Final
Region 6 NPDES Program and Permit Quality Review
Louisiana

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Contents

Executive Summary

U.S. Environmental Protection Agency (EPA) Region 6's National Pollutant Discharge Elimination System (NPDES) Program and Permit Quality Review (PQR) for Louisiana found that permits issued in the state were generally of good quality and overall consistent with federal requirements. However, EPA found municipal permits lacked influent monitoring requirements for certain conventional pollutants and permit fact sheets lacked discussion of the specific basis for effluent limitations.

The PQR examined 13 permits for discharges in Louisiana issued by the Louisiana Department of Environmental Quality (LDEQ), and several LDEQ permitting policies. The PQR also focused on three national topic 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,
- Small Municipal Separate Storm Sewer System (MS4) Permit Requirements, and

The PQR also focused on one Regional priority area: Dissolved Oxygen TMDL Implementation.

LDEQ administers permits for 1,220 individual facilities. As of June 2022, 89 percent of Louisiana's major individual permits and 94 percent of non-major individual permits are current.

The PQR recognizes the many state and region-specific challenges faced by the State of Louisiana, including continuing efforts to develop specific antidegradation implementation procedures, implement Clean Water Act Section 316(b) requirements in permits, and address dischargers' concerns with permit requirements that are based on older Effluent Limitations Guidelines and Standards (ELGs) which might not reflect specific advances in certain technologies. LDEQ also continues to implement advances with internal electronic document management systems and databases to streamline permitting processes. In addition, within LDEQ, the Water Permits Division maintains the lowest turnover in staff, illustrating a strong permitting team.

Although the permits reviewed commonly conformed to national requirements, EPA identified several concerns, including permits for municipal facilities (POTWs) that lack influent monitoring requirements for conventional pollutants, which are used to determine compliance with percent removal requirements. EPA also found that LDEQ develops some of the most complex Louisiana NPDES (LPDES) permits using a word processing software for which technical support is declining. The declining support is acknowledged, and a software back up has been put in place. In addition, LDEQ's permit fact sheets would be strengthened with additional documentation for determination of pollutants of concern and the specific basis for certain effluent limitations. Since many of the deficiencies seem to stem from internal tools and standard operating procedures (SOPs), EPA believes they can be best resolved if LDEQ updates certain tools, procedures, and boilerplate permit language. In addition to the items listed above, the report provides an overview of the LPDES permitting program and identifies specific

areas where EPA and LDEQ can work together to continue to strengthen permit language and documentation in state NPDES permits.

The State of Louisiana reviewed and provided comments on the draft PQR report on October 26, 2023. The state responded to all the draft PQR's findings and recommendations and committed to take action to address many of the proposed action items. A few of these actions will include collaborative work between EPA and LDEQ.

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 previously conducted a PQR of LDEQ's NPDES (LPDES) permitting program on October 17 – 19, 2017.

During this current review, the evaluation team proposed action items to improve the LPDES permit program. The proposed action items are identified in sections III, IV, and V 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 -** Proposed 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 to come into compliance with federal regulations.
- **Recommended Actions -** Proposed 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 Headquarters on an annual basis and are reviewed during subsequent PQRs.

EPA's review team, consisting of six regional staff, one Headquarters (HQ) staff, and two HQ contractor staff, conducted a review of the LPDES program. The PQR was conducted remotely, meaning a review of materials was conducted off-site, with materials LDEQ was able to provide electronically. Further, the remote PQR included interviews and discussions conducted via several conference calls. An opening interview was held on July 26, 2022, a call to discuss technical questions on July 27, 2022, and a closing meeting on July 28, 2022.

The Louisiana PQR included reviews of core permit components and national and regional topic areas, as well as discussions between the review team and LDEQ 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 EPA and the state on program status, the permitting process, responsibilities, organization, staffing, and program challenges the state is experiencing.

A total of 13 permits were reviewed as part of the PQR. Of these, 10 permits were reviewed for core components, 9 for national topic areas, and 3 for regional 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 in the Louisiana NPDES program were Permit Controls for Nutrients in Non-Total Maximum Daily Load (TMDL) Waters, Small Municipal Separate Storm Sewer System (MS4) Permit Requirements, and Effectiveness of Publicly Owned Treatment Works (POTW) NPDES Permits with Food Processor Contributions.

Regional topic area reviews target regionally specific permit types or particular aspects of permits. The regional topic area selected by EPA Region 6 was Dissolved Oxygen (DO) TMDL Implementation. These reviews provide important information to LDEQ, EPA Region 6, EPA HQ, and the public on specific program areas.

II. STATE PROGRAM BACKGROUND

A. Program Structure

Within LDEQ, the Office of Environmental Services' Water Permits Division administers the LPDES program. Permitting responsibilities are distributed between two Water Permitting Sections within the Division according to permit type, Industrial Water Permits and General and Municipal Water Permits. LDEQ has eight regional offices located throughout the state (Acadiana, Bayou Lafourche, Capital, Kisatchie, Northeast, Northwest, Southeast, and Southwest). The main office is responsible for all permitting, enforcement, and administrative duties related to LPDES permit administration. The regional offices operate under the Office of Environmental Compliance and are primarily dedicated to Surveillance Division activities including compliance assurance, inspecting permitted facilities, and responding to complaints related to both permitted and unpermitted discharges.

The LPDES program has 26 NPDES permit writers who are supported by staff and senior scientists in the Water Permits Division. Staff from the Office of Environmental Assessment's Water Planning and Assessment Division, including water quality modelers, TMDL staff, and staff that focus on water quality standards, also support the permit development process by providing receiving stream data and conducting water quality modeling as requested. Permit writers attend EPA's NPDES Permit Writers' Course, attend internal LPDES water quality

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

calculations and implementation procedures training, and receive additional training through mentoring.

Applications for individual LPDES permit coverage and notices of intent (NOIs) for general permit coverage are tracked through the state's Tools for Environmental Management and Protection Organizations (TEMPO) database and Electronic Data Management System (EDMS). TEMPO is LDEQ's web-based database and central repository for all facility data and includes permits, surveillance, enforcement, and remediation information. EDMS is LDEQ's repository for all official records associated with permit files that have been created or received by LDEQ (e.g., permit applications, permits, fact sheets, correspondence, compliance records, etc.) and is accessible at the following website: https://edms.deq.louisiana.gov/edmsv2. LDEQ uploads discharge monitoring and facility compliance data to EPA's Integrated Compliance Information System (ICIS)-NPDES. Permit writers evaluate permit compliance by reviewing facility monitoring data in ICIS-NPDES, and review files in EDMS when more detailed information is needed such as facility inspection reports, laboratory reports, and annual reports.

Permit writers use template documents for permits, fact sheets, public notices, and correspondence, specific to municipal or non-municipal permits. TEMPO includes built-in "profiles" that include specific parameters for certain types of permits. These profiles serve as templates that can be modified as necessary to develop permits within TEMPO. TEMPO can be used to develop general permits and statements of basis but does not generate permit fact sheets. Many minor individual and general permits are generated using TEMPO. In addition to TEMPO, permit writers use WordPerfect-based merge forms to develop permit fact sheets, cover letters, and certain types of permits, generally major industrial permits.

LDEQ permit writers access three resources to evaluate the need for water quality-based effluent limitations (WQBELs) including the *Louisiana Water Quality Integrated Report*, the *Louisiana Environmental Assessment Utility (LEAU) Ambient Water Quality Monitoring database*, and LDEQ's TMDL database. A water quality spreadsheet is used as a preliminary screening tool for developing WQBELs. The spreadsheet is based on LDEQ's *Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards* ("Implementation Procedures," *Volume 3 of the Louisiana Water Quality Management Plan* [WQMP]). The Implementation Procedures were most recently updated in 2022 (Version 9, July 5, 2022), with the adoption of Appendix G (*Guidance for Discharges into Impaired Waterbodies or Waterbodies Subject to a TMDL*). The Implementation Procedures are maintained along with SOPs for all permitting activities on LDEQ's intranet. Examples of LPDES SOPs include *Permit Action Processing and Administrative Completeness Review (SOP_1015_r07, 10/13/21)*, *Major Individual Water Permit Document Development (SOP_1434_r12, 10/6/21)*, *Minor Individual Water Permit Document Development (SOP_1435_r12, 10/6/21)*, and *Preparing Documents to be Scanned in the Electronic Document Management System (SOP_1728_r06, 7/23/2018)*.

Once an application for a new permit or a modification is determined to be administratively complete, LPDES managers distribute the application to the assigned permit writer. If possible, permit renewals are assigned to the permit writer who drafted the most recent permit for that facility. Other considerations in assigning permits include the permit writer's workload and

experience. LDEQ permit writers consult the appropriate SOP according to facility type and initiate permit development with outreach to LDEQ program coordinators to request facility and ambient water quality monitoring data, pretreatment program information, biomonitoring, and TMDL implementation recommendations. Permit writers develop effluent limitations and prepare the draft permit for internal review. A permit applicant may request an expedited permit schedule. In this case, the permit writer dedicates additional time to complete the permit writing and internal review processes in an expedited time frame. All regulatory time frames (i.e., public notice and review periods) remain the same. Following the final permit decision, LDEQ issues a separate fee for the expedited process that represents the additional staff hours billed for expediting the permit.

Draft permits undergo varying levels of internal review. Peer reviews are most often conducted to provide training for new permit writers. The permit writer's supervisor and manager review all permits. Some permit components, such as TMDL implementation or water quality screens, are also reviewed by senior scientists. LDEQ does not use checklists in the permit quality assurance/quality control (QA/QC) process. After the permit is determined to be technically complete based on the internal review, LDEQ provides the permittee 10 days to conduct a "technical review" of and comment on the draft permit prior to public notice. Next, the draft permit is signed by the supervisor and manager and sent to EPA Region 6 for review before the public notice process.

Permit development is documented in EDMS and tracked in TEMPO. Paper copies of documents necessary to support permit development are maintained in the permit writer's office until the permit is finalized, at which point all critical documents, correspondence, monitoring and reporting records, and compliance records, are entered into EDMS by LDEQ's Records and Management Staff.

