compliance schedules are found in the PWM, and in FDEP state rules 62-600, 601, and 620.

All standard conditions are included in the reviewed permits. They are the complete list of standard conditions and are as stringent as federal requirements.

Program Strengths

FDEP’s electronic programs designed to assist permit writers with developing final NPDES permits have prescribed inclusion of standard conditions. FDEP permits include standard permit condition references by rule or statutory basis. The FDEP NPDES standard conditions were last updated on March 23, 2012.

Areas for Improvement

None.

Action Items

Essential	• None
Recommended	• None

E. Administrative Process

Background and Process

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

Program Strengths

FDEP employs a project team approach for complex permitting projects. The project team approach provides a built-in QA/QC process as team members work together.

Areas for Improvement

None.

Action Items

Essential

• None

Recommended

• None

F. Administrative Record and Fact Sheet

Background and Process

The administrative record is the foundation that supports the NPDES permit. If the EPA issues the permit, 40 C.F.R. § 124.9 identifies the required content of the administrative record for a draft permit and 40 C.F.R. § 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;⁴ 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 the EPA issues the permit, any environmental assessment, environmental impact statement, or finding of no significant impact.

Current regulations require that fact sheets include information regarding the type of facility or activity permitted, the type and quantity of pollutants discharged, the technical, statutory, and regulatory basis for permit conditions, the basis and calculations for effluent 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, the 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.

Program Strengths

FDEP recently completed the process of scanning and entering documents into the electronic file system OCULUS. Prior to this, the final administrative record was a paper file located in the district office issuing the permit. Once documents are entered into OCULUS, the final administrative record is stored in OCULUS and is accessible via the internet to anyone at any time.

Areas for Improvement

None.

⁴ Per 40 C.F.R. § 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.

Action Items

Essential	• None
Recommended	• None

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 state PQRs. The national topics 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. Florida is one of the few states in the nation that have promulgated numeric nutrient criteria (NNCs) for streams, lakes, spring vents and selected estuaries. For this section, the EPA reviewed three permits discharging to waters not protected by a TMDL. These waters may already be impaired by nutrient pollution or may be vulnerable to nutrient pollution due to their hydrology and environmental conditions.

The three reviewed permits were all major facilities and included one POTW and two non-POTW facilities. For the POTW permit (FL0023981-Santa Rosa County-Navarre Beach Division) nutrients limits were expressed in terms of TN and total phosphorus (TP) and comply with the state’s numeric nutrient standards. One permit (FL0031801- ECUA-Bayou Marcus) authorized discharge directly into wetlands as part of the state’s reuse strategy. Effluent limits for the discharge were consistent with the level of treatment obtained at the treatment plant. The monitoring frequency for the nutrient parameters was appropriate and consistent with other POTW permits. This permit required groundwater monitoring of the wetlands for total nitrate.

The two non-POTW permits also had effluent limits representing WQBELs. The permits appropriately considered limits for both TN and TP and the frequency of monitoring was consistent with other non-POTW permits.

Program Strengths

Florida is the only state in Region 4 that has promulgated NNC *for streams, lakes, spring vents and selected estuaries* and these are codified in Chapters 62-302 F.A.C. The state established a combined criteria approach to nutrients that integrates causal (nitrogen and phosphorus) and response (chlorophyll-a and biological) parameters into one WQS. Some of the strengths of the FDEP NPDES program are:

- Requirement that all permit writers take NNC implementation training and an annual refresher course on the topic. This training is part of the employees’ development plan. The state has begun recording their NNC trainings and has made them available to all FDEP staff.
- Permitting staff meet monthly with their peers in the Basin Management Action Plan and TMDL groups to discuss nutrient implementation in permits.
- FDEP uses a multiple line of evidence approach to determine whether a stream is impaired with unacceptable levels of nutrients. This approach evaluates water chemistry and biological data (flora and fauna) as well as physical information to determine if a stream’s nutrient concentrations are protective of balanced flora and fauna. Using a weight-of-evidence evaluation, the scenario may exist in which the TN and/or TP thresholds are exceeded but because the flora and fauna measurements are met, the stream is found to be meeting its designated use.
- Nutrient thresholds promulgated into WQS for flowing freshwater streams vary by ecological region across the state and are based on reference streams in those regions. In general, TP criteria range between 0.06 and 0.49 mg/L and TN criteria range between 0.67 and 1.65 mg/L.

