

FINAL

EPA Region 4 NPDES Permit Quality Review

Alabama

June 17, 2020

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Executive Summary

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

The PQR examined 11 individual permits issued by the Alabama Department of Environmental Management (ADEM) for discharges from municipal utilities or Publicly Owned Treatment Works (POTWs) and industrial facilities of major and non-major discharge capacity. In addition, the PQR reviewed the state's Municipal Separate Storm Sewer System (MS4) Stormwater Phase II General Permit and two small MS4s covered by that permit, as well as two pretreatment permits issued to significant industrial users and the two POTW permits for the facilities to which these significant industrial users discharge. These documents were created based on permitting policies and statewide permit-writer templates. The PQR also focused on several national priority areas including:

- Permit Controls for Nutrients in Non-Total Maximum Daily Load (TMDL) Waters;
- Effectiveness of POTW NPDES Permits with Food Processor Contributions; and
- Small MS4 Permit Requirements.

PQRs usually focus on regional topics that address systemic permitting issues identified during real time review of draft permits. For this cycle of the PQR, Region 4 did not identify any systemic permitting issues in Alabama and elected not to address any regional priority areas as topics in this PQR.

The PQR report presents a cyclical overview of the Alabama NPDES permitting program and identifies new areas where EPA and ADEM continue to work together to strengthen NPDES permit language and documentation in all state permits. The PQR recognizes that state and region-specific challenges faced by the State of Alabama include coordination with other federal agencies on permitting issues, difficulty in retaining experienced permit writers in select sectors, and challenges with emerging pollutants.

- EPA deemed none of the findings for this PQR cycle "essential." Although the reviewed permits commonly conformed to national requirements, we identified several areas where we recommend focus to improve permit quality. These comments are noted in detail in the PQR report.

The State of Alabama reviewed and provided comments on the draft PQR report several times during June 2019. ADEM agreed with most of the draft PQR recommendations and has committed to take action to address many of the proposed action items. Several of these actions are already underway.

I. PQR BACKGROUND

Permit Quality Reviews (PQRs) are an evaluation of a select set of National Pollutant Discharge Elimination System Program (NPDES) permits to determine whether permits are developed in a manner consistent with applicable requirements established in the Clean Water Act (CWA) and NPDES regulations. Through this review mechanism, the EPA promotes national consistency and identifies successes in implementation of the NPDES program as well as opportunities for improvement in the development of NPDES permits. EPA conducted a previous PQR of the Alabama Department of Environmental Management (ADEM's) NPDES permitting program on May 13-14, 2013. The PQR summary report is available at:

https://www.epa.gov/sites/production/files/2016-08/documents/al_pqr_final_report.pdf.

From that review, the evaluation team proposed various action items to improve ADEM's NPDES permitting program. As part of the current PQR, EPA discussed with ADEM their progress in resolving the previous action items and EPA began a new review of their program.

Of the 16 action items identified during the previous PQR, none were categorized as being essential¹ actions (see definition below). To date, ADEM has resolved eight of the previous PQR action items, seven are in progress, and resolution on one item has not started. These action items are identified in this PQR cycle as "recommended." Section VI of this report contains a status of the progress on action items identified during the first PQR.

For this PQR, the review identified new or additional action items to improve ADEM's NPDES permit program. The proposed action items are identified in Sections III and IV of this report and are divided into two categories to identify the priority that should be placed on each item.

- **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 in order 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.

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

Three members of the NPDES Permitting Section from EPA Region 4 made up the review team. The PQR was conducted at ADEM's main office in Montgomery, Alabama on July 18, 2018.

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

The Alabama PQR included reviews of core permit components and national topic areas, as well as discussions between the PQR review team and ADEM 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 provide 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 18 active NPDES permits were randomly selected and reviewed as part of this PQR:

NPDES Number	Permit Name
ALG850000	Sand and Gravel GP
AL0003646	US Steel
AL0003697	Pilgrims Pride Corporation
AL0020991	Utilities Board of the City of Bridgeport
AL0027979	Deep Sea Foods Inc
AL0042447	Arkema Inc
AL0048861	City of Alexander City
AL0049531	City of Huntsville
AL0049921	City of Millbrook
AL0054666	City of Pelham
AL0057100	City of Tusculmbia Department of Utilities
AL0062847	Town of Wadley
ALP000105 IU323500053	Borden Dairy Company of Alabama, LLC
ALP000129 IU341400075	Koch Foods of Ashland LLC
ALP000412 IU414900004	Deep Sea Foods Inc
ALR040000	MS4 Phase II General Permit
ALR040018	City of Opelika
ALR040056	City of Rainbow City

Of these, 11 permits were reviewed for core criteria, two permits were reviewed for the national topic area of nutrients, two permits specific to the Municipal Separate Stormwater Sewer System (MS4) program as well as the general permit for small MS4s were reviewed, and two pretreatment permits and two Publicly Owned Treatment Works (POTW) permits were reviewed for the Food Processing/Pretreatment National Topic area. All the reviewed permits were issued within the previous five-calendar years and reflect current permitting practices for

the time period of the PQR review. ADEM provided all documents electronically in advance of the PQR visit via the state's FileNet system called eFile.

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. The core review focused on the *Central Tenets of the NPDES Permitting Program*² to evaluate ADEM's NPDES program. Core topic area permit reviews are conducted to evaluate similar issues or types of permits in all states.

Topic Area Reviews

The national topics reviewed in the ADEM NPDES program were: Permit Controls for Nutrients in Non-Total Maximum Daily Load (TMDL) Waters, Effectiveness of POTW NPDES Permits with Food Processor Contributions, and Small MS4 Permit Requirements.

Regional topic area reviews target regional-specific permit types or aspects of permits. EPA did not select any regional topics for this PQR, as there were no systemic issues identified during routine real-time review of permits that elevated to the PQR review level.