B. Universe and Permit Issuance

LDEQ administers approximately 1,220 individual NPDES permits, based on information obtained from LDEQ in June 2022. This includes NPDES permits for 474 POTWs (109 major permits and 365 non-major permits), 742 non-POTW facilities (127 major permits and 615 non-major permits), and 4 individual stormwater facilities. LDEQ also administers 4 stormwater general permits that cover 45 MS4s, 1,242 industrial stormwater facilities, 661 construction stormwater sites (660 for Stormwater Discharges from Construction Activities of 5 Acres or More and 1 for General Permit for Stormwater Discharges Related to Louisiana Department of Transportation and Development's land disturbing activities), and 11,439 dischargers covered under non-stormwater general permits. LDEQ's non-stormwater general permits (and corresponding permittees shown in parentheses) include the following:

- Discharges from Vessel Cleaning and Repair Operations and Shipyards (172)
- Discharges from Cement, Concrete and Asphalt Facilities (252)
- Discharges from Oil and Gas Exploration, Development and Production Facilities Located:
    - Within Territorial Seas of Louisiana (64)

    - Within Coastal Waters (499)
- Discharges Associated with Dewatering of Petroleum Storage Tanks, Tank Beds, New Tanks and Excavations (42)
- Discharges from Potable Water Treatment Plants (142)
- Short-Term and Emergency Discharges (7)
- Discharges from Automotive Dealerships, Paint and Body Shops, Motorcycle Dealerships, Recreational Vehicle Dealerships and Automotive Repair and Maintenance Shops (305)
- Discharges from Light Commercial Facilities (824)
- Discharges from Sand and Gravel Extraction Facilities (159)
- Sanitary Discharges totaling less than:
    - 5,000 gallons per day (Class I) (4,893)
    - 25,000 gallons per day (Class II) (2,501)
    - 50,000 gallons per day (Class III) (278)
    - 100,000 gallons per day (Class IV) (449)
- Discharges of Hydrostatic Test Wastewater (153)
- Discharges of Exterior Vehicle and Equipment Wash Wastewater (611)
- Discharges from Construction, Demolition Debris and Woodwaste Landfills (31)
- Discharges Resulting from the Cleanup of Petroleum UST Systems (57)

Significant industries within Louisiana include organic and inorganic chemical manufacturers, petroleum refineries, and seafood processors.

LDEQ reported that 26 major and 54 non-major individual permits were administratively continued. Therefore, 11 percent of LDEQ major individual permits and 6 percent of non-major individual permits were administratively continued at the time of the PQR.

C. State-Specific Challenges

LDEQ noted that they have longstanding backlog issues and that some permits are backlogged for specific issues beyond LDEQ's control, such as legal reviews, multi-media, or litigation. LDEQ stated that they are also challenged by reissuing permits that have existing compliance issues, due to inadequate resources—either the state's enforcement resources or the permittee's ability to address compliance issues. Additionally, LDEQ continues to develop antidegradation implementation procedures and plans to incorporate the newly approved *Guidance for Discharges into Impaired Waterbodies or Waterbodies Subject to a TMDL* (Appendix G of the Implementation Procedures) into their antidegradation implementation procedures. LDEQ noted that they continue to face challenges with implementing CWA Section 316(b) requirements in permits in the absence of official guidance from EPA. LDEQ also opined that federal Effluent Limitations Guidelines and Standards (ELGs) should be revised to reflect newer

treatment technologies. For example, the Oil and Gas Extraction ELGs should be reviewed to address newer technologies to support state permitting authorities in response to permittees' requests for specific technical information. EPA noted during the PQR that LDEQ's reliance on WordPerfect software used for permit templates for complex industrial permits could become a concern in the future as technical support for that software wanes.

D. Current State Initiatives

LDEQ's EDMS and TEMPO systems are program strengths with several benefits to staff and the permitted community and are still evolving in terms of how to use TEMPO to streamline the permitting process and develop more complex permits. LDEQ's permit development tracking tools and application outreach activities are thorough and well organized, supporting LPDES staff from permit writers to managers. Application outreach has offered clear communication to permittees regarding application requirements, specific forms, data collection requirements, and due dates. LPDES management indicated during the opening interview that within LDEQ, the Water Permits Division maintains the lowest turnover and attributes it to providing meaningful support to staff and creating a work culture that supports staff and improves morale.

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

For the core permits reviewed, permits identified the facility name, type, physical location, receiving waters, and when the permit was issued, became effective, and expires. Permits indicated the expiration date in narrative format: "…permit and authorization to discharge shall expire five (5) years from the effective date of the permit." Further, the fact sheets and permits clearly identified the receiving water name, subsegment, and designated uses. In addition, the fact sheets clearly identified the physical location of the facility and outfalls or discharge points. Fact sheets also provided a description of facility operations and wastewater treatment processes, including expected waste streams.

Areas for Improvement

All but one of the permits did not identify the physical location of the outfalls or discharge points.

Action Items

Essential	•The PQR did not identify any essential action items for this section.
Recommended	•LDEQ should consider including clear identification of the physical location of outfalls, such as latitude/longitude coordinates, in the Statement of Basis or Fact Sheet.

2. Permit Application Requirements

Background and Process

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

Louisiana Administrative Code (LAC), Title 33, Section IX-2501.A.2 provides that applicants for LPDES permits must submit applications on either state- or EPA-approved application forms. Section IX-2501.A.2.b lists EPA's available application forms. LDEQ's application forms are available on the state's website, https://deq.louisiana.gov/page/lpdes-water-permits, and include 9 individual application forms and 19 general permit NOIs. LDEQ uses several application forms that are specific to discharge types to request specific data relevant to the different discharge activities. Based on the application forms available during the PQR, the *Sanitary Wastewater Discharge Permit Application (WPS-S)* displays a version date of April 10, 2018, and the *Industrial Wastewater Discharge Permit Application (IND)* includes a version date of October 7, 2016. LDEQ indicated during the PQR that their application forms are being updated.

LAC 33:IX.2501.J.4 requires POTW applicants to submit effluent monitoring data for specific parameters listed in LAC 33:IX.7129 Appendix O, based on facility design flow. The requirements in LAC 33:IX.2501.J.4 are consistent with the federal application requirements at 40 CFR 122.21(j)(4). Further, Section II.O (*Treatment Information*) of LDEQ application form WPS-S requires the submittal of effluent monitoring data; however, submittal requirements are not consistent with federal application requirements for POTWs. Specifically, form WPS-S does

not specify a minimum of three samples for the parameters taken within four and one-half years prior to the date of the permit application; the form indicates "NOTE: if available, the results of more than one scan may be submitted with this application." Additionally, form WPS-S does not consistently require reporting the maximum and average daily values for discharge monitoring results or whole effluent toxicity (WET) testing results. LAC 33:IX.2501.G contains application requirements for existing manufacturing, commercial, mining, and silvicultural dischargers that are consistent with federal application requirements at 40 CFR 122.21(g).

LAC 33:IX.2501.D requires existing dischargers to submit a new application at least 180 days before the expiration date of the existing permit, unless LDEQ grants permission for a later date, but no later than the existing permit expiration date. LDEQ queries ICIS-NPDES at the beginning of October for permits expiring within the upcoming year and up to 2 years from the query date and creates a spreadsheet to use as an internal tracking list for bi-weekly management meetings. LDEQ uses color coding and permit category coding to assist with tracking efforts. Supervisors and managers use this internal tracking list to monitor permit development activities, such as application received, draft permit in development, draft permit in management review, and final permit issued. LDEQ sends permit application reminder postcards to permittees one year in advance of each permit's expiration date; postcards identify the application due date and website for application forms. LDEQ queries the TEMPO database for permits due to expire within a specific date range and uses the query results to create a separate list of facility contact information and mailing addresses, to facilitate a mail merge to generate reminder postcards. Staff update TEMPO with the date the application reminder was sent to the permittee. Dischargers submit permit applications to LDEQ's Public Participation and Permit Support Services Division (PPPSSD), which is housed within the Office of Environmental Services. Staff in the PPPSSD log receipt of applications, create tracking activities in TEMPO, and conduct the administrative completeness review of the application package. The Permit Application and Administrative Review (PAAR) notifies the permit applicant of administrative completeness; a copy of the notification is uploaded to EDMS.

The PPPSSD transfers administratively complete applications to a supervisor within the Water Permits Division, who then assigns the permit to a permit writer in the appropriate section (i.e., Industrial Water Permits or Municipal and General Water Permits). The assigned permit writer conducts a technical completeness review of the application package while developing the draft permit. If necessary, the Water Permits Division requests additional technical information, in writing, which is documented in EDMS. Additional technical information may also be required during Supervisor, Manager, and Administrator's review. LDEQ does not consider the application technically complete until issuance of a draft permit.

Program Strengths

LDEQ's practice of developing a permit tracking spreadsheet at the start of every fiscal year to forecast up to 2 years out, and continually updating the spreadsheet with progress on permit development, facilitates clear communication and expectations for all staff supporting permit development.

Areas for Improvement

State form WPS-S (version April 10, 2018) did not require a minimum of three samples taken within four and one-half years prior to the date of the permit application, as required at 40 CFR 122.21(j)(4)(vi). Additionally, form WPS-S did not consistently require reporting the maximum daily and average daily discharge for each parameter, consistent with 40 CFR 122.21(j)(4)(ix). Several applications reviewed for major POTWs lacked expanded effluent testing data as required by 40 CFR 122.21(j)(4)(iv) and (vi) and WET testing data consistent with 40 CFR 122.21(j)(5). Form WPS-S lacked specificity regarding WET testing requirements. Permit records did not contain documentation that LDEQ determined applications to be technically complete.

Action Items

Essential	•Ensure that POTW application forms (e.g., WPS-S) require applicant to provide the number of samples used to obtain the reported values (122.21(j)(4)(ix)(B)). •Ensure that POTW application forms (e.g., WPS-S) require reporting of maximum and average daily values (40 CFR 122.21(j)(4)(ix). •Ensure that major POTW application submittals include a complete data set for expanded effluent and WET testing requirements (40 CFR 122.21(j)(4) and (5)).
Recommended	•Add a separate technical permit application complete document to the permit records.