Areas for Improvement

None

Action Items

Essential	• None
Recommended	• None

B. Effectiveness of POTW NPDES Permits with Food Processor Contributions

The general pretreatment regulations (40 C.F.R. 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

Indirect discharges of food processors can be a significant contributor to noncompliance at recipient POTWs. Food processing discharges contribute to nutrient pollution (e.g., nitrogen, phosphorus, ammonia) to the nation’s waterways. Focusing specifically on the Food Processing Industrial Sector will synchronize PQRs with the Office of Enforcement Compliance and Assurance’s Significant Non-compliance/National Compliance Initiative.

The goal of the PQR was to identify successful and unique practices with respect to the control of food processor discharges by evaluating whether appropriate controls are included in the receiving POTW’s NPDES permit and documented in the associated Fact Sheet or Statement of Basis; as well as by compiling information to develop or improve permit writers’ tools to be used to improve both POTW and industrial user compliance.

FDEP, in its role as the approval authority, oversees the development and implementation of local pretreatment programs in the state. These local pretreatment programs are developed and implemented in accordance with Chapter 62-625, F.A.C., 403.0885, Florida Statutes (F.S.), and the CWA (33 United States Code, 1251 et seq.).

The EPA reviewed two indirect discharging facility permits discharging to POTWs under industrial user (IU) permits. To identify additional permits to review for this topic, the EPA created a custom query of the ICIS database to find POTWs with food processors by reviewing: data from the EPA’s Enforcement and Compliance History Online and ICIS Pollutant Loading Tool /Toxicity Release Inventory interface databases; annual reports submitted to EPA Region 4 by POTWs with federally approved pretreatment programs; Industrial Chamber of Commerce reports; and directly through discussions with FDEP. Based on the above process the following permit was reviewed.

Municipal NPDES Permit reviewed:

Permittee	Permit No.	Approved Pretreatment Program?	Design Flow (MGD)	No. of SIUs	No. of Food Processors
City of St. Petersburg	FL0040436	Yes	33	17	3

EPA reviewed two significant industrial discharger permits associated with this POTW. They are identified in the table below.

Facility Name	Permit Number	Receiving POTW	Type of Food Processor	Classification by DEP	Average Process Wastewater Discharge (gallons per day)	Monitored Pollutants ⁵
Captain's Fine Foods, LLC	SPFL-31712-SIU-14-124	City of St. Petersburg	Seafood (Shrimp)	SIU	45,000 GPD	FOG, Total Flow, pH, CBOD, COD, As, B, Cd, Cr, Cu, Cn, Pb, Hg, Ni, Se, Ag, Zn, Chloride, (TSS and Mo monitored only.)
Bama Sea Products, Inc.	SPFL-311712-SIU-99-84	City of St. Petersburg	Seafood (Shrimp)	SIU	275,000 GPD	FOG, Total Flow, pH, CBOD, COD, As, B, Cd, Cr, Cu, Cn, Pb, Hg, Ni, Se, Ag, Zn, Chloride, (TSS and Mo monitored only.)

The City of St. Petersburg South Cross Bayou WWTF - (FL0040436) receives food preparation [process] wastewaters from Bama Sea Products, Inc. (SPFL-311712-SIU-99-84). The receiving POTW is designed to treat 33 MGD of domestic and industrial wastewater before it is discharged into Saint Joes Creek in the Lake Seminole (HUC# 031002070505) River Basin. The receiving waters are listed as impaired and noted to need a TMDL. Causes for impairment are listed as nutrients, organic enrichment/oxygen depletion, pathogens and turbidity.

The pretreatment permit indicates there is only one designated outfall for process flow discharges and its permit limits include an extensive list of metals parameters with average daily maximum limits in metric units of micro-grams per liter (ug/L), gallons per day (GPD) for flow and standard units for pH reporting. The permit identifies “Suspended Solids as pollutants of emerging concern that may be regulated by the City in the future and are only being monitored for background purposes”. The limitations for these criteria are based on the parameters TSS, Oil & Grease, and pH at a frequency of a maximum daily limit and a 30-day average limit.