II. STATE PERMITTING PROGRAM GENERAL OVERVIEW

ADEM currently has a NPDES permitting workforce of 36 full-time employees (FTEs) for their industrial and municipal permitting activities among all offices; however, some of these staff also are involved in compliance and enforcement activities resulting in approximately 14 FTEs for permitting activities. The state has approximately nine water quality modelers/TMDL program personnel in the Water Quality Branch of the Water Division, who provide support to the NPDES permitting program. Supplementary NPDES permitting program support includes scientists and biologists in the Field Operations Division who assist with various issues, including toxicity, and additional 316(a) and 316(b) reviews.

To support the NPDES permit program, ADEM developed guidance and templates in their database system to assist in permit development. These items are designed to aid the Department in maintaining uniformity and consistency in developing permits among all permit writers as well as serving as a training tool for new permit writers. In addition, ADEM has a strong internal mentoring program for new permit writers and this provides additional consistency to permit development.

ADEM utilizes a peer review process as part of its Quality Assurance/Quality Control (QA/QC) process. All permits, including individual and master general permits, are reviewed by three

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

levels of management prior to reissuance. During the peer review process, experienced staff review not only the draft permit conditions but also the reasonable potential analyses (RPAs) to ensure that the permit is protective of the receiving stream. Some of the permitting groups at ADEM utilize checklists as part of the QA/QC process.

The PQR team determined the universe of state-issued permits by looking at the number of active permits at the time of the on-site program and permit quality review (July 2018). Accordingly, ADEM administers 1,317 individual NPDES permits, including 512 permits for publicly-owned treatment works (POTWs) (118 major permits and 394 non-major permits), and 805 permits for non-POTWs (60 major permits and 745 non-major permits). ADEM has about 820 AFO/CAFO facilities that have NPDES permit coverage under the state's permit-by-rule regulations. In addition, ADEM administers individual storm water permits to 30 municipalities (i.e., Municipal Separate Storm Sewer Systems (MS4s)) and a significant number of industries. ADEM administers 24 master general permits (GPs) and has approximately 6,423 permittees covered under these permits. The largest of the GP sectors is for construction activities (3,298 permittees). Significant industries identified within the state include: pulp and paper, chemical manufacturing, metals, power plants and mining.

Alabama has an internet-based electronic reporting application for tracking Interactive Notice of Intent (iNOI) for issuing coverage under their storm water general permits. ADEM's GP for Discharge of Stormwater from Phase II MS4s (ALR040000) had 51 active permittees at the time of the State review.

As of July 2018, ADEM estimates that the overall backlog of administratively continued domestic and industrial NPDES permits is 35 major permits and 120 non-major permits. In addition, ADEM has 19 permits considered "Active Expired" due to an untimely application and 22 permits considered "Active Expired" with no application. None of the 24 master GPs the state administers are administratively continued; however, there are 61 permit coverages that are administratively continued plus 35 permit coverages considered "Active Expired" due to an untimely application and 458 permit coverages considered "Active Expired" with no applications. An "Active Expired" permit is one that is administratively continued but lacking a complete application. ADEM has steadily met the nationwide goal of less than 10 percent backlog. Most of the delays to proceeding with permit drafting involve coordinating and receiving all application data to make permit applications complete. Other delays noted were permit specific.

State initiatives that ADEM is currently developing that will strengthen the permitting program include:

- Development of an interactive public web site map for citizens to view in real time the locations of sanitary sewer overflow (SSO) locations. By clicking on an SSO outfall, the public is linked to the e-file system for viewing volume and details of SSOs. The public has the option to receive an email for notifications of SSOs occurring in their county. ADEM also has a map that identifies all municipal wastewater treatment plant outfalls.

- Requirement that municipal permittees develop a Sewer Overflow Response Plan (SORP).
- Posting or providing signage at boat ramps that includes the information for viewing SSO maps and fish advisories.
- Mining company permit applications are not processed until the applicant has submitted its Surface Mining Control and Reclamation Act (SMCRA) application to the Alabama Surface Mining Commission (ASMC).
- 99% of individual permittees are submitting Discharge Monitoring Reports (DMRs) electronically and 94% of all permittees covered under general permits submit DMRs electronically.
- Inclusion of effluent monitoring of emerging contaminants, including perfluorinated compounds, in some permits.

III. CORE REVIEW FINDINGS

A. Basic Facility Information and Permit Application

1. Facility Information

Background

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

Program Strengths

ADEM consistently included identification of outfalls and receiving waters in the 11 reviewed permits. Latitudinal and longitudinal coordinates provided in the wasteload allocation summary or mixing zone analysis for wastewater outfalls appeared to be accurate. The reviewed permits included pertinent information, such as permit issuance dates, effective dates, expiration dates, authorized signatures, and specific authorization-to-discharge information.

Areas for Improvement

In most of the reviewed permits, the description of the type of wastewater treatment or facility operations provided in the rationale and application was either vague or could not be found in the permit file. This finding is similar to a finding from the previous PQR. EPA recommends that more information about the wastewater treatment process be included in the permit, fact sheet, rationale, or application.

Action Items

Essential	•None
Recommended	•Include more information about the wastewater treatment process in the permit, fact sheet, rationale, or permit application.

2. Permit Application Requirements

Background and Process

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

Program Strengths

For the 11 reviewed permits, permit applications were generally submitted on time. ADEM sends application reminder letters to permittees several months prior to their application due date which helps ensure receipt of applications in a timely manner. In addition, almost all applications were stamped with the date ADEM received them.

Areas for Improvement

No areas for improvement were noted.

Action Items

Essential	•None
Recommended	•None

B. Developing Effluent Limitations

1. Technology-based Effluent Limitations

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

Program Strengths

In all the reviewed POTW permits TBELs were included, were consistent with federal regulations, and were in the appropriate units and forms. Where applicable, limits were correctly based on equivalent-to-secondary standards.