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 technology-based effluent limitations (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 permits must contain numeric limits for all these parameters (or authorized alternatives) in accordance with the secondary treatment regulations at 40 CFR Part 133.

LAC 33:IX.2707 requires that LPDES permits include effluent limitations and standards promulgated under CWA Sections 301, 306, and 402(a)(1). LAC 33:IX.5901 and 5911 contain secondary treatment and equivalent to secondary standards, respectively, for POTWs,

consistent with 40 CFR Part 133. LAC 33:IX.2709.B.1 requires mass-based effluent limitations for POTWs based on design flow and LAC 33:IX.2709.D.2 requires effluent limitations expressed as average weekly and average monthly discharge limitations. Permit fact sheets indicate that TBELs for POTWs are based on statewide and area-wide standards identified in Volume 8 of the WQMP (*Wasteload Allocations/TMDLs/Effluent Limitations Policy*, most recent version dated September 27, 2021). The area-wide standards in Appendix B of the WQMP were established in advance of TMDLs to begin to reduce the effluent limitations in anticipation of TMDL wasteload allocations. Where a TMDL exists, the wasteload allocations take precedence over the area-wide standards. Most of the effluent limitations for BOD and carbonaceous biochemical oxygen demand (CBOD) established in the area-wide standards are expressed as 10 mg/L (average) and 15 mg/L (maximum). The area-wide standards indicate that "Appropriate TSS limitations shall be assigned by the Administrative Authority on a case-by-case basis. However, at no time shall final TSS effluent limitations be less stringent than the secondary treatment levels defined in LAC 33:IX.709." LAC 33:IX.709 refers to LAC 33:IX.711, which lists secondary treatment standards for sanitary sewage, and lists TSS effluent limitations consistent with 40 CFR 133.102.

Program Strengths

POTW permits reviewed established TBELs in appropriate units and forms and consistently included the minimum percent removal requirement for BOD_5 and TSS. Fact sheets for POTW permits reviewed provided an appropriate discussion of wastewater treatment processes.

Areas for Improvement

One permit reviewed established effluent limitations for TSS of 90 mg/L (monthly average) and 135 mg/L (weekly average), which are greater than federal secondary treatment standards. However, the permit fact sheet lacked details for the basis for those values.

Action Items

Essential	•LDEQ must ensure that the fact sheet includes the basis for adjusted effluent limitations and a clear discussion of how the established limitations ensure compliance with guidelines and standards (40 CFR 124.56), such as the adjusted TSS effluent limitations ensure compliance with secondary treatment standards 40 CFR 133.103 (c).
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 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 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).

LDEQ staff indicated that TBELs are developed based on applicable ELGs or, rarely, on a case-by-case basis using BPJ. LDEQ staff indicated that where ELGs do not exist for a particular discharge, TBELs are generally based on "similarly permitted processes" for an existing permit type. Further, when the permittee meets the effluent limitations for one permit cycle, those limitations are designated as appropriate TBELs for subsequent permit cycles. TBELs based on BPJ are calculated based on the 95th and 99th percentile of the facility effluent monitoring data.

The federal ELGs are incorporated into Louisiana's NPDES regulations by reference. TBELs are based on the discharger's 30-day maximum flow. The profiles in TEMPO include technology spreadsheets for multiple sectors. Each includes an explanatory documentation package and spreadsheet that the permit writer attaches to the permit fact sheet. For sectors with applicable ELGs that do not have a technology spreadsheet in TEMPO, the permit writer includes the TBEL calculations directly in the fact sheet.

Program Strengths

Effluent limitations for non-POTW discharges were established in appropriate units and forms (i.e., concentration or mass). Fact sheets for non-POTW facilities provided a basic understanding of facility operations, resulting waste streams, and wastewater treatment processes. Fact sheets provided calculations of ELG-based TBELs in an appendix.

Areas for Improvement

LDEQ's records regarding TBELs for non-POTW facilities were generally adequate; however, they would be strengthened by including a more detailed discussion of the applicability of ELGs and the development of ELG-based TBELs. In particular, a discussion of facility categorization and specific application of BAT/BCT standards would be beneficial. Additionally, where permits continue existing effluent limitations that were previously established based on BPJ, EPA recommends that the corresponding fact sheets provide some discussion of the technical basis for those BPJ-based effluent limitations. Action items to address these concerns are identified in section III.F.

Action Items

Essential	•The PQR did not identify any essential action items for this section.
Recommended	•Recommended action items are identified in section III.F.

2. Reasonable Potential and Water Quality-Based Effluent Limitations

Background

The NPDES regulations at 40 CFR 122.44(d)(1) and LPDES regulations at LAC 33:IX.2707.D require permits to include any requirements in addition to or more stringent than technology-based requirements where necessary to achieve state water quality standards, including narrative criteria for water quality. To establish such 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.

The PQR for Louisiana 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 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 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.

Process for Assessing Reasonable Potential

LDEQ permit writers conduct the reasonable potential analysis (RPA), implementing LDEQ's Implementation Procedures. The Implementation Procedures are maintained along with SOPs for all permitting activities on LDEQ's intranet. The Implementation Procedures were most recently updated in 2022, with the adoption of *Guidance for Discharges into Impaired*

Waterbodies or Waterbodies Subject to a TMDL (Appendix G), and all SOPs are reviewed and updated periodically.

Permit writers identify pollutants of concern based on the permit application, values reported as above minimum quantitation levels (MQLs), and pollutants listed as contributing to receiving water impairments. From there, RPAs are conducted for those parameters identified as pollutants of concern for which state numeric water quality criteria exist. Discharge monitoring data that are available from the permit term are evaluated in the RPA; in the absence of discharge monitoring data, permit writers consider data submitted with the permit application.

A water quality spreadsheet is used as a preliminary screening tool for developing effluent limitations. The spreadsheet is based on LDEQ's Implementation Procedures and accounts for effluent variability consistent with EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD). Permit writers use the water quality spreadsheet to evaluate reasonable potential for each parameter, considering the application data or data submitted on discharge monitoring reports (DMRs), proposed TBELs, and background data where available. LDEQ screens TBELs against the calculated WQBELs, for both maximum 30-day and daily values, and if the screening indicates that a WQBEL is more limiting than the TBEL, the WQBEL is established in the permit. Where there are no TBELs, the WQBEL is screened against the end-of-pipe discharge value, assuming an estimate of the upper range of average end-of-pipe values set at the 95th percentile using a lognormal distribution. LDEQ will establish a WQBEL if the estimated 95th percentile of a data set for a pollutant exceeds the calculated effluent daily value average WQBEL.

LDEQ permit writers work with a TMDL liaison to identify applicable TMDLs and initiate requests for modeling. Permit writers refer to the current Integrated Report to identify whether the receiving stream is impaired or if there is a TMDL applicable to the discharge. LDEQ maintains a list that includes the impairment status of all stream segments and a weblink to any applicable TMDLs. Permit writers implement the newly adopted procedures of Appendix G from the Implementation Procedures to address impaired waters during effluent limitation development. For those waters that are impaired, but a TMDL does not exist, the permit writer will evaluate the application information, the discharge type, and any applicable discharge monitoring data to determine whether the discharge has the potential to discharge the pollutant of concern. The permit writer may also consider facility operations, such as whether the facility will be providing improved treatment, replacing older facilities, or extending the collection system to previously unsewered areas. It may be determined that a model is needed to ensure there will be no adverse impact to the receiving water. Ultimately, monitoring requirements or effluent limitations for the impairment may be included in the permit. The fact sheet and rationale or statement of basis will include language that addresses the impairment. Where a TMDL is applicable to the discharge, the permit writer will review the TMDL to identify effluent limitations and monitoring requirements specified in the TMDL and incorporate them into the proposed permit. A discussion of how the TMDL was implemented is included in the fact sheet and rationale or statement of basis. Appendix G from the Implementation Procedures indicates that Water Permits Division maintains a database that includes tracking spreadsheets for all waterbody segments and all TMDLs. These spreadsheets list the entire

LPDES permit universe, calculate loading where applicable, and are updated with each permit issuance. Permit writers have access to the database through a shared folder. The TMDL shared folder includes the tracking spreadsheets, PDF versions of all TMDLs, the latest version of the Implementation Procedures, and sample fact sheet and rationale TMDL language. TMDL language is included in fact sheet and rationale and statement of basis documents and reviewed by several levels of management to ensure consistency.

If DO is a pollutant of concern (e.g., if the permit is for an increased discharge or a discharge to an Outstanding National Resource Water [ONRW], or as needed), the modeling for DO parameters is conducted separately from the water quality spreadsheet. Further, permit writers use a specific spreadsheet to evaluate pH effluent limitations. In addition, permit writers use a separate mixing zone temperature calculation spreadsheet to evaluate the temperature of discharges that contain a heat component (e.g., cooling tower blowdown or once-through, noncontact cooling water), as needed. All spreadsheets named above are included as appendices of LPDES permit fact sheets and the rationale or statement of basis and are available in EDMS.