The EPA notes extensive monitoring for metals without information about the source conditions of the process rinse water. The monitored metals include: Arsenic, Boron, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Zinc, and Chloride. The IU is assumed to be using city utility supplied [drinking quality] water which normally does not tend to be a significant source of these pollutants. The IU permit requires numeric effluent limits to be measured at a frequency of an average daily maximum (for one calendar day). In this PQR

⁵ City of St. Petersburg prefers to do all the sampling, monitoring and inspections for its permittees. They charge fees for the service; however they do allow facilities to provide their own sample data.

the EPA is unable to determine how numeric limits for this permit were established. FDEP verified this is the correct receiving POTW, but the IU permit does not specifically identify it. The IU permit does contain the majority of required pretreatment program language. The authorized official signature cannot be verified at this review.

The City of St. Petersburg, South Cross Bayou WWTF - (FL0040436) also receives food preparation [process] wastewaters from Captain's Fine Foods, LLC (SPFL-311712-SIU-14-124). There is only one designated outfall for the process flow discharges and its permit includes the same extensive list of metals parameters included in the other reviewed IU permit.

Captain's Fine Foods, LLC IU permit also indicates that "condensation water from evaporators in blast rooms drain into the front parking lot". These discharges should be covered by an additional industrial stormwater general permit for the industrial stormwater. In addition, the permit specifically identifies on page 4 of 24, a "breeding room" for processing the food product.

Program Strengths

All POTW permits reviewed as part of this PQR contain requirements to implement the general prohibitions established in 40 C.F.R. Section 403.5(a)(1) and (b). The POTW permits state that permittees must operate a POTW pretreatment program in accordance with the federal General Pretreatment Regulations at 40 C.F.R. 403, state and local laws and regulations, and the approved pretreatment program and any approved modifications. All POTW permits contain the requirements for notification and impact assessment of significant changes in industrial flow and character in accordance with 40 CFR 122.42(b).

As part of the PQR review the EPA attempted to identify food processors without an individual NPDES permit or a pretreatment permit. Efforts included creating a query/list of all food processing facilities by Standard Industrial Classification code to find food processing facilities with an individual NPDES permit. FDEP aided in that query search by providing a list of facilities that fit the category, but were covered by permits. Any facility that did not have an individual permit was then checked to see if it was permitted under an industrial pretreatment program from its local authorized POTW. This query was unable to identify any food processing facilities that were not covered under a POTW approved pretreatment program, industrial direct discharge permit, or other individual NPDES permit(s).

Areas for Improvement

FDEP should also require each pretreatment program to incorporate a factsheet with all industrial pretreatment permits. A good fact sheet provides information as to how local limits were developed and explains calculations performed by the POTW to determine the capacity of their POTW to accept industrial waste (pass-through limitation derivations).

Action Items

Essential	•None
Recommended	•Require each pretreatment program (Control Authority) to incorporate a factsheet (e.g. show pass-through limitation derivations).

C. Small Municipal Separate Storm Sewer System Permit Requirements

Background

As part of this PQR, the EPA reviewed the FDEP general permit for Small MS4 systems (Phase II), and two facility notices of coverage for consistency with the Phase II stormwater permit regulations. The EPA recently updated the small MS4 permitting regulations to clarify: (1) the procedures to follow for general permits (see 40 C.F.R. § 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 Notice of Intent, 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 C.F.R. § 122.34(a) and (b)); and (3) the requirement that permit terms must be established in a “clear, specific, and measurable” manner (see 40 C.F.R. § 122.34(a)). This rule, known as the Remand Rule, was finalized in December 2016. Florida adopted EPA’s Phase II MS4 General Rule on January 26, 2018. The reviewed permits for this PQR were not subject to the Remand Rule when they were issued.

Where the NPDES program requires stormwater discharges from certain MS4s to be permitted the EPA and NPDES-authorized states issue individual permits for medium and large MS4s and general permits for smaller MS4s. The two area-coverages reviewed under the GP were considered small MS4s. The small MS4 permits Florida issues are a part of the state’s “Permit by Rule” program. Further discussion of this topic can be found later in this report.