Areas for Improvement

No areas for improvement were noted.

Action Items

Essential	•None
Recommended	•None

TBELs for Non-POTW Dischargers

Background and Process

Permits issued to non-POTWs must require compliance with a level of treatment performance equivalent to Best Available Technology Economically Achievable (BAT) or Best Conventional Pollutant Control Technology (BCT) for existing sources, and consistent with New Source Performance Standards (NSPS) for new sources. Where federal effluent limitation guidelines (ELGs) have been developed for a category of dischargers, 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 C.F.R. § 125.3(d).

ADEM's procedures for determining and establishing appropriate TBELs for non-POTWs are consistent with federal statutes, policies, and guidance. ADEM typically does not grant variances to non-POTWs, and none of the reviewed permits contained variances. All four reviewed non-POTW permits had TBELs based on applicable ELGs and TBELs based on BPJ.

Program Strengths

ADEM correctly identified and implemented applicable ELGs in permits for industrial facilities based on the expected waste streams and pollutants in the discharge. All calculations of TBELs

from ELGs appeared to be correct in the reviewed permits, and the limits appeared in the permits in the appropriate units and forms (*i.e.*, concentration or mass).

Areas for Improvement

For three industrial permits (AL0003646, AL0003697, AL0027979), it was unclear how BPJ limits satisfied the requirements under 40 C.F.R. § 125.3(d), which specify criteria to consider when setting case-by-case limitations. EPA recommends that the information required under 40 C.F.R. § 125.3(d) be clearly documented in the rationale.

One industrial permit (AL0042447) did not clearly outline the requirements related to production levels. The permit contained tiered limits based on production levels, but the permit did not specify what production levels had to be met to allow the permittee to move between the tiers; this information was only provided in the rationale. EPA recommends that ADEM include production level information/criteria in all permits with tiered limits.

The previous PQR recommended an action item that ADEM consider developing boilerplate language for statements of basis to address the applicability of ELGs to industrial facilities. Though ADEM has not developed specific boilerplate language, the applicability of ELGs to industrial facilities was sufficiently identified in the rationale for the reviewed permits. This action item from the previous PQR is considered resolved.

Action Items

Essential	<ul style="list-style-type: none">•None
Recommended	<ul style="list-style-type: none">•Clearly explain in the rationale how BPJ limits meet the requirements of 40 C.F.R. § 125.3(d).•When permitting tiered limits, include in the permit the production level that must be met to move between tiers.

2. Reasonable Potential and Water Quality-Based Effluent Limitations

Background

The NPDES regulations at 40 C.F.R. § 122.44(d) require permits to include any requirements in addition to or more stringent than technology-based requirements where necessary to achieve state water quality standards, including narrative criteria for water quality. To establish such “water quality-based effluent limits” (WQBELs), the permitting authority must evaluate whether any pollutants or pollutant parameters could cause or contribute to an excursion above any applicable water quality standard.

The PQR for ADEM assessed the processes employed to implement these requirements. Specifically, the PQR reviewed permits, fact sheets, and other documents in the administrative record to evaluate how permit writers:

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

Program Strengths

Reasonable Potential and WQBEL Development

Permit rationales for the reviewed POTW permits included a clear comparison of toxicity-based versus nitrogenous biochemical oxygen demand-based ammonia limits. For some permits, background instream data were used for the reasonable potential analysis (RPA) and WQBEL development, and in other permits, it was noted in the rationale when background instream data were unavailable.

Areas for Improvement

Reasonable Potential

In one permit (AL0027979) where the facility used cooling water additives, no RPA was documented for whole effluent toxicity. Similarly, in another permit (AL0042447) for the discharge of oxygen-depleting pollutants, no instream dissolved oxygen analysis was documented. ADEM indicated that RPA was performed for both permits and that there was no reasonable potential in either case. EPA recommends that ADEM ensure documentation of RPAs in the permit record.

In one industrial permit (AL0003646), the basis for the effluent flow and hardness values used in the toxicants RPA was unclear. ADEM indicated that the hardness value was based upon a site-specific analysis by their Water Quality Branch (a memorandum was included in the facility file) and that the effluent flow was included in the permit application as the maximum expected flow after reconfiguration. In two other industrial permits (AL0003697, AL00042447), the basis for the effluent flow value used in the toxicants RPA was not explained in the rationale but could be found in the application. For clarity, EPA recommends that the basis of flow and hardness values used to characterize discharges from industrial facilities be clearly documented in the permit rationale.

The rationales for several permits (AL0003697, AL0020991, AL0042447, AL0048861, AL0049531, AL0049921, AL0054666, AL0057100, AL0062847) did not contain explanations of how reasonable potential for nutrients were considered. See discussion in Section III.A.

In the absence of background instream data or where a parameter was detected below detection levels, Alabama permit writers assume a background value of zero when evaluating reasonable potential. To improve transparency, EPA recommends that the underlying basis for assuming a zero background be clearly stated in the rationale.

WQBEL Development

Some permit rationales (AL0049531, AL0049921, AL0057100) did not include the waterbody designation, 303(d) status, and/or TMDL status for all stormwater outfall receiving waters, and one permit rationale (AL0027979) was not clear on whether such information provided applied to both wastewater outfalls. EPA recommends that this information be provided for the receiving waters of all permitted outfalls.

Some of the reviewed permit rationales provided clear documentation that ammonia WQBELs were protective of both the instream dissolved oxygen and ammonia criteria per 40 C.F.R. § 122.44(d)(1). Two permits (AL0003646, AL0003697) had no documentation showing that ammonia toxicity was considered in the development of permit requirements for ammonia. ADEM indicated that staff in the Water Quality Branch evaluate ammonia toxicity on behalf of permit writers. This finding is not considered a systemic issue but rather a recommendation for better documentation.