LAC 33:IX.1121.B.3 provides for WET testing requirements and indicates that "*In general, whole effluent toxicity testing will be required in the permit for discharges where data are insufficient to demonstrate that any discharge does not or will not contribute to ambient toxicity.*" LDEQ permits require WET testing routinely on a schedule based on the variability of the discharge and whether effluent toxicity is suspected or known. LAC 33:IX.1121.C outlines LDEQ's five options for implementing WET permit requirements, the selection of which is dependent on data availability and whether toxicity is suspected or known. Section 8 of the Implementation Procedures addresses WET testing and cites state regulation that requires LDEQ to establish effluent limitations for WET where "…*a discharge causes, has the reasonable potential to cause or contribute to an instream excursion above a narrative criterion within an applicable state water quality standard*." LDEQ evaluates reasonable potential for lethal and sub-lethal effects when the permit requires 7-day short-term chronic WET testing requirements and for lethal effects when the permit requires 48-hour acute testing. Under circumstances where no existing data are available (e.g., new permits), LDEQ will incorporate WET requirements, typically requiring standard biomonitoring requirements. The Implementation Procedures also note "…*in accordance with EPA Region 6 WET permitting strategy, permits shall require biomonitoring at some frequency for the term of the permit or where available data show reasonable potential to cause lethality or sub-lethality, the permit shall require a whole effluent toxicity (WET) limit or chemical-specific limit(s).*" The Implementation Procedures and LAC 33:IX.2707.D.1.e appear to be consistent with 40 CFR Part 122.44(d)(1)(v) with regards to when to require a WET or chemical-specific limit, allowing a chemical-specific limit established in lieu of a WET limit only where the permitting authority demonstrates, in the fact sheet or statement of basis, that the chemical limit will preclude toxicity. The Implementation Procedures (page 15) go on to describe LDEQ's approaches for determining whether a discharge has demonstrated reasonable potential to cause or contribute to instream toxicity, including evaluating the previous 5 years' WET data using a predictive statistical procedure like that presented in EPA's TSD, and if reasonable potential exists, the permit will include a WET effluent limitation. In this scenario,

LDEQ provides a 3-year compliance schedule. The Implementation Procedures also state that for data sets with fewer than 10 test results per species where calculations indicate a high probability that reasonable potential exists, LDEQ must establish a WET effluent limitation in the permit, unless LDEQ determines if the potential causes of the failure and /or abnormal dose response to be an isolated incident that has been corrected and no other failures occurred during the permit term. In such cases, LDEQ would likely incorporate standard biomonitoring language instead of a permit limit.

The Implementation Procedures also describe LDEQ's considerations where permits require monitoring-only for WET. Where permits require monitoring-only and the effluent fails the survival endpoint of a WET test, and fails one or more of the required retests, the effluent will have met the definition of reasonable potential for WET. For permits that require monitoring-only "…*and the effluent fails the sub-lethal endpoint (i.e., growth or reproduction) of a valid, permit scheduled toxicity test, the permittee shall be required to conduct retests once per month for the following three months. If any two of the three additional tests demonstrates significant sub-lethal effects at 75% effluent or lower, the effluent will have met the definition of reasonable potential for WET and the permittee shall initiate a 28-month sub-lethal TRE. At the end of the sub-lethal TRE, LDEQ will consider all information submitted and establish appropriate controls to prevent future toxic discharges, including WET and/or chemical-specific limits.*"

LDEQ's fact sheets include, as an appendix, a discussion of specific WET testing requirements and rationale for the requirements.

Process for Developing WQBELs

LAC 33:IX.2707.D requires that permit writers establish WQBELs consistent with 40 CFR 122.44(d)(1), for pollutants when LDEQ determines they may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including narrative criteria.

Permit writers use the water quality spreadsheet to calculate WQBELs and incorporate dilution and mixing zones. Louisiana's mixing zone policy is outlined in LAC 33:IX.1115.C. Mixing zone size constraints are based on a fraction of flow or radial distance as defined in LAC 33:IX.1115, Tables 2a and 2b. Mixing zones primarily are calculated using a simple complete mix or Fischer model in accordance with the Implementation Procedures. For flowing water bodies, mixing zones are based on proportions of flow. For overlapping mixing zones, LDEQ will consider composite low flows (7Q10). LDEQ's procedures for implementing mixing zones are contained in section 4 of the Implementation Procedures. The use of mixing zones is indicated in the RPA and documentation that is part of the fact sheet and rationale or statement of basis. Both documents are made available in EDMS.

Where possible, permit writers use data from Louisiana's ambient monitoring network via the LEAU for WQBEL calculations. The Surveillance Division of LDEQ's Office of Environmental Compliance collects water quality data from annual sampling activities. Basic water quality

parameters, nutrients, and some priority pollutants are monitored. If ambient data are not available, the WQBEL analysis assumes a background concentration of zero.

Program Strengths

Reasonable Potential

Louisiana's fact sheets appropriately identified receiving water bodies, stream segments, designated uses, impairment status, and applicable water quality standards. Fact sheet appendices consistently included documentation of LDEQ's RPAs and data considered in the analysis.

WQBEL Development

Documentation of WQBEL calculations, accompanied by a general document that explained the water quality screen and associated spreadsheet, was readily available in permit fact sheet appendices.

Areas for Improvement

Reasonable Potential

The use of multiple test failures (i.e., toxicity test results that indicate the level of toxicity measured would result in an excursion of the state's aquatic life protection criteria and WET water quality standards), or persistent toxicity, in determining RP for WET is inconsistent with 40 CFR 122.44(d)(1)(i), which requires that RP be determined when the effluent causes, has the reasonable potential to cause, or contribute to *an* excursion above a State's narrative or numeric criterion. Further, when RP is determined, a toxicity identification evaluation/toxicity reduction evaluation (TIE/TRE) should not be a pre-requisite for establishing WET limits since the TIE/TRE does not control, reduce or abate the source of toxicity. When RP has been demonstrated, a WET limit must be included (40 CFR Part 122.44(d)(1)(v)).

The use of compliance schedules for all new WET limits is not consistent with 40 CFR 122.47. This is discussed further in Section III.D., where an action item is identified to address this concern.

Fact sheets reviewed did not specifically discuss the basis for identification of specific pollutants of concern. An action item to address this concern is identified in section III.F.

WQBEL Development

LDEQ fact sheets did not clearly describe how mixing zones apply to the discharge and how they are calculated; the fact sheet appendix identifies the dilution granted but does not describe the basis for the value.

Action Items

Essential	Reasonable Potential •LDEQ must establish WQBELs where data indicate that the permitted discharge causes, has the reasonable potential to cause, or contributes to an excursion above any state WQS, in accordance with 40 CFR 122.44(d)(1)(i) - (vii). If representative data show that an excursion of any criteria, including narrative WET criteria, has already occurred or indicates that the discharge has the reasonable potential to cause or contributes to an excursion, a limit must be included in the permit, even where the data set used in the reasonable potential analysis is limited. If no data exists, a qualitative RPA should be conducted. If data are determined not to be or are no longer representative of the permitted discharge, then LDEQ must document the basis for this determination in the fact sheet. LDEQ should revise its Implementation Procedures and/or water quality standards if needed, upon the next triennial review no later than 2025, to address these items."
Recommended	Reasonable Potential •Recommended action items are identified in section III.F. WQBEL Development •Ensure that permit fact sheets discuss the basis for the allowance of a mixing zone, including the determination that the mixing zone size was appropriate and derivation of the value of dilution used in WQBEL calculations. •Recommend clarifying the WQMP to address intermittent toxicity follow-up actions. Clearly identify the need for a TRE and a limit upon intermittent toxicity exhibited by the permittee.

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 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 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 should contain comprehensive documentation 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. 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.

Louisiana's regulations at LAC 33:IX.1109.A set forth LDEQ's antidegradation policy and regulations at LAC 33:IX.1119 outline the implementation plan for the state's antidegradation policy. LAC 33:IX.1109.A.1 states that all waters of the state whose existing quality exceeds the specifications of the approved water quality standards will be maintained at their existing high quality. Further, the regulations state that LDEQ may allow a lowering of water quality to accommodate justifiable economic and/or social development, but not to the extent of violating water quality standards. In addition, the regulations state that if a new or increased activity will impact water quality by either a point or nonpoint source discharge of pollutants, the state shall ensure that the activity will not impair the existing uses. LAC 33:IX.1109.A.2 states that any new, existing, or expanded point source or nonpoint source discharging into state waters will be required to provide necessary treatment to protect water quality standards. LAC 33:IX.1119.C indicates that the basic principle of the antidegradation policy is that water quality criteria specified in Louisiana's water quality standards shall not be exceeded and that designated uses will not be adversely impacted. LAC 33:IX.1119 specifies that implementation procedures and methods will be included in the Continuing Planning Process, with additional WQMP documentation developed as needed. LDEQ has been working to develop a Tier 2 analysis process and more detailed implementation procedures and, upon completion, will incorporate implementation procedures for the Tier 2 process into the WQMP. Although LDEQ indicated that antidegradation is considered on a case-by-case basis for new or increased discharges, in the development of WQBELs, the evaluation is not specifically discussed in the fact sheet. LAC 33:IX.1119.C.4 states that wastewater discharges to an ONRW shall not be allowed if the activity will cause degradation, which is defined as a statistically significant difference at the 90 percent confidence interval from existing physical, chemical, and biological conditions. LDEQ requests applicants provide models for discharges directly to ONRWs or large discharges that may have a downstream impact; models are included as an attachment to the fact sheet and rationale or statement of basis and available in EDMS. LAC 33:IX.1119.C.4 also states that existing discharges of treated sanitary wastewater may be allowed if no reasonable alternative discharge location is available or if the discharge existed before the designation as an outstanding natural resource water body.

Louisiana's regulations at LAC 33:IX.2707.L, consistent with 40 CFR 122.44(l), address backsliding and require that reissued permits include effluent limitations and conditions as stringent as those in the previous permit with certain exceptions to this rule. Where less stringent effluent limitations are established, fact sheets and rationales or statements of basis include a discussion of the proposed effluent limitation. Documentation of the permit writer's

consideration is included in the "proposed changes" section or in the pollutant-specific rationale and will include the regulatory citation that allows the exception. Further, historical documents and associated EDMS document numbers may also be included as reference to support a change in permit requirements. The review of some permit files for non-municipal facilities indicated that fact sheet appendices containing ELG-based TBEL calculations included a column for the previous permit limit for use as a trigger for an anti-backsliding evaluation, illustrating one aspect of the evaluation.

LDEQ permit writers documented effluent limitations development in permit fact sheets with a thorough discussion of facility operations, treatment processes, expected waste streams, pollutants of concern, and compliance with previous effluent limitations. Further, permit writers identified the regulatory basis for TBELs and WQBELs and provided calculations to document how effluent limitations were developed. Fact sheets contained summaries of the RPA and proposed WQBELs, accompanied by a general explanation document.

Program Strengths

LDEQ implemented appropriate procedures to develop TBELs and WQBELs and limitations were established in appropriate units and forms. The administrative record included sufficient documentation of the permit writer's development of TBELs, WQBELs, monitoring requirements, and special conditions.