The state’s “Permit by Rule” document reviewed for this PQR was identified as FDEP Document 62-621.300(7)(a), Effective: May 1, 2003. From that document: “The term of coverage provided under this generic permit is five years and begins on the date of the written notification of coverage issued by the Department in accordance with Part II.B. A permittee that desires to continue coverage under this generic permit after the initial permit term must file an NOI for coverage at least 180 days prior to the expiration of the five-year permit term. Permit coverage shall be administratively continued if a timely NOI is filed for re-application, and the permittee is in compliance with the conditions and terms of this generic permit.” Essentially, permit coverage for individual sites or specific covered areas are identified by a NOC tracking number as further identified below.

For industrial facilities, FDEP uses this legislative process to manage certain industries by means of the “Permit by Rule” general permit coverage. For this PQR, the MS4 permit and two specific permit coverages (FLR04E011 and FLR04E026) were reviewed. Each permit has requirements for supplementary, comprehensive programmatic plans for managing the areas of coverage. This includes a comprehensive Storm Water Management Plan (SWMP), covering six minimum control measures within each MS4 program.

Program Strengths

The language found in the MS4 general permits includes conditions consistent with the federal requirements.

Areas for Improvement

Stormwater permits generally include narrative standards that require the permittee to develop a comprehensive SWMP to address water quality concerns. These additional detailed plans provide guidance and added requirements for activities associated with managing stormwater issues. The PQR review of the two MS4 permit coverages (FLR04E011 and FLR04E026) were Cycle 3 permits effective prior to the adoption of the Phase II Remand Rule, effective January 26, 2018. With this Rule adoption, the department has incorporated TMDL and Basin Management Action Plan requirements with the renewal of all Phase II MS4 permits. This requirement can also be found in Part V.B of the 2003 Phase II MS4 GP. The coverage provided by the NOC does not detail how the operators should match the TMDL allocations nor does the overall-GP permit document (40 C.F.R. § 122.44(d)(1)(vii)(B)).

Illicit discharge detection and elimination is a prescriptive requirement found in both large and small MS4 permits and is part of the six minimum control measures required by federal regulation in 40 CFR 122.34(b). During the PQR review, it was discovered that post construction criteria is provided and controlled in conjunction with another state agency, St. Johns’ Water Management District (SJWMD), along with the FDEP. Under the small MS4 program, a permittee may rely in part on another entity to meet the requirements of the permit. The original permittee is ultimately responsible for meeting the permit requirements for this condition. An overall assessment of the post construction requirement within the permit indicates that BMPs should be more prescriptive as they are too generic in terms of specificity and clarity. For example, to provide clarity to a metric or management practice the state could add the frequency of cleaning catch basins, street sweeping, and other municipally owned structural controls to the permit(s). Language to address fertilizer/herbicide training and application training should be added. Certain tracking activities may be designed to intentionally target specific groups in the public education section. It is anticipated that some of these ambiguities will be eliminated now that the Remand Rule is in effect and must be implemented.

The EPA recommends that the enforceability of MS4 permits be improved by adding permit language to better describe site inspection parameters consistent with the Remand Rule’s requirements for “clear, specific, and measurable” permit conditions at 40 CFR 122.34(a). For example, criteria for establishing a frequency of inspections, developing priorities for inspections

and what type of follow-up inspection or conversation should be held after inspections are performed should be added as permit conditions. Measures should be included to access overall improvements to the receiving water(s) quality for direct and indirect responses. A permit cycle of review of instream data would lend a mechanism to evaluate the effectiveness of the permit conditions.

Action Items

Essential

- All TMDLs should be identified in the general permit. 40 C.F.R. § 122.44(d)(1)(vii)(B)
- Illicit discharge detection requirement must be more prescriptive. 40 CFR 122.34(b)(3)(i)(C)

Recommended

- Add permit language to better describe site inspections.
- Measures should be included to access overall improvements to the receiving water(s) quality for direct and indirect responses.