Lastly, a mixing zone was granted for pathogens in two permits. While state law allows this, EPA does not recommend this practice, particularly when the receiving waterbody has a swimming classification.

Action Items

Essential	<ul style="list-style-type: none">•None
Recommended	<ul style="list-style-type: none">•<u>Reasonable Potential</u>•Ensure documentation of reasonable potential analyses in the permit record.•For industrial permits, clearly document the basis for the effluent flow and hardness values used in toxicant reasonable potential analyses.•Clarify whether background data is below detection versus not available when assuming a zero background concentration.•<u>WQBEL Development</u>•Include in the rationale the waterbody designation, 303(d) status, and TMDL status for receiving waters of all stormwater outfalls.•Improve documentation to show permitted ammonia discharges do not cause or contribute to an exceedance of toxicity-based ammonia water quality criteria.

3. Final Effluent Limitations and Documentation

Background and Process

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

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

Program Strengths

Permit rationales for reviewed industrial facilities included a table stating whether a final limit is a TBEL or WQBEL, which is a clear way to provide this information. Also included was documentation of calculations used to develop TBELs from ELGs, which helped provide insight into the basis for the limits. In most cases, ADEM included WQBEL calculations and their corresponding master equations in the rationales. Some permit rationales included tables of pollutant effluent data with the calculated averages and maximum values, which were then used in the toxicants' numeric RPAs. One permit rationale contained a table comparing TBELs versus WQBELs for one of the ELG subparts that applied to the facility, and another permit rationale included a description of the process for comparing TBELs to WQBELs and selecting the most stringent limit for the permit; these practices helped present this information in a clear and concise manner.

Areas for Improvement

CWA section 402(o)(1) expressly prohibits backsliding from certain existing effluent limitations, and anti-backsliding requirements must be met per the regulations at 40 C.F.R. § 122.44(l). One permit (AL0027979) had total residual chlorine limits that were made less stringent than in the previous permit, but it was unclear whether anti-backsliding requirements were addressed. EPA recommends that anti-backsliding be addressed in the rationale for all permits where a permit condition is being removed or relaxed. Documenting anti-backsliding requirements for permits where a limit becomes less stringent is one of the two action items under this topic from the previous PQR.

For several permits (AL0003646, AL0042447, AL0048861, AL0049531, AL0049921, AL0054666, AL0057100), one or more parameters with monitoring requirements or limits were not addressed in the rationale. As a general recommendation, the permit rationale should address all limits and monitoring conditions and their bases for each outfall. This is similar to a recommended action item from the previous PQR that ADEM include a discussion of the basis for each effluent limitation, especially in cases where the permit does not contain both acute and chronic effluent limitations and where the rationale states the effluent limitation is based on the previous permit, without further explanation. EPA considers this action item to be in progress.

Three permits (AL0048861, AL0049921, AL0062847) had limits or monitoring requirements that were removed from the permit without explanation in the rationale. ADEM indicated that all changes were minor in nature (*e.g.* removal of reporting a duplicate single value for a monthly average and maximum value). EPA recommends that the rationale document the removal of permit limits or monitoring requirements.

With the exception of industrial facilities referenced above under Program Strengths, permit rationales did not address the comparison of TBELs versus WQBELs in order to determine the most stringent limit to be included in the permit. EPA recommends that ADEM apply the

practices listed under Program Strengths to all permits; ADEM could include in permit rationales an explanation of the process used to compare and select the most stringent limit.

Lastly, the following are additional recommended action items from the previous PQR regarding the documentation of final limit development. There was a recommended action item that ADEM ensure that the permit record includes documentation of the development of ELG-based effluent limitations. The permits reviewed in this PQR generally contained sufficient documentation of the development of ELG-based effluent limitations in the rationales, and this item is considered resolved.

Another previous recommended item was that ADEM document ELG-based effluent limits development with information such as a detailed facility description, categorization as it relates to the ELG, identification and illustration of any factors that are involved in calculating production-based effluent limitations, and an illustration of the calculation of final ELG-based effluent limitations. ADEM rationales now include many of these elements as well as some documentation of calculations used to develop TBELs from ELGs, but a couple of permits reviewed in this PQR did not include the master equations used for the calculations. This item is considered in progress.

The previous PQR recommended that ADEM ensure that calculations and copies of spreadsheets supporting WQBELs are included with the rationale document. ADEM now generally includes calculations and numeric RPA spreadsheets with the rationale, so this action item is considered resolved. Regarding the previous PQR item that ADEM strengthen the administrative record by including files related to water quality-based evaluations, ADEM now includes calculations for TBELs and WQBELs and RPA spreadsheets. This action item is considered in progress.

Action Items

Essential	<ul style="list-style-type: none">•None
Recommended	<ul style="list-style-type: none">•Address anti-backsliding in the rationale for all permits where a permit condition is being removed or relaxed.•Provide in the rationale a statement addressing all limits and monitoring conditions and their basis for each outfall.•Document in the rationale the removal of permit limits or monitoring.•Clearly state in the rationale which limits are TBELs and which are WQBELs for all permits.

C. Monitoring and Reporting Requirements

Background and Process

NPDES regulations at 40 C.F.R. § 122.41(j) require permittees to periodically evaluate compliance with the effluent limitations established in their permits and to provide the results

to the permitting authority. Monitoring and reporting conditions require the permittee to conduct routine or episodic self-monitoring of permitted discharges and where applicable, internal processes, and report the analytical results to the permitting authority with information necessary to evaluate discharge characteristics and compliance status.

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

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

Program Strengths

The reviewed permits included appropriate monitoring requirements based on the facility type, type of discharge, corresponding limit basis, and required at least annual monitoring for all parameters. Some permits contained e-reporting requirements for sanitary sewer overflows (SSOs) prior to and in anticipation of the regulatory deadline.