Areas for Improvement

Most of the fact sheets reviewed lacked discussion of antidegradation. Also, in general, fact sheets lacked a clear demonstration that the permit writer compared TBELs and WQBELs and established the more stringent as the final effluent limitation. EPA recommends that LDEQ consider adding a column to the proposed effluent limitations table to identify the basis of the final effluent limitation (e.g., TBEL or WQBEL).

Action Items

Essential	•The PQR did not identify any essential action items for this section.
Recommended	•LDEQ should continue developing antidegradation implementation procedures and ensure fact sheets address antidegradation evaluations specific to the permit and discharge.

C. Monitoring and Reporting Requirements

Background and Process

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

Specifically, 40 CFR 122.44(i) requires NPDES permits to establish, at minimum, annual reporting of monitoring for all limited parameters sufficient to 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 Part 136 analytical method.

Permit writers consider monitoring requirements in the previous permit, monitoring requirements for similarly permitted discharges, and EPA's guidance in the *NPDES Permit Writers' Manual*. Permit writers establish monitoring frequencies based on discharge types (e.g., type of wastewater discharged, continuous vs. intermittent discharges, and major vs. non-major), limited parameters, facility size, limit bases established in ELGs (e.g., average monthly or maximum daily), and compliance history. Requests for reductions in monitoring are handled in accordance with EPA's monitoring guidance, *Interim Guidance for Performance Based Reduction of NPDES Permit Monitoring Frequencies* (EPA 833-B-96-001). Because of LDEQ's extensive ambient monitoring network, permits rarely include ambient monitoring requirements.

In accordance with LDEQ's *Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan Volume 9*, LDEQ establishes WET monitoring requirements for all discharges classified as majors and significant minors except for once-through, non-contact cooling water discharges to which no chemical treatment is added.

LDEQ permit writers may establish additional monitoring and reporting requirements on a case-by-case basis to collect data for future permit initiatives (e.g., nutrient management strategy), to support development of BPJ-based effluent limitations, to investigate the source of pollutants, to evaluate whether a facility's discharge is contributing to a surface water impairment, or when the additional monitoring is recommended as part of a TMDL.

LPDES permits require use of sufficiently sensitive EPA-approved analytical methods for analysis of effluent monitoring data to satisfy permit and application requirements. Permits also require the submittal of electronic DMRs on a regular basis, clearly stated in permits.

Program Strengths

Permits established appropriate and clear reporting requirements. EPA's core permit review found that Louisiana's permits identified and provided a useful narrative description of monitoring locations. Permits reviewed identified sampling and analytical methods consistent with 40 CFR Part 136 and required the use of sufficiently sensitive EPA-approved analytical methods. The language requiring the use of sufficiently sensitive methods is clear and implemented well, especially with respect to limited parameters and report/monitor-only parameters. Permits also specify MQLs for certain pollutants and establish appropriate reporting requirements, including electronic reporting.

Areas for Improvement

POTW permits did not require influent monitoring to ascertain compliance with minimum removal requirements for BOD_5 and TSS.

Action Items

Essential	•Establish influent monitoring requirements to ascertain compliance with permit limitations for the minimum percent removal requirements for BOD and TSS, consistent with 40 CFR 122.44(i)(1).
Recommended	•The PQR did not identify any recommended action items for this section.

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 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.

Standard conditions are included in the permit templates in TEMPO as "Standard Conditions for LPDES Permits" and a separate set of boilerplate language, referred to as "Part III," for major permits that are developed outside of TEMPO. LAC 33:IX.2701 contains conditions applicable to all LPDES permits that align with federal standard conditions at 40 CFR 122.41 and additional conditions at LAC 33:IX.2703 that are consistent with 40 CFR 122.42. LPDES standard conditions, revised as of August 16, 2021, are posted on LDEQ's website. All but one of the standard conditions reviewed during the PQR were dated January 10, 2020; one permit included the August 16, 2021 version. LDEQ indicated they review standard condition language annually.

Narrative conditions are included in permits as "Part II" and address biomonitoring, appropriate MQLs for effluent analyses, sufficiently sensitive analytical method requirements, pretreatment, source control studies, more specific requirements for stormwater pollution prevention plans (SWPPPs), and other requirements based on BPJ. LDEQ maintains four versions of special condition language to implement pretreatment program requirements in municipal LPDES permits, based on the specific scenario:

- Option 1 – Standard pretreatment language for POTWs without a pretreatment program and no categorical industrial users (CIUs) discharging to the POTW.
- Option 1 – POTWs without a pretreatment program and with CIUs discharging to the POTW (controlled by an LDEQ-issued control mechanism).
- Option 2a – POTWs with an approved pretreatment program.
- Option 3 – POTWs required to develop and implement a new pretreatment program.

The special conditions for specific industrial facilities are included in the permit templates but may be modified by the permit writer based on site-specific conditions. Permit writers consult with inspectors as part of the permit development process to determine what site-specific requirements might need to be addressed through special conditions.

LAC 33:IX.1109.D and 33:IX.1109.E address water quality standards policies for compliance schedules and variances from water quality standards. LAC 33:IX.1109.D states that compliance is required at the earliest practicable time. Compliance schedules include interim conditions for monitoring requirements, temporary effluent limitations, milestone dates, and reporting. LAC 33:IX.1109.E provides for variances from statewide criteria "…in certain cases where the appropriateness of the criteria is questionable." Variances may be granted for no more than 3 years and only after public participation and EPA review and approval.

Program Strengths

LDEQ included permit standard conditions in a stand-alone section (Part III of the permits); as a result, they were easy to locate and well-organized. All federal standard conditions appeared to be included in Part III of the permit and were consistent with the federal requirements.

Areas for Improvement

As previously discussed in Section III.B.2., permits include automatic 3-year compliance schedules when a new WET limit is implemented in a permit. According to 40 CFR 122.47 and further clarified in EPA's memo, *Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits* (May 10, 2007), https://www3.epa.gov/npdes/pubs/memo_complianceschedules_may07.pdf, "*In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record, that the discharger cannot immediately comply with the WQBEL upon the effective date of the permit*" and "*In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record and described in the fact sheet (40 C.F.R. § 124.8), that a compliance schedule is "appropriate" and that compliance with the final WQBEL is required "as soon as possible."*

Action Items

Essential	•LDEQ must ensure that compliance schedules are granted in accordance with NPDES regulations at 40 CFR 122.47 and are appropriate based on a discharger's demonstration of an inability to immediately comply with effluent limitations, adequately supported by the administrative record and fact sheet or Statement of basis, that the discharger cannot immediately comply with the WQBEL upon the effective date of the permit. 40 CFR.122.47(a)(1).
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). EPA discussed each element of the administrative process with LDEQ, and reviewed materials from the administrative process as they related to the core permit review.

Upon completion of a draft permit package, internal QA reviews, technical review with the permittee, signature by the manager or administrator, the draft permit decision is mailed to the permittee and a copy is uploaded to EDMS. The Public Participation Group (PPG), within the PPPSSD, receives an electronic copy of the draft permit decision for public notice and prepares the notice for upload to LDEQ's public notices webpage (https://deq.louisiana.gov/public-notices). The public notices webpage includes a link to all documents used in preparing the draft decision, a link for the public to submit comments, and a notice of the date of any public hearing, if one is scheduled.

PPG receives public comments and uploads comments to EDMS and subsequently forwards comments to the assigned permit writer. PPG receives comments via direct submittal on LDEQ's webpage, electronic mail, or in hard copy through standard mail. LDEQ will accept comments after the close of the public comment period but might not respond to or consider the comment in finalizing the permit; LPDES staff consults the Legal Division to determine the appropriate action.

Permit writers prepare a response for all comments received. Additionally, two LPDES senior scientists support permit writers with preparing responses to comments, as necessary. LDEQ might prepare a basis for decision document, based on the volume and type of comments. The basis for decision document is a separate document and is prepared only when deemed necessary. The response to comments and (if prepared) basis for decision documents are companion documents and both are signed by the Assistant Secretary for the Office. LDEQ's Legal Division also reviews any responses to comments and/or basis for decision documents as necessary. Public commenters are notified of LDEQ's final decision and receive copies of the final decision (i.e., final LPDES permit, response to comments, and basis for decision). The final LPDES permit incorporates the response to comments and basis for decision documents.

Requests for a public hearing on a permit must include a reason for the request. For some controversial permits, a public hearing is scheduled regardless of whether it is requested. The Assistant Secretary of the Office decides whether there is significant interest in a permit to warrant a public hearing and if one is warranted, PPG schedules the meeting venue and posts the hearing notice on the public notices' webpage.

LDEQ indicated that few permits are appealed following issuance and that they generally can predict at the time of permit issuance whether an appeal is likely. If an applicant appeals the final permit, they submit a request for an adjudicatory hearing and LDEQ responds by granting or denying the request. Where LDEQ grants the request, an administrative law judge hears the appeal. If LDEQ loses the administrative law hearing, LDEQ cannot appeal. Where LDEQ denies the request, the party has 30 days to file an appeal to 19th Judicial District of the Louisiana District Courts. If a party other than the permittee appeals the permit, it must appeal directly to the 19th Judicial District Court.

Program Strengths

LDEQ's public notice process is consistent with federal requirements. In addition, LDEQ's procedures for coordinating review of the draft permit and conducting public hearings are appropriate. Louisiana's record management system, EDMS, provides public access to the permit administrative record including public notice documents and public comments received.

LDEQ's public notification records were complete and useful. For the core permits reviewed, the permit record consistently included public notices. Furthermore, the cover letter for the final permit issued to the discharger clearly stated whether comments were received during the public comment period. Public comments and responses to comments were readily available and maintained in an organized manner.

Areas for Improvement

Public notices for municipal facilities lacked a description of sludge use and disposal practices, as required by 40 CFR 124.10(d)(1)(vii).

Action Items

Essential	•Ensure that public notices for municipal facilities contain a description of sludge use and disposal practices, as required by 40 CFR 124.10(d)(1)(vii).
Recommended	•The PQR did not identify any recommended action items for this section.

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;[2] 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.

Current 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.