V. REGIONAL TOPIC AREA FINDINGS

A. Wastewater Reuse and Ultra-Violet (UV) Disinfection

Background

The regional topics of wastewater reuse and UV disinfection were selected because these topics are becoming standard permitting practices as states look for alternate disposal methods for treated effluent and disinfection techniques. While there are no federal regulations directly governing water reuse practices in the U.S., water reuse guidelines have been developed by the EPA and have also been developed by many individual states, including Florida. The PQR staff completed site visits of two water reuse facilities in October of 2017 as a precursor to the PQR. The focus of the Wastewater Reuse and UV Disinfection permits review was to verify that conditions of these permits are protective of the receiving streams. In general, the review indicated these permits were well written and met the core statutory requirements.

Two permits issued to major NPDES facilities were reviewed to evaluate the regional topic for water reuse (FL0033251-Altamonte Springs WWTF and FL0037966-Iron Bridge WRF). The following standard reuse permit requirements that were identified in both permits are also considered “Program Strengths”.

1. Both facilities submit additional, annual reuse reports.
2. Both facilities sample additionally for *Giardia* and *Cryptosporidium*⁶.
3. Both facilities report additionally for pathogen monitoring and certify their results.
4. Both facilities landfill their biosolids.
5. State regulations require that all reuse waters are piped in industry standard, light-purple colored piping; “purple-pipe”.
6. Reuse permits require cross-connection control plans and backflow prevention measures.
7. Inspections are required by the permittee to confirm these permit stipulations.
8. Both permits have “Emergency” notification procedures for public health warnings, and specifically state requirements that the public:
 - a. Cannot use reclaimed waters to fill/refill swimming pools or hot-tubs.
 - b. Control-Setbacks are required for Spray heads/fields.
 - c. Same color; light-purple signage at hose bibs are required and must be bilingual, i.e., Spanish.
9. Both main treatment facilities are pretreatment control authorities.
10. Permits require “sink-hole” notification to the state.

⁶ *Giardia* and *Cryptosporidium* are microscopic parasites that can be found in water. Note: These parasites are protected by an outer shell that allows it to survive outside the body for long periods of time and makes it very resistant to chlorine disinfection (EPA Advisory).

11. When reuse permits are issued and sent to the permittee, the state includes Daily Report forms and DMR reporting forms, as well as requiring electronic reporting.

UV Disinfection is used at both reuse facilities for additional inactivation of *Giardia* and *Cryptosporidium* in place of chlorine disinfection processes. While past studies have shown the use of UV light for disinfection have not conclusively agreed that this process kills all cysts without rapid regeneration of the population in the host species after further infection, current research shows advancements in UV application at WWTPs that may indicate it as a safer alternative to the continued use of chlorine and its disinfection bi-products, especially in the area of non-potable reuse treated waters. Proper operation and maintenance schedules are essential to ensure complete disinfection of effluent.

Program Strengths

The permits reviewed demonstrate community acceptance and municipality support for expansion and future planning. The design of one of the facilities reviewed was recognized on a National, and International scale⁷. One permit (Altamonte Springs WWTF) ensured that stormwater runoff from a major intrastate highway was captured, treated and redirected into the City's reclaimed water system and then used for irrigation rather than collecting stormwater in standard stormwater drainage ponds along the side of area roadways. Pathogen monitoring for *Cryptosporidium* and *Giardia* is required in these permits.

Areas for Improvement

Reuse facilities currently do not require additional operator training beyond plant classification criterion. A rationale in one permit referred to the F.A.C. and "BPJ" and was not very descriptive.

The EPA recommends including reporting on the use of UV disinfections on DMRs, specifically the frequency that operators should check on the operational status of UV bulbs. This information is likely maintained at the facilities and is not reported on DMRs as the permit does not require it. The EPA recognizes that additional data codes may be needed in the reporting database for the permittee to submit this information. Based on a review of the DMRs submitted, these facilities are meeting bacteriological permit limits, which provides assurance that UV disinfection is working properly.

⁷ Altamonte Springs was ranked in the top three at the International Water Association (IWA) Project Innovation Awards in Tokyo, Japan on Monday, September 17, 2018. pureAlta® was recognized for its forward-thinking applications and solutions to advance clean and safe water goals, taking home a top award in the Market-changing Water Technology and Infrastructure category. The City was honored as the only project from the U.S.