Areas for Improvement

One permit (AL0042447) contained a footnote stating that ADEM had allowed the facility to dilute the effluent with well water in order to ensure compliance with the facility's whole effluent toxicity (WET) limit. 40 C.F.R. § 125.3(f) requires that certain conditions be met if "non treatment" techniques are utilized to achieve water quality standards. These conditions include the following: 1) the technology-based treatment requirements applicable to the discharge are not sufficient to achieve the standards; 2) the discharger agrees to waive any opportunity to request a variance under section 301 (c), (g) or (h) of the Act; and 3) the discharger demonstrates that such a technique is the preferred environmental and economic method to achieve the standards after consideration of alternatives such as advanced waste treatment,

recycle and reuse, land disposal, changes in operating methods, and other available methods. A demonstration that these conditions were met was not presented in the permit documentation.

In one permit (AL0042447) with multiple stormwater outfalls, one outfall was determined to be representative of the others such that monitoring requirements could be fulfilled for all stormwater outfalls by monitoring only at the representative outfall. For purposes of transparency, ADEM should document in the permit record how it determined that the one outfall was representative of all the outfalls.

The previous PQR contained the recommended action item that ADEM work with permittees to ensure data are submitted during the permit term to allow for a reasonable potential evaluation. No issues were found in this PQR regarding the timeliness for data submission for RPA, and so this action item is considered resolved.

Action Items

Essential	<ul style="list-style-type: none">•None
Recommended	<ul style="list-style-type: none">•When permitting "non-treatment" techniques to achieve water quality standards, conditions provided in 40 C.F.R. 123.3(f) should be met and discussed in the permit documentation.•Document in the permit record the basis when one stormwater outfall is determined to be representative of other outfalls.

D. Standard and Special Conditions

Background and Process

Federal regulations at 40 C.F.R. § 122.41 require that all NPDES permits, including NPDES general permits, contain certain “standard” permit conditions. Further, the regulations at 40 C.F.R. § 122.42 require that NPDES permits for certain categories of dischargers must contain additional standard conditions. Permitting authorities must include these conditions in NPDES permits and may not alter or omit any standard condition, unless such alteration or omission results in a requirement more stringent than those in the federal regulations.

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

Program Strengths

In general, ADEM permits included all federally required standard conditions with language as stringent as the federal language. ADEM's practice of maintaining their standard conditions in an electronic database helps improve consistency in permits and transparency in the program.

Areas for Improvement

No areas for improvement were noted.

Action Items

Essential	•None
Recommended	•None

E. Administrative Process

Background and Process

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

Program Strengths

ADEM's cover letters clearly stated whether comments were received during the public notice period. The permit writer's name and contact information were easily found in the cover letter.

Areas for Improvement

EPA recommends that ADEM document in the permit file whether a public hearing was requested or held, and if any changes were made from the draft permit to the final permit; not all the reviewed permit records included this information. The evolution of permit revisions made throughout the draft process was easy to follow in some permit rationales, but less clear in others. ADEM indicated that all comments are included in the permit file, and therefore it could be determined if a hearing was requested, and that documentation of whether a hearing was held would be documented when a response to comments is developed. ADEM also indicated that changes to the permit based upon comments are documented in the rationale, cover page for the permit (if minor), or in a response to comments.

The previous PQR included two recommended action items for the administrative process topic. One was that ADEM should continue implementing the process of technical and administrative review of draft permits. ADEM utilizes a peer review process for municipal permits, and all permits undergo three levels of management review. The second was that ADEM could strengthen its administrative process by consistently including a statement regarding receipt of comments during the public notice period in order to provide clarity that comments were received and addressed. ADEM has addressed this action item by including a statement in the final cover letter on whether comments were received during public notice. EPA considers both these action items to be resolved.

Action Items

Essential	•None
Recommended	•Include a statement in all permits on whether or not changes were made from the draft permit to the final permit.

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 C.F.R. § 124.9 identifies the required content of the administrative record for a draft permit and 40 C.F.R. § 124.18 identifies the requirements for a final permit. Authorized state programs should have equivalent documentation. The record should contain the necessary documentation to justify permit conditions. At a minimum, the administrative record for a permit should contain the permit application and supporting data; draft permit; fact sheet or statement of basis;³ all items cited in the statement of basis or fact sheet including calculations used to derive the permit limitations; meeting reports; correspondence between the applicant and regulatory personnel; all other items supporting the file; final response to comments; and, for new sources where EPA issues the permit, any environmental assessment, environmental impact statement, or finding of no significant impact.

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

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

statement of basis, documents cited in the fact sheet or statement of basis, and other documents contained in the supporting file for the permit.

Program Strengths

ADEM's use of their NPDES Management System (NMS) database for document templates and their eFile database for permit files increases the program's consistency and transparency.

Areas for Improvement

No areas for improvement were noted.

Action Items

Essential	•None
Recommended	•None

IV. NATIONAL TOPIC AREA FINDINGS

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

A. Permit Controls for Nutrients in Non-TMDL Waters

Background

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

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

To assess how nutrients are addressed in the Alabama NPDES program, EPA Region 4 reviewed two permits discharging to nutrient-impaired waters that do not have a TMDL. The two permits

reviewed were both major POTW facilities, and they included monitoring requirements for total phosphorous and nitrogen species. Based on EPA’s real-time reviews of ADEM permits, ADEM consistently implements this practice in permits for discharges to nutrient-impaired waterbodies without TMDLs.

Program Strengths

ADEM’s permits require effluent nutrient data monitoring to develop baseline loading data for facilities that discharge to nutrient-impaired waters. These data could, in the future, inform RPAs to determine if WQBELs are necessary to mitigate such nutrient-impaired waters.