LDEQ's EDMS contains all official LPDES records that have been created or received by LDEQ. LDEQ's Records Management Staff scan official records into EDMS, consistent with the SOP for *Preparing Documents to be Scanned in the Electronic Document Management System* (sop_1728_r06, July 23, 2018) and manage records disposition for the entire agency, according to the SOP for *Records Disposition* (sop_3061_r01, July 23, 2018).

LAC 33:IX.3111 and LAC 33:IX.6519 contain requirements for the development of LPDES permit fact sheets. Permit writers generally develop fact sheets prior to or concurrent with the draft permit and use a template document. Fact sheets are drafted for major permits and master general permits, while statements of basis are prepared for major municipal permits, minor permits, and some general permit authorizations.

Program Strengths

EPA's core permit review indicated that EDMS contains all the relevant documentation for the permit record. Permit fact sheets are organized consistently and include references to Louisiana's rules and regulations for applicable TBELs, water quality standards, and permit conditions overall. Fact sheets identify changes from the previous permit, which provided a useful at-a-glance understanding of new permit conditions. LDEQ permit records for permits where ELG-based TBELs are established contain adequate documentation of effluent limitation calculations, through inclusion of the Technology Spreadsheet and accompanying instructions.

[2] 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

LDEQ's records regarding TBELs for non-POTW facilities were generally adequate; however, they would be strengthened with a more detailed discussion of the applicability of ELGs (e.g., facility categorization and application of BPT/BAT/BCT standards). In addition, where permits continue existing effluent limitations that were previously established based on BPJ, EPA recommends that the current fact sheets provide some discussion of the technical basis for those BPJ-based effluent limitations. LDEQ's documentation of identification of receiving streams, designated uses, applicable water quality standards, receiving water impairment, and 303(d) status was adequate. However, documentation of the basis for pollutants of concern was inconsistent. In addition, LDEQ's fact sheets lacked a consistent discussion of antidegradation requirements. LDEQ's fact sheets would be improved by revising the fact sheet templates to include boilerplate language related to antidegradation requirements.

Action Items

Essential	•The PQR did not identify any essential action items for this section.
Recommended	•Ensure that the permit fact sheet includes sufficient documentation of the basis for effluent limitations, including the information final effluent limitations are based upon, as outlined in 40 CFR 124.8 and 40 CFR 124.56. Examples of recommended documentation include providing the basis for: •Application of ELG performance standards implemented in permits (e.g., BPT, BAT, BCT, or NSPS), •BPJ-based effluent limitations; especially those that are carried forward from the previous permit, and •Determination of pollutants of concern.

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 narrative 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 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.

To assess how nutrients are addressed in the Louisiana NPDES program, EPA Region 6 reviewed 3 permits as well as the Louisiana *Nutrient Reduction and Management Strategy* December 2019, *2020 Water Quality Inventory Integrated Report* (305(b)/303(d)), *Point Source Implementation Strategy for Nutrients in the Louisiana Pollutant Discharge Elimination System (LPDES) Program* May 2017, and Nutrient Reduction and Management Strategy website (https://www.deq.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=nutrient-management-strategy). See Table 1 below for permits reviewed for nutrient permit controls in non-TMDL waters.

Table 1. Permits reviewed for Permit Controls for Nutrients in Non-TMDL Waters

NPDES Permit No.	Facility	Action	Issued Date	Expiration Date
LA0042048	Jefferson Parish Department of Sewage-Marrero Wastewater Treatment Plant (WWTP)	Reissue	9/30/2021	10/31/2026
LA0051217	Louisiana Dept. of Public Safety and Corrections – Louisiana State Penitentiary	Reissue	9/29/2020	10/31/2025
LA0003115	Phillips 66 Company – Alliance Refinery	Reissue	9/29/2020	10/31/2025

The implementation of the Louisiana Nutrient Management Strategy provides a statewide strategy for managing nutrients in Louisiana's water bodies through coastal protection and restoration, nonpoint source management, point source management, incentives, collaborations and leveraging programs. Through further development and implementation of the Point Source Implementation Strategy for Nutrients in Louisiana by the LDEQ Water Permits Division, a focus on monitoring for nutrients in permitted dischargers that are likely to discharge nutrients will enhance information gathering for those nutrients and continue progress in environmental protection and restoration in Louisiana's water bodies.

Management of nitrogen and phosphorus is necessary to improve the quality of local water bodies and to help reduce the size of the Gulf of Mexico hypoxic zone. LDEQ focuses control efforts on nonpoint sources and stormwater discharges in addition to implementing narrative criteria that involves monitoring and reporting requirements for Total Phosphorus (TP) and/or

Total Nitrogen (TN) in major permits as well as the use of best management practices (BMPs). Outside of the nutrient strategy, LDEQ uses TMDLs as continued nutrient control through the regulation of oxygen demanding processes. LDEQ has also adopted limit criteria for ammonia, which in turn impacts nitrogen.

Other ways LDEQ addresses nutrients includes establishing BMPs in the General Permit LAG750000 for Discharges of Exterior Vehicle Wash Wastewater, for certain industries that are subject to an ELG that contains phosphorus or nitrogen limits, and requiring compliance with limits and nutrient monitoring in permits for specific facility types (e.g., fertilizer plants or poultry operations).

Specifically, LDEQ is implementing an enhanced approach for determining inclusion of nutrient monitoring in all discharges that may contain nutrients *Louisiana (Nutrient Management Strategy, Strategic Action 9.d. monitors nutrients in point sources, May 30, 2017)*. This will allow LDEQ to gather data necessary to determine the extent of nutrient contributions from these dischargers to Louisiana's waters. This strategy, is referred to as the enhanced nutrient monitoring approach, includes major and minor sanitary individual permits and other major and minor individual permits, as described below.

1) **For Major and Minor Sanitary Individual Permits:**

    a. Implementation of nutrient monitoring in all renewal and new Major and Minor Sanitary Individual Permits including POTWs and Privately Owned Treatment Works dischargers with a Standard Industrial Classification (SIC) code of 4952.

        i. Monitoring Parameters: Total Nitrogen (TN, STORET Code 00600) and Total Phosphorus (TP, STORET Code 00665)

        ii. Monitoring Frequency: Quarterly basis

        iii. Reporting: as concentration (mg/L) and loading (lbs./day)

2) **For Other Major and Minor Individual Permits:**

Nutrient monitoring on process wastewater outfalls shall be established for any one or more of the following 4 situations below. Monitoring may also be included on storm water or other wastewater (e.g., utility or wash water) outfalls on a case-by-case basis; for example, if the facility identifies a source of nitrogen or phosphorus in the application that has the potential to contaminate storm water or other types of discharges.

Process wastewater discharges:

    a. Facility types to include a) Food Processing, b) Petroleum Refineries, c) Sugar Production/Mills/Refineries, d) Paper Mills, e) Animal Farming Operations, i.e., alligators, chickens, cattle, and other livestock, f) Fertilizer Plants, g) Wood Processing, h) Landfills, i) any other facility where there is a potential for high

levels of nutrient discharge such as would occur with facilities dealing with the degradation/digestion of dense/high volume biomass/organic materials

b. Receiving waterbody is impaired for nutrients (nitrite/nitrate, total phosphorus, ammonia, or dissolved oxygen as the indicator parameter), whether or not a TMDL has been finalized.

c. A TMDL includes a waste load allocation for nutrients, regardless as to whether the receiving water is currently impaired.

d. Existing or new permit includes monitoring for nutrient parameter(s).

   i. Monitoring Parameters: Total Nitrogen (TN, STORET Code 00600) and Total Phosphorus (TP, STORET Code 00665)

   ii. Monitoring Frequency: Semi-annually basis at a minimum, or more frequent if permit conditions warrant.

   iii. Reporting: as concentration (mg/L) and/or loading (lb/day).

   iv. Monitoring Duration: Requirements will be established in the permit and continue until a TMDL is complete or an alternate water quality management strategy is developed, such as the 303(d) New Vision approach, or the facility is no longer discharging nutrients.

Program Strengths

LDEQ fact sheets and statements of basis contain sections (if applicable) that discuss the ammonia criteria RPA and nutrient policy, with separate sections that describe the receiving waterbodies and TMDL status. The fact sheets provide the documentation and explanation concerning whether TN and TP need to be monitored and/or reported, per the narrative nutrient criteria. The source of the analysis (application, waterbody, effluent) and the frequency of monitoring are also addressed. The 2019 *Nutrient Reduction and Management Strategy* contains Information on the statewide implementation plan. Other strategic paths include future use of water quality trading, non-point source watershed-based best management practices, and stakeholder engagement activities.

LDEQ's implementation of the nutrient strategy provides individual flexibility. Of the three permits reviewed, all three included TP and TN monitoring and reporting requirements in accordance with the nutrient strategy. None of the receiving waterbodies had active TMDLs. One industrial permit did contain Nitrogen monitoring and reporting on one discharge and an ELG-based Nitrogen limit on another discharge. Although DO is not in LEDQ's nutrient strategy, one permit did include a regional requirement for DO based on water type. Another practice that supports the nutrient strategy is the implementation of Louisiana's ammonia criteria, where the RPA can result in a nitrogen limit.

LDEQ posts a required annual report on its public website. An interagency team publishes the report along with collaboration from U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS) and EPA. The 2021 annual report highlights trend studies indicating nutrient concentrations as primarily decreasing.

Areas for Improvement

LDEQ's nutrient practices in non-TMDL waters is consistent with the state and federal requirements and implemented under the current strategy. Therefore, no areas of improvement are identified.

Action Items

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

B. Effectiveness of POTW NPDES Permits with Food Processor Contributions

The general pretreatment regulations (40 CFR Part 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 from 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 (OECA)'s Significant Non-compliance (SNC)/National Compliance Initiative (NCI).

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 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.

The PQR also assessed the status of the pretreatment program in Louisiana as well as specific language in POTW NPDES permits. With respect to NPDES permits, the PQR focused on the following regulatory requirements for pretreatment activities and pretreatment programs:

- 40 CFR 122.42(b) (POTW requirements to notify Director of new pollutants or change in discharge);
- 40 CFR 122.44(j) (Pretreatment Programs for POTWs);
- 40 CFR 403.8 (Pretreatment Program Requirements: Development and Implementation by POTW), including the requirement to permit all significant industrial users (SIUs);
- 40 CFR 403.9 (POTW Pretreatment Program and/or Authorization to revise Pretreatment Standards: Submission for Approval);
- 40 CFR 403.12(i) (Annual POTW Reports); and
- 40 CFR 403.18 (Modification of POTW Pretreatment Program).