Action Items

Essential	<ul style="list-style-type: none">•None
Recommended	<ul style="list-style-type: none">•Require additional Operator training beyond plant classification•Include ICIS coding in DMRs for reporting UV disinfection equipment is operational.•Add more description in rationales, not just a reference to the F.A.C. and "BPJ".

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

This section provides a summary of the main findings from the last PQR and provides a review of the status of the state’s efforts in addressing the action items identified during the last PQR, conducted May 2013. As discussed previously, during the 2012-2017 PQR cycle, the EPA referred to action items that address deficiencies or noncompliance with respect to federal regulations as “Category 1”. The EPA is now referring to these action items going forward, as Essential. In addition, previous PQR reports identified recommendations to strengthen the state’s program as either “Category 2” or “Category 3” action items. The EPA is consolidating these two categories of action items into a single category: Recommended.

Table 1. Essential Action Items Identified During Last PQR [2013]

Program Area	Action Item Title	Status Update
TBELs	Include 85 percent removal requirements for CBOD ₅ and TSS or document in some form how state requirements are as stringent as federal secondary treatment requirements. (Category 1).	(In progress) <i>This was discussed with FDEP during the PQR, as it continues to be an actionable item.</i>
Special and Standard Conditions	Coordinate with Region 4 to confirm and ensure that standard conditions are consistent with requirements at 40 CFR 122.41. (Category 1).	(Resolved)
Core topic: Pretreatment	Inclusion of the permit requirements at 40 CFR 122.44(j)(2)(i) to develop and submit a local program if in the case pretreatment becomes necessary or include in the permit a specific reopener clause to require development of a local pretreatment program. (Category 1).	(Resolved)

Program Area	Action Item Title	Status Update
Core topic: Stormwater	Construction General Permit (CGP). Continue drafting the updated CGP incorporating all the CWA requirements. (Category 1).	(Resolved)
Special focus area: Enforceability of General/Generic Permits	The generic permits need to address the federal permit requirement of a five-year permit term. (Category 1).	(Resolved) <i>This was discussed with FDEP during the PQR. State has agreed to modify their permit and put expiration dates of the GP coverages into ICIS.</i>

VII. RECOMMENDED ACTION ITEMS FROM LAST PQR

This section provides a summary of the recommendations from the last PQR, conducted 2013, and notes any state efforts to act on those recommendations. As discussed previously, during the 2012-2017 PQR cycle, the EPA referred to action items that are recommendations to strengthen the state’s program as either “Category 2” or “Category 3” action items. The EPA is consolidating these two categories of action items into a single category: Recommended.

Table 2. Recommended Action Items Identified During Last PQR [2013]

Program Area	Action Item Title	Status Update
TBELs	The fact sheet or permit file should include a comparison of TBELs to the WQBELs for each parameter. Since WQBELs usually are more stringent than the effluent guideline, discussion in the fact sheet could simply be a brief comparison. (Category 2).	(In progress) <i>This was identified again during the fiscal year (FY)18 PQR</i>

NPDES Program and Permit Quality Review

Program Area	Action Item Title	Status Update
	<p>Include discussion of ELGs that apply or ELGs that were considered and do not apply in the fact sheets for non-municipal permits. (Category 2).</p>	<p>(In progress)</p> <p><i>This was identified again during the FY18 PQR</i></p>
<p>WQBELs</p>	<p>Clarify in fact sheets (or documents that can be referenced in fact sheets) how each pollutant of concern was selected for permit limit development. Was the pollutant selected from application data due to reasonable potential/assurance or for other reasons? (Category 2).</p>	<p>(In progress)</p> <p><i>This was identified again during the FY18 PQR</i></p>
	<p>Clarify in fact sheets (or documents that can be referenced in fact sheets) how the need for a WQBEL is determined (i.e., how is RA determined – what data are considered, what analysis is conducted, what criteria are applied). Include or reference relevant documentation of the process in the permit file. Show how permit application data</p>	<p>(In progress)</p> <p><i>This was identified again during the FY18 PQR</i></p>