Areas for Improvement

40 C.F.R. § 122.44(d)(1) requires that a RPA be performed and that effluent limits be included in permits as needed to ensure the achievement of water quality standards. For receiving waters impaired for nutrients, permits typically include monitoring requirements only. In the absence of water quality standards for nutrients, ADEM bases WQBELs on non-numeric requirements such as monitoring and general conditions to maintain facility operations. Permitting staff do not perform a numeric RPA for nutrients. EPA recommends that ADEM more clearly document RPA for nutrient discharges to nutrient-impaired waters that are not protected by a TMDL.

The previous PQR included an action item that ADEM could supplement effluent nutrient monitoring data with requirements in permits to sample for temperature and dissolved oxygen both upstream and downstream of facilities to aid in future WQBEL development. This action item has not been resolved.

Action Items

Essential	•None
Recommended	•More clearly document a reasonable potential analysis for nutrient discharges to nutrient-impaired waters that are not protected by a TMDL.

B. Effectiveness of POTW NPDES Permits with Food Processor Contributions

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

Background

Indirect discharges of food processors can be a significant contributor to noncompliance at recipient POTWs. Food processing discharges contribute to nutrient pollution (e.g., nitrogen, phosphorus, ammonia) to the nation's waterways. Focusing specifically on the Food Processing Industrial Sector will synchronize PQRs with the Office of Enforcement Compliance and Assurance (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 Alabama as well as specific language in POTW NPDES permits. With respect to NPDES permits, focus was placed on the following regulatory requirements for pretreatment activities and pretreatment programs:

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

To identify permits to review for this topic, EPA used the custom query function within ADEM's eFile database. The query resulted in a list of final significant industrial discharger (SID) permits ADEM issued from January 2016 thru April 2018. EPA reviewed the list and selected two facilities that discharge food processing waste. These two SID permits identified the POTWs to which the facilities discharged, and so these two POTW permits were included for review. EPA was unable to find any municipal NPDES permits for POTWs that accept food-processing waste from unpermitted industrial users. ADEM concurred with this finding and indicated that if they identify an industrial user that is later determined to be a SIU, they will issue a SID permit to the industry or put the industry under enforcement action to obtain a pretreatment permit.

Municipal NPDES Permits Reviewed:

Permittee	Permit No.	Approved Pretreatment Program?	Design Flow (MGD)	No. of SIUs ¹	No. of Food Processors ¹
City of Bayou La Batre	AL0078921	N/A ²	3.0	5	5
Ashland WWTP	AL0020141	N/A ²	1.5	1	1

¹ Based on the information provided in the permit application.

² ADEM is the control authority for the pretreatment program under 40 CFR § 403.10(e).

Two food processing SID permits were also reviewed as part of the PQR. They are identified in the table below.

Facility Name	Permit Number	Receiving POTW	Type of Food Processor	Classification by ADEM	Average Process Wastewater Discharge (gallons per day)	Monitored Pollutants
Deep Sea Foods Inc.	IU414900004	City of Bayou La Batre	Seafood Processing	SIU	300,000 ¹	pH, Total Suspended Solids, Settleable Solids, FOG, Flow, CBOD ₅
Koch Food of Ashland LLC	IU341400075	Ashland WWTP	Chicken Processing Plant	SIU	700,000 ²	pH, TSS, TKN, Flow, CBOD ₅

¹ Based on the letter of acceptance attached to the IU permit from the Utilities Board of the City of Bayou La Batre.

² Based on information included in POTW's application.

Program Strengths

With ADEM as the control authority for the pretreatment program under 40 C.F.R. § 403.10(e), there is strength in the uniformity of how SIUs are permitted. The reviewed SID permits had robust standard conditions as well as discussion on civil and criminal liability, notice of spills, and bypasses and upsets reporting procedures. Compatibility of boilerplate language with federal regulations was listed as a strength in the previous PQR. All POTW permits reviewed for pretreatment included 40 C.F.R. § 122.42(b) requirements for reporting of change in quality or quantity of pollutants being introduced into the POTW.

The reviewed SID permits included a fact sheet, which aids in transparency and provides information regarding the industrial category of the SIU, receiving POTW, and receiving stream. Pass-through calculations tables were incorporated in the draft SID permit package. These tables provided much needed information on permit limit development and the nature of the SIU's process water.

Areas for Improvement

ADEM should consider providing a plan or procedure in SID permits regarding slug discharges. The current language in the SID permits indicate that a slug load control program will be established if determined necessary by the Director; however, it is unclear what would trigger such a determination. EPA recommends putting in place a reporting procedure like that of the spills and bypass language or dictating the criteria that would trigger the development of a slug load control program. This would demonstrate that ADEM has evaluated the system and determined whether a formal slug load control program is needed. ADEM indicated that the need for a slug load control program is often in response to an enforcement issue and is specifically required within the action. The receiving POTW's fact sheet should contain clearer information when indicating it is the state-issued SID permit that is the control mechanism for the industrial discharges (effluent) identified in the permit's application. This would provide clarity on the configuration of, and the constituents composing the influent to the final treatment system.

Action Items

Essential	•None
Recommended	<ul style="list-style-type: none">•Include language regarding what would trigger the slug load control program into the SID permit.•Identify the issued SID permit(s) in the receiving POTW's fact sheet and final permit.

C. Small Municipal Separate Storm Sewer System Permit Requirements

Background

As part of this PQR, EPA reviewed the state's small MS4 general permit (ALR040000) and MS4 Notices of Intent for the City of Opelika (ALR040018) and Rainbow City (ALR040056) 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 C.F.R. § 122.28(d)); (2) the requirement that the permit establish the terms and conditions necessary to meet the MS4 permit standard (i.e., "to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (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 C.F.R. § 122.34(a) and (b)); and (3) the requirement that permit terms must be established in a “clear, specific, and measurable” manner (see 40 C.F.R. § 122.34(a)).