Of the 101 major POTWs with LPDES permits, 33 facilities are covered under 14 approved Pretreatment programs. EPA reviewed the pretreatment language in two major POTW permits, LA0042048, and LA0036391 during the PQR. These pretreatment programs range from many SIUs and CIUs to few SIUs and CIUs and accordingly captures the range of high to low effluent volumes. Additionally, the PQR reviewed the Pretreatment requirements in two other major individual permits (LA0020443 and LA0038521) without established Pretreatment programs and found that appropriate permit language was included in Part II to address indirect dischargers. During the process of permitting or permit renewal, POTWs are required to list any contributing industrial facilities as part of their permit renewal application. This form can be found on Attachment I (Industrial/Indirect Waste Discharger into Sanitary System) of the WPS-S Form for Discharge Permits. This form is at https://deq.louisiana.gov/page/lpdes-water-permits. Reviews of all POTW permit applications are coordinated with the permit writer and the Pretreatment Coordinator. The Pretreatment Coordinator reviews the application, which lists all industrial user contributions to the wastewater plant. In addition to the application, The Pretreatment Coordinator reviews the Louisiana Manufacturer's Directory to determine if there are any indirect users not accounted for in the application. If any additional industries/businesses are noted in that review, the POTW is contacted to determine if any of the industries/businesses listed in the Manufacturer's Directory are connected to the POTW. Based on these two reviews, the Pretreatment Coordinator recommends pretreatment requirements to the permit writer to include in the draft permit package. The Pretreatment Coordinator will also make the determination when a POTW needs to develop a pretreatment program based on the number of industrial users that are connected to the POTW and in accordance with LAC 33:IX.6115 (https://deq.louisiana.gov/assets/docs/Legal_Affairs/33v09-201605-Water-Quality.pdf).

Pretreatment language is included in the Other Conditions section of each POTW permit. The language will vary depending on 1) no program, 2) no program but a state issued control mechanism(s) has been granted to the CIU, 3) pretreatment program requirements, and 4) a request to assess the need for a pretreatment program.

If a POTW has a facility that discharges categorical (CIU) wastewater and has been classified as such by LDEQ, then a control mechanism is issued to the facility and regulated by LDEQ. Otherwise, LDEQ identifies other SIUs through permit applications and through the Louisiana Manufacturer's Directory. The Pretreatment Coordinator reviews all reports that are submitted by the POTWs that have Pretreatment programs. In addition, the Pretreatment Coordinator conducts a Pretreatment audit at each of the approved programs on an average of every four years. The Pretreatment Coordinator conducts a thorough review of the program requirements and permits that are issued by the POTW.

The Pretreatment Coordinator is responsible for the POTW Pretreatment Program oversight. The Pretreatment Coordinator coordinates with the Water Enforcement and Regional Inspection Staff to conduct Pretreatment Compliance Inspections, and enforcement actions. Louisiana has one (1) State Pretreatment Coordinator responsible for oversight and conducting Pretreatment Audits, multiple LPDES Inspectors in various regional offices to assist conduct PCI's and enforce on the POTW's permit requirements, and six Municipal LPDES Permit Writers for the POTW permits.

Table 2. Summary of Approved Pretreatment Programs in Louisiana

Approved Program	NPDES Permit Number	Number of POTWs	Total Plant Flow	Total Number of SIUs	Total Number of CIUs	Total Design Flow	Total Industrial Flow
Alexandria	LA0041009	1	10.126	4	2	22	0.09
Bossier City	LA0053716	2	8.9	8	4	18	0.6912
Crowley	LA0041254	1	2.78	1	1	3.5	0.0016
De Ridder	LA0038407	1	2.08	1	0	3.03	0.11
East Baton Rouge	LA0036412	2	61	7	7	112	3.83
Jefferson Parrish	LA0066630	6	39.768	4	4	65.78	0.5706
Kenner	LA0066800	2	8.45	2	0	15.2	0.038
Lafayette	LA0036382	4	12.35	4	1	18.5	0.2198
Lake Charles	LA0036340	3	12.61	3	3	17.85	0.02261
Monroe	LA0038741	1	8	5	0	21	0.48
New Orleans	LA0038091	2	113.81	2	2	142	6.4
Pineville	LA0033464	1	3.61	4	3	3	0.308
Shreveport	LA0041394	2	26.92	9	9	37	0.957
St. John the Baptist Parish	LA0069868	3	4.648	4	4	5.9	0.05

The following materials reviewed for this PQR:

- Four POTW permits
  - Two with approved Pretreatment programs (LA0042048 and LA0036391)
  - Two without approved Pretreatment programs (LA0020443 and LA0038521)

- One IU permit (New Dairy Louisiana, LLC)
- One IU compliance inspection (DG Foods)
- Three sewer use ordinances (Jefferson Parish,[3] Lafayette City-Parish Consolidated Government,[4] City of Bastrop[5])

Table 3. POTW Permits Reviewed for Pretreatment National Topic Area

Permittee	Permit Number	Approved Pretreatment Program?	Design Flow Average (MGD)	No. of SIUs[1]	No. of Food Processors[1]	Controls on Conventional Pollutants or Nutrients in SUO?
Jefferson Parish Marrero WWTP	LA0042048	Yes	11.25	1	0	BOD, COD, and TSS surcharge
Lafayette Consolidated Government Northeast WWTP	LA0036391	Yes	1.5	4	1	BOD, COD, and TSS surcharge
City of Bastrop - Main Plant	LA0020443	No	1.8	2	1	BOD and TSS
Town of Homer	LA0038521	No	1.34	0	0	Not reviewed

[1] Based on the information provided in the permit fact sheet application.

Table 4. Food Processing IUs Reviewed for Pretreatment National Topic Area

Facility Name	Permit Number	Receiving POTW	Type of Food Processor	Classification by POTW	Average Process Wastewater Discharge (gallons per day [gpd])	Monitored Pollutants
New Dairy Louisiana, LLC.[2]	#8	Lafayette Consolidated Government Northeast WWTP	Dairy	SIU	60801.95[1]	Flow, Oil & Grease, Arsenic, Barium, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Zinc, pH, Ammonia as Nitrogen, Sulfide, Phosphorus, Nitrogen, LAC 33:IX.7107, Appendix D toxic and hazardous pollutants, surcharge for BOD, COD, and TSS
D G Foods[2, 3, 4]	N/A	City of Bastrop	Chicken Processing	SIU	100,000	COD, TSS, and pH

[1] Based on information included in the industrial user's fact sheet.
[2] Not considered categorical.
[3] Sampling done by Veolia Water
[4] Not a permitted IU. Compliance inspection was reviewed instead of a permit.

Program Strengths

Permits for all POTWs include requirements to identify SIUs (character and volume of pollutants). Permits for POTWs with approved pretreatment programs contain requirements to provide a written technical evaluation of the need to revise local limits following permit issuance or reissuance (40 CFR 122.44(j)(2)(ii)). Permits for POTWs include the federal standard condition requirement for notification and impact assessment of significant changes in industrial flow or character (40 CFR 122.42(b)). Permits and fact sheets for POTWs identify Pretreatment program approval and modification dates as applicable. Fact sheets for POTW permits describe the industrial contributions (e.g., number of noncategorical SIUs and CIUs). Industrial User control mechanisms/permits include appropriate effluent limitations and monitoring requirements for conventional pollutants and other pollutants of concern. Fact sheets for Industrial User control mechanisms/permits identify basis for limits or monitoring frequencies.

Areas for Improvement

Ensure that permit applications for POTWs are reviewed to ensure that Industrial Users are permitted as needed.

Action Items

Essential	•The PQR did not identify any essential action items for this section.
Recommended	•The permit writer should ensure that all Industrial Users are properly identified in the POTW's application.

C. Small MS4 Permit Requirements

Background

As part of this PQR, EPA reviewed three small MS4 permit coverages under LDEQ's LAR040000 General Permit for Discharges from Small Municipal Separate Storm Sewer Systems. These state's small MS4 LDEQ's general permit coverages were reviewed for consistency with the Phase II stormwater permit regulations.

EPA recently updated the small MS4 permitting regulations to clarify: (1) the procedures to be used when using general permits (see 40 CFR 122.28(d)); (2) the requirement that the permit

establish the terms and conditions necessary to meet the MS4 permit standard (i.e., "to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act"), including conditions to address the minimum control measures, reporting, and, as appropriate, water quality requirements (see 40 CFR 122.34(a) and (b)); and (3) the requirement that permit terms must be established in a "clear, specific, and measurable" manner (see 40 CFR 122.34(a)).

Currently, LDEQ issued the LAR040000 on August 17, 2018, and it became effective on September 1, 2018. EPA reviewed three small MS4 general permit coverages, for consistency with the LDEQ LA0R40000 and Phase II Stormwater permit regulations. These permit coverages included: Livingston Parish and Gravity Drainage District 1, 2 & 5 Authorization LAR040002 (AI108276), Tangipahoa Parish Authorization LAR041046 (AI186101), and West Baton Rouge Parish Government Authorization LAR041046 (AI186103). At the time of the PQR, there were approximately two hundred fifty (250) NOIs for facilities covered under the small MS4 general permit.

Program Strengths

LDEQ's small MS4 general permit coverages are consistent with the Phase II Stormwater permit regulations, as well as the more recent Remand Rule updates to these regulations. The small MS4 permit coverages are administered through a two-step permitting process, which relies on making the Stormwater Management Program (SWMP) an integral and enforceable part of the permit. To be compliant with the Remand Rule, major modifications to the SWMPs were publicly noticed through procedures presented in the permit.

The permits address discharges to impaired water bodies with and without an approved TMDL. Discharges of pollutant(s) of concern to water bodies for which there is an approved TMDL are not eligible for this general permit unless they are consistent with the approved TMDL.