NPDES Program and Permit Quality Review

Program Area	Action Item Title	Status Update
	translate to permit limits. (Category 2).	
WQBELS	Clarify in fact sheets (or documents that can be referenced in fact sheets) how limits are derived (criteria end-of-pipe versus calculations). Include or reference relevant documentation of the process in the permit file. (Category 2).	(In progress) <i>This was identified again during the FY18 PQR</i>
	Consider developing or enhancing some form of guidance for the RA process. This could entail developing a chart that determines when the RA verification worksheet will be utilized (e.g., when application data show concentrations above a threshold). For instance, if application data report detection at half of the water quality standard for that particular parameter, the RA verification worksheet would then be utilized to determine RA for that pollutant. The exact policy	(In progress) <i>This was discussed during the FY18 PQR</i>

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Program Area	Action Item Title	Status Update
	however would be determined by the state. (Category 3).	
Monitoring and Reporting	Consider documenting in the fact sheet some of the technical and scientific work that is done when assessing monitoring data as part of permit development. (Category 2)	(Resolved)
Administrative Process, Public Notice Procedures	Identify whether significant comments on a draft permit were received and where the response to those comments is addressed. If no comments are received, document in the administrative record. (Category 3).	(Resolved)
	Make sure TMDLs are clearly identified when discussed in fact sheets. (Category 2).	(In progress) <i>This was identified again during the FY18 PQR</i>
Documentation (including Fact Sheets)	Fact sheets need to stand on their own independently and not rely on previous fact sheets. Reference the document, guidance or policy, used in previous fact sheets and provide a copy of the reference in the administrative record, a link to it,	(In progress) <i>This was identified again during the FY18 PQR</i>

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Program Area	Action Item Title	Status Update
	or instructions on how to find the document. (Category 2).	
	Ensure that permit documentation includes calculations of TBELs and WQBELs. (Category 2).	(In progress) <i>This was identified again during the FY18 PQR</i>
	See Section V.B., Technology-Based Effluent Limitations. Although the fact sheets explain that TBELs and WQBELs were compared and the most stringent limit is placed in the permit, include in the permit file (or alternatively, identify or reference) documentation of the comparison of TBELs and WQBELs. (Category 2).	(In progress) <i>This was identified again during the FY18 PQR</i>
Documentation (including Fact Sheets)	Ensure that fact sheets can be understood by the general public. The fact sheet should use language so that if the reader is not familiar with the Florida permitting process and laws, they should be able to understand how the limits are derived. For example, provide a brief description of the Grizzle-	(Resolved)

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Program Area	Action Item Title	Status Update
	Figg legislation, where applicable. (Category 3).	
Core Topic: Nutrients	Clearly describe in the fact sheet the source of the nutrient limits such as the name of the TMDL and discuss in the fact sheet why one nutrient might be limited and the other is not. (Category 3).	(In progress) <i>This was identified again during the FY18 PQR</i>
Special Focus Area: Reasonable Potential/RA	See items under Section V.C. Specifically, clearly show in the fact sheet how parameters of concern were selected and develop a policy or guidance document on when to use the RAV worksheet. (Category 3).	(In progress) <i>This was identified again during the FY18 PQR</i>
Special Focus Area: Implementing TMDLs in a Priority Watershed	For permits that share a nutrient load from a TMDL, ensure that all components of the TMDL are written into the permit conditions so as to require sampling and reporting from the permits collecting the data so that the entire nutrient load is totaled in the aggregate permit. Permit modifications may be needed to accomplish this. (Category 2).	(Resolved) Additional sampling requirements are included in the permits reviewed.

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Program Area	Action Item Title	Status Update
<p>Special focus area: Enforceability of General/Generic Permits</p>	<p>The concrete batch permit needs updating and the addition of monitoring and reporting to the permit itself needs to be considered. Additional application data may be needed because the application requires no specific discharge data. Also, since the generic permit states that the discharge may not cause a violation of water quality standards, it is difficult to enforce without specific reporting requirements. More specific limitations may need to be required. (Category 2).</p>	<p>(In progress)</p> <p>State permits by rule require legislative action to change parameters.</p>
<p>Special focus area: Enforceability of General/Generic Permits</p>	<p>The generic permit for discharges from petroleum contaminated sites needs updating. The reporting time frame should be reconsidered as significant time could elapse between the time a sample is taken and actually reported. An enforcement action taken against violations of permit conditions would not be timely. (Category 2).</p>	<p>(In progress)</p> <p>State permits by rule require legislative action to change parameters.</p>