Program Strengths

In general, ADEM has been effective in addressing their backlog of MS4 permits. The previous PQR report included a recommended action item that ADEM could explore additional means to reduce the backlog of MS4 permits, and ADEM continues to commit to reducing the MS4 permit backlog despite staff and resource shortages. In addition, ADEM staff coordinate with EPA personnel on MS4 policy and programmatic updates, as well as technical support needs. EPA real-time permit reviews reveal that ADEM is working to improve permit conditions during each permit cycle and has added more prescriptive MS4 permit requirements.

In several sections of the MS4 Phase II general permit, there are content requirements for stormwater management program plans (SWMPPs), SWMPP update requirements, requirements for SWMPP proposed schedules for interim milestones and requirements for the implementation of each minimum control measure. The permit also has multiple provisions for TMDL and 303(d) listed waterbodies, and certain sections have prescriptive minimum control measures - namely the public education and participation and illicit discharge detection and elimination sections.

The previous PQR report included a recommended action item that ADEM continue to work closely with EPA Region 4 to include post-construction standards, with an emphasis to remove barriers for developing effective green infrastructure (GI) and low impact development (LID) programs. The Phase II MS4 permit includes a requirement for the permittee to review and evaluate policies and ordinances related to building codes, or other local regulations, with a goal of identifying regulatory and policy impediments to the installation of GI and LID techniques. The permit also states that GI/LID shall be considered where feasible.

Areas for Improvement

Since Alabama’s MS4 Phase II general permit was updated prior to the January 2017 effective date of the Remand Rule, ADEM will need to consider ways in which the permit can be updated to be consistent with the requirements of the rule and all permit provisions will need to be expressed in a clear, specific, and measurable manner. If the state chooses to provide MS4s with the initial opportunity to propose specific actions that they will take during the permit term, the permit will need to incorporate the Two-Step General Permit procedures that the Remand Rule established in 40 C.F.R. § 122.28(d)(2). Note if the state uses the Two-Step General Permit approach, the permit provisions must still be expressed in clear, specific, and measurable form. EPA Region 4 is available to assist the state in suggesting specific permit changes that would be consistent with the Remand Rule. EPA also recommends that the state review and consider the extensive permit examples provided in the MS4 Permit Compendia, available on EPA’s website at: <https://www.epa.gov/npdes/municipal-sources-resources>.

As the next Phase II general permit is being drafted, EPA recommends that ADEM pay extra attention to certain permit sections as a result of the PQR review. Under ADEM’s construction

site stormwater runoff control section, MS4s must develop a program that includes specific procedures for site plan review and approval, specifically evaluating the plan on completeness and overall BMP effectiveness. EPA recommends that ADEM strengthen this section to include clear, specific, and measurable provisions that require the permittee to develop and implement procedures for site plan review which incorporate consideration of potential water quality impacts as required by federal regulations at 40 C.F.R. § 122.34(b)(4)(i)(D).

For post-construction, EPA recommends that ADEM consider including more prescriptive permit language to ensure that the post development hydrograph is consistent with pre-development runoff conditions. ADEM could also add a permit requirement for training of municipal staff on post construction controls.

Action Items

Essential	•None
Recommended	<ul style="list-style-type: none"> •Update permits to be consistent with the requirements of the Remand Rule during the next permit cycle since Alabama’s MS4 Phase II general permit was updated prior to the January 2017 effective date of the rule. •Require site plan review procedures that incorporate consideration of potential water quality impacts per 40 C.F.R. § 122.34(b)(4)(i)(D) in MS4 permits. •Add more MS4 permit language to ensure consistency of post development hydrographs with the predevelopment hydrographs. •Add a permit requirement for training of municipal staff on post construction controls in MS4 permits.

V. REGIONAL TOPIC AREA FINDINGS

EPA Region 4 has elected not to include the optional Regional Topics in this review.

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

This section provides a summary of the main findings from the last PQR, conducted May 13-14, 2013, and provides a review of the status of the State’s efforts in addressing the action items. As discussed previously, during the 2012-2017 PQR cycle, EPA referred to action items that address deficiencies or noncompliance with respect to federal regulations as “Category 1”. EPA is now referring to these action items going forward, as Essential. In addition, previous PQR reports identified recommendations to strengthen the state’s program as either “Category 2”

or “Category 3” action items. EPA is consolidating these two categories of action items into a single category: Recommended.

EPA identified no essential action items during the last Alabama PQR in 2013.

VII. RECOMMENDED ACTION ITEMS FROM LAST PQR

This section provides a summary of the recommendations from the last PQR, conducted May 13-14, 2013, and notes any State efforts to act on those recommendations. As discussed previously, during the 2012-2017 PQR cycle, EPA referred to action items that are recommendations to strengthen the state’s program as either “Category 2” or “Category 3” action items. EPA is consolidating these two categories of action items into a single category: Recommended.

Table 1. Recommended Action Items Identified During the 2013 PQR

Program Area	Action Item Title	Status
Facility Information	ADEM should update template documents used for developing the permit and statement of basis and include boilerplate language directing discussions of facility operations and relation to ELGs.	(In progress)
TBELs	ADEM should consider developing boilerplate language for statements of basis to address the applicability of ELGs to industrial facilities.	(Resolved)
	ADEM should ensure the permit record includes documentation of the development of ELG-based effluent limitations.	(Resolved)
WQBELs	ADEM should ensure that rationale documents address anti-backsliding requirements, especially in permits where an effluent limitation is less stringent than the limitation contained in the previous permit.	(In progress)
	ADEM should ensure that calculations and copies of spreadsheets supporting WQBELs are included with the rationale document.	(Resolved)
Monitoring and Reporting	ADEM should work with permittees to ensure data are submitted during the permit term to provide for RP evaluation.	(Resolved)
Administrative Process (including public notice)	ADEM should continue implementing the process of technical and administrative review of draft permits.	(Resolved)
	ADEM could strengthen their administrative process by consistently including a statement regarding receipt of comments during the public notice period, to provide clarity that comments were received and addressed.	(Resolved)
Documentation (including fact sheet)	ADEM could ensure the permit record, including the rationale document, includes documentation regarding development of ELG-based effluent limitations. Information that would strengthen the rationale document and permit record could include a detailed facility description, categorization as it relates to the ELG, identification and illustration of any	(In progress)