Where there is a discharge to a water for which a wasteload allocation (WLA) for a particular pollutant has been assigned to one or more of a MS4 outfalls, the MS4 is required to develop and implement a monitoring program, which is described in Part IV.H of the permits.

If the MS4 has a public website, the MS4 must publish the annual report and the SWMP on the website.

Areas for Improvement

LDEQ's Small MS4s permit coverages were consistent with the requirements under LDEQ's LA040000 General Permit for Discharges from Small Municipal Separate Storm Sewer Systems and the Phase II stormwater permit regulations; therefore, no areas of improvement are identified.

Action Items

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

V. REGIONAL TOPIC AREA FINDINGS

A. Permit Implementation for Low DO in TMDL Waters

Background

Seasonal hypoxia conditions off the coast of Louisiana represent a major threat to the system's water quality and productivity. The Gulf hypoxic zone is second largest in the world—in the last 5 years (2016-2020), the area with DO concentrations <2.0 mg/L has averaged 5400 square miles. Hypoxia is a seasonal phenomenon and is a function of temperature, salinity, winds, freshwater inflow, and nutrient loads. Louisiana's existing criterion for DO is 5 mg/L, applicable to the entire water column. Both LDEQ and EPA agree that these criteria should be fine-tuned to better reflect the seasonal variability of DO conditions, and the variability of DO throughout the vertical profile, of the coastal environment, to be protective of sensitive species and to allow for an improved assessment of aquatic life use support.

There have been two EPA-driven coastal DO criteria development phases in Louisiana: (1) 2009-2010 initiated by OST and (2) 2012-2014 involving the state, Region 6, and OST. Tetra Tech was the contractor used in both phases:

- 2009 – 2010: Identified and cataloged various types of coastal chemistry, habitat, and aquatic species (and associated life history).
- 2012 – 2014: Reviewed data collected during previous 2009 – 2010 period and explored technical approaches applied in other parts of the country (Chesapeake Bay, Virginia Province, among others) for determining DO requirements appropriate for Louisiana coastal waters.

In October 2016, LDEQ completed a report entitled "*Conceptual Approach to Revise Dissolved Oxygen Criteria in Louisiana's Stratified Coastal Waters*". This report outlined LDEQ's review of the potential applicability of those technical approaches to coastal DO criteria development used elsewhere to Louisiana waters, LDEQ's proposed approach to criteria evaluation, and an approximate outline for completion of criteria development.

The current timeline indicates that this process was expected to conclude in December 2022. Known challenges to completing this effort are attributable in part to the following:

- Additional monitoring and analysis - LDEQ recently initiated additional collection of DO profile data from two coastal sites.
- Dependence on outside parties for information or feedback before project can proceed (modeling results, library requests, outside reviews).
- Staff time – LDEQ's coordinator of this effort carries multiple responsibilities within the agency.

Currently, LDEQ's WQMP Volume 3 and Volume 8 are guidelines for facilities and the state to allocate, monitor and report impairments to the state's waterways. Federal regulations at 40 CFR 122.44(d)(1)(i) require permit limits to be developed for any pollutant that causes, has the reasonable potential to cause, or contributes to an impairment of water quality standards, whether those standards are narrative or numeric.

For dissolved oxygen (DO), the LAC 33:IX:1 regulations stipulate that DO requirements be implemented by the classification of the waterway, seasonally, and no higher than 5 mg/L. While the exact limit does vary, these requirements represent the highest limits allowable in the standards accepted by both LDEQ and EPA. Additionally, LDEQ uses TMDLs to address potential impairments to waterways in the state, where applicable. The focus of the *Permit Implementation for Low Dissolved Oxygen in TMDL Waters* review is to verify that permits and fact sheets adequately account for statewide issues on other effluents that influence DO in the state's waterways. DO is also a concern considering the recent recission of criteria related to ammonia that could affect how DO is accounted for in these specific waters.

Table 5. Permits reviewed for Permit Implementation for Low DO

Permit Number	Facility Name	Action	Issuance Date	Expiration Date
LA0120529	Shintech Plaquemine Plant[1]	Reissue	2/11/21	2/10/26
LA0036391	Lafayette Consolidated Government NE WWTP[1]	Reissue	11/1/20	10/31/25
LA0020443	City of Bastrop WWTP[2]	Reissue	2/1/21	1/31/26

A total of three permits were reviewed to examine permit implementation for low DO. 1) Permits discharging directly to waters listed on the state's 303(d) list as impaired for low DO, excess algal growth, chlorophyll-a, nutrients, or any other designation related to nutrient impairment and 2) Permits discharging upstream of a waterbody impaired by low DO, but without an active TMDL related to low DO impairment.

Program Strengths

The LDEQ permitting program is supporting standards. The permits reviewed show that facilities identified do not contribute further DO into waterways. There are limits in place to

capture future alterations. It is noted that older TMDLs are reviewed to determine if the TMDL is still relevant and protective.

Areas for Improvement

Some TMDLs are not easily found within the system LDEQ provides to the public to disseminate information. EPA recommends annual or semiannual revaluation of information content which could help alleviate future issues of locating information. For example, when a TMDL is updated from an older version, reference the EDMS numbers of the previous documents. An essential action item is unnecessary given that a large percentage of information is readily available and easily found by outside users.

Action Items

Essential	•The PQR did not identify any essential action items for this section.
Recommended	•EPA suggests that an annual or semi-annual review be conducted to ensure information about TMDL waters are available in LDEQ's systems presented to the public.

VI. REVIEW OF PROGRESS ON ACTION ITEMS FROM LAST PQR

EPA Region 6, in coordination with EPA's Office of Wastewater Management (OWM), conducted an on-site PQR visit October 17-19, 2017. For this visit approximately 12 permits were reviewed for programmatic or core, nutrients, pesticides, pretreatment, and stormwater topics. However, an official report of findings was not finalized.

EPA did not finalize an official report from the last PQR on-site visit. EPA has been actively working with the state on the LDEQ WQMP. The triennial review was completed in 2021 and LDEQ's permitting implementation plan was updated July 5, 2022.

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 Louisiana's NPDES permit programs, as discussed throughout sections III, IV, and V 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 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 6 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 7 below.

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

Table 6. Essential Action Items from FY 2018-2022 PQR Cycle

Topic	Action(s)
Permit Application Requirements	• Ensure that POTW application forms (e.g., WPS-S) require applicant to provide the number of samples used to obtain the reported values (122.21(j)(4)(ix)(B)). • Ensure that POTW application forms (e.g., WPS-S) require reporting of maximum and average daily values (40 CFR 122.21(j)(4)(ix). • Ensure that major POTW application submittals include a complete data set for expanded effluent and WET testing requirements (40 CFR 122.21(j)(4) and (5)).
TBELs for POTWs	LDEQ must ensure that the fact sheet includes the basis for adjusted effluent limitations and a clear discussion of how the established limitations ensure compliance with guidelines and standards (40 CFR 124.56), such as the adjusted TSS effluent limitations ensure compliance with secondary treatment standards 40 CFR 133.103 (c).
Process for Assessing Reasonable Potential	LDEQ must establish WQBELs where data indicate that the permitted discharge causes, has the reasonable potential to cause, or contributes to an excursion above any state WQS, in accordance with 40 CFR 122.44(d)(1)(i) - (vii). If representative data show that an excursion of any criteria, including narrative WET criteria, has already occurred or indicates that the discharge has the reasonable potential to cause or contributes to an excursion, a limit must be included in the permit, even where the data set used in the reasonable potential analysis is limited. If no data exists, a qualitative RP analysis should be conducted. If data are determined not to be or are no longer representative of the permitted discharge, then LDEQ must document the basis for this determination in the fact sheet. LDEQ should revise its Implementation Procedures and/or water quality standards if needed, upon the next triennial review no later than 2025, to address these items.
Monitoring and Reporting Requirements	Establish influent monitoring requirements to ascertain compliance with permit limitations for the minimum percent removal requirements for BOD and TSS, consistent with 40 CFR 122.44(i)(1).
Standard and Special Conditions	LDEQ must ensure that compliance schedules are granted in accordance with NPDES regulations at 40 CFR 122.47 and are appropriate based on a discharger's demonstration of an inability to immediately comply with effluent limitations, adequately supported by the administrative record and fact sheet or Statement of basis, that the discharger cannot immediately comply with the WQBEL upon the effective date of the permit. 40 CFR.122.47(a)(1).

Administrative Process	Ensure that public notices for municipal facilities contain a description of sludge use and disposal practices, as required by 40 CFR 124.10(d)(1)(vii).

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

Topic	Action(s)
Basic Facility Information	LDEQ should consider including clear identification of the physical location of outfalls, such as latitude/longitude coordinates, in the Statement of Basis or Fact Sheet.
Permit Application Requirements	Add a separate technical permit application complete document to the permit records.
Process for Developing WQBELs	• Ensure that permit fact sheets discuss the basis for the allowance of a mixing zone, including the determination that the mixing zone size was appropriate and derivation of the value of dilution used in WQBEL calculations. • Recommend clarifying the WQMP to address intermittent toxicity follow-up actions. Clearly identify the need for a TRE and a limit upon intermittent toxicity exhibited by the permittee.
Final Effluent Limitations and Documentation	• LDEQ should continue developing antidegradation implementation procedures and ensure fact sheets address antidegradation evaluations specific to the permit and discharge.
Administrative Record and Fact Sheet	Ensure that the permit fact sheet includes sufficient documentation of the basis for effluent limitations, including the information final effluent limitations are based upon, as outlined in 40 CFR 124.8 and 40 CFR 124.56. Examples of recommended documentation include providing the basis for: • Application of ELG performance standards implemented in permits (e.g., BPT, BAT, BCT, or NSPS), • BPJ-based effluent limitations; especially those that are carried forward from the previous permit, and • Determination of pollutants of concern.
Effectiveness of POTW NPDES Permits with Food Processor Contribution	The permit writer should ensure that all Industrial Users are properly identified in the POTW's application.
Permit Implementation for Low Dissolved Oxygen in TMDL Waters	EPA suggests that an annual or semi-annual review be conducted to ensure information about TMDL waters are available in LDEQ's systems presented to the public.