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Program Area	Action Item Title	Status Update
	<p>The generic permits for storm water discharges need to be updated to include the latest storm water permitting policies. (Category 2).</p>	<p>(In progress)</p> <p>State permits by rule require legislative action to change parameters.</p>
<p><i>Special focus area: Fertilizer Production Facilities and Phosphate Mines</i></p>	<p>Fact sheets should include narrative discussing relevant effluent guidelines for each industry and compare TBELs with WQBELs. (Category 2).</p> <p>When a transfer of wastewater occurs from one facility to another, documentation should be provided that both industries (if they are not the same) will meet their respective effluent guidelines. Additionally, where there is a transfer, the fact sheet should document that the discharge will not cause or contribute to a water quality violation. (Category 2).</p> <p>Address in the fact sheet downstream water quality impairments not covered by a TMDL. (Category 3).</p>	<p>(Resolved)</p>

Program Area	Action Item Title	Status Update

VIII. ACTION ITEMS FROM FY 2018–2022 PQR CYCLE

This section provides a summary of the main findings of this PQR and provides action items to improve Florida NPDES permit programs, as discussed throughout Sections III and IV of this report.

The 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** - “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** - “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.

The following tables summarize only those action items that were identified in Sections III and IV of this report.

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

Topic	Action(s)
TBELs for Non-POTW Dischargers <i>(40 CFR 125.3(a) and 40 CFR Part 407, Subpart C, §407.30)</i>	<ul style="list-style-type: none"> • When applicable, address pollutants of concern associated with an ELG and include limits for these pollutants in the permit (40 CFR 125.3(a) and 40 CFR Part 407, Subpart C, § 407.30) • Provide discussion of removal criteria (85 percent) for BOD and TSS at final discharge point(s) for facilities with or without AWT. (40 CFR 133.105 and 133.101(g))
Reasonable Potential <i>(40 CFR 122.44(d)(1), 40 CFR 130.2(h), 40 CFR 133.105 and 133.101(g))</i>	<ul style="list-style-type: none"> • Provide discussion of the CWA 303(d) status of the receiving waters in order to determine if a TMDL is appropriate or not. (40 CFR 130.2(h))
Municipal Separate Storm Sewer Systems (MS4s) <i>(40 CFR 122.30, 122.32-122.37)</i>	<ul style="list-style-type: none"> • All TMDLs should be identified in the general permit. 40 C.F.R. § 122.44(d)(1)(vii)(B) • Illicit discharge detection requirement must be more prescriptive. 40 CFR 122.34(b)(3)(i)(C)

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

Topic	Action(s)
TBELs for POTWs	<ul style="list-style-type: none"> • Ensure that permit documentation includes calculations of TBELs and WQBELs.
Reasonable Potential	<ul style="list-style-type: none"> • Require numeric data in fact sheets for all RP evaluations.
WQBELs Development	<ul style="list-style-type: none"> • Verify the appropriate evaluation level (e.g. I or II) for the outfall and pollutant(s) of concern. • Provide clearer assessments of any RA and/or RPA data presented in fact sheets.
Final Effluent Limitations	<ul style="list-style-type: none"> • Clarify in fact sheets how limits are derived. Include or reference relevant documentation of the process in the permit file.
Pretreatment: Food Processing Sector	<ul style="list-style-type: none"> • Require each pretreatment program (Control Authority) to incorporate a factsheet with basis for limits (e.g. show pass-through limitation derivations).
Municipal Separate Storm Sewer Systems (MS4s)	<ul style="list-style-type: none"> • Add permit language to better describe site inspections. • Measures should be included to access overall improvements to the receiving water(s) quality for direct and indirect responses.
Regional Topic Area: Wastewater Reuse and Ultra-Violet (UV) Disinfection	<ul style="list-style-type: none"> • Require additional Operator training beyond plant classification • Include ICIS coding in DMRs for reporting UV disinfection equipment is operational. • Add more description in rationales, not just a reference to the F.A.C. and "BPJ".