Program Area	Action Item Title	Status
	factors that are involved in calculating production-based effluent limitations, and an illustration of the calculation of final ELG-based effluent limitations.	
	ADEM could consider additional modifications to their template documents so that a more developed discussion of industrial facility information is provided in the permit record that would enable a clearer understanding of the applicability of technology-based standards (e.g., ELGs).	(Resolved)
	ADEM could strengthen the administrative record by including files related to water quality-based evaluations. Records of the RP evaluation and calculations supporting development of effluent limitations (TBELs and WQBELs) would create a more complete administrative record.	(In progress)
	ADEM could improve the quality of the rationale document through a clearer discussion of the application of BPJ on a case-by-case basis to a privately-owned treatment works, where the permit established effluent limitations based on secondary treatment standards.	(In progress)
	ADEM could strengthen the rationale and permit record by including a discussion of the basis for each effluent limitation, especially in cases where the permit does not contain both acute and chronic effluent limitations and where the rationale states the effluent limitation is based on the previous permit, without further explanation.	(In progress)
Nutrients	ADEM could supplement effluent monitoring nutrient data by including a requirement in permits for permittees to sample for temperature and dissolved oxygen both up- and down-stream of their facilities. These monitoring results could be used to develop appropriate permits limits, as deemed necessary.	(Not started)
Stormwater and Municipal Stormwater Management	ADEM could explore additional means to reduce the backlog of MS4 permits.	(Resolved)
	ADEM should continue working closely with Region 4 to include ‘post-construction’ standards that require post-development hydrology that mimic pre-development hydrology for all flow variables (frequency, duration, volume, and rate). This emphasis includes municipalities and ADEM collaborating to remove barriers for developing effective green infrastructure and low impact development programs.	(In progress)

VIII. 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 Alabama’s NPDES permit programs, as discussed throughout sections II and III of this report.

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

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

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

Table 2. Essential Action Items from FY 2018-2022 PQR Cycle

Topic	Action(s)
Facility Information	None
Permit Application Requirements	None
TBELs for POTWs	None
TBELs for Non-POTW Dischargers	None
Reasonable Potential	None
WQBELs Development	None
Final Effluent Limitations and Documentation of Effluent Limitations Development	None
Monitoring and Reporting Requirements	None
Documentation of Monitoring and Reporting Requirements	None
Standard and Special Conditions	None
Administrative Process	None
Administrative Record and Fact Sheet	None
Nutrients	None
Pretreatment: Food Processing Sector	None
Municipal Separate Storm Sewer Systems (MS4s)	None

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

Topic	Action(s)
Facility Information	Include more information about the wastewater treatment process in the permit, fact sheet, rationale, or permit application.
Permit Application Requirements	None
TBELs for POTWs	None
TBELs for Non-POTW Dischargers	Clearly explain in the rationale how BPJ limits meet the requirements of 40 C.F.R. § 125.3(d). When permitting tiered limits, include in the permit the production level that must be met to move between tiers.
Reasonable Potential	Ensure documentation of reasonable potential analyses in the permit record. For industrial permits, clearly document the basis for the effluent flow and hardness values used in toxics reasonable potential analyses. Clarify whether background data is below detection versus not available when assuming a zero-background level.
WQBELs Development	Include in the rationale the waterbody designation, 303(d) status, and TMDL status for receiving waters of all stormwater outfalls. Improve documentation to show ammonia limits do not cause or contribute to an exceedance of toxicity-based ammonia water quality criteria.
Final Effluent Limitations and Documentation of Effluent Limitations Development	Address anti-backsliding in the rationale for all permits where a permit condition is being removed or relaxed. Provide in the rationale a sentence at minimum addressing all limits and monitoring conditions and their basis for each outfall. Document in the rationale the removal of permit limits or monitoring. Clearly state in the rationale which limits are TBELs and which are WQBELs for all permits.
Monitoring and Reporting Requirements	Document in the permit record the basis when one stormwater outfall is determined to be representative of other outfalls. When permitting "non-treatment" techniques to achieve water quality standards, conditions provided in 40 C.F.R. 123.3(f) should be met and discussed in the permit documentation.
Standard and Special Conditions	None
Administrative Process	Include a statement in all permits on whether or not changes were made from the draft permit to the final permit.

Administrative Record and Fact Sheet	None
Nutrients	More clearly document a reasonable potential analysis for nutrient discharges to nutrient-impaired waters that are not protected by a TMDL.
Pretreatment: Food Processing Sector	<p>Include language regarding what would trigger the slug load control program into the SID permit.</p> <p>Identify the issued SID permit(s) in the receiving POTW's fact sheet and final permit.</p>
Municipal Separate Storm Sewer Systems (MS4s)	<p>Since Alabama's MS4 Phase II general permit was updated prior to the January 2017 effective date of the Remand Rule, consider ways in which the permit can be updated to be consistent with the requirements of the rule during the next permit cycle.</p> <p>Require site plan review procedures that incorporate consideration of potential water quality impacts per 40 C.F.R. § 122.34(b)(4)(i)(D) in MS4 permits.</p> <p>Add more prescriptive MS4 permit language to ensure that the volume and velocity of post construction stormwater runoff does not exceed pre-development runoff conditions.</p> <p>Add a permit requirement for training of municipal staff on post construction controls in MS4 permits.</p>