

FINAL

**REGION 4 NPDES PERMIT QUALITY
REVIEW
GEORGIA**

March 23-26, 2015

Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street
Atlanta, Georgia 30303

Contents

I. PQR BACKGROUND	1
II. STATE PROGRAM BACKGROUND	2
A. Program Structure	2
B. Universe and Permit Issuance	3
C. State-Specific Challenges	6
D. Current State Initiatives	6
III. CORE REVIEW FINDINGS	7
A. Basic Facility Information and Permit Application	7
B. Technology-based Effluent Limitations	8
1. TBELs for POTWs	9
2. TBELs for Non-POTW Dischargers	9
C. Water Quality-Based Effluent Limitations	10
D. Monitoring and Reporting	11
E. Special and Standard Conditions	12
F. Administrative Process	13
G. Administrative Record	14
H. National Topic Areas	16
1. Nutrients	17
2. Pesticides	18
3. Pretreatment	19
4. Stormwater	19
IV. REGIONAL TOPIC AREA FINDINGS	23
A. Implementation of TMDLs	23
V. ACTION ITEMS	24
A. Basic Facility Information and Permit Application	25
B. Technology-based Effluent Limitations	25
C. Water Quality-Based Effluent Limitations	26
D. Monitoring and Reporting	26
E. Special and Standard Conditions	26
F. Administrative Process (including public notice)	27
G. Documentation (including fact sheet)	27
H. National Topic Areas	27
1. Nutrients	28
2. Pesticides	28
3. Pretreatment	28
4. Stormwater	28
I. Regional Topic Area	29
1. Implementation of TMDLs	29

I. PQR BACKGROUND

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

EPA's review team, consisting of two staff persons from EPA Headquarters, three from EPA Region 4 and one support contractor, conducted a review of the Georgia NPDES permitting program that included an on-site visit to the Georgia Department of Natural Resources (GA DNR), Environmental Protection Division (EPD), in Atlanta, Georgia on March 23-26, 2015. The Georgia PQR consisted of a core permit review as well as a review of national and regional topic areas.

The core permit review involved the evaluation of selected NPDES permits and supporting materials (permit applications, fact sheets, correspondence, reports, etc.) 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* to evaluate the Georgia NPDES program. In addition, discussions between the PQR review team and the EPD staff addressed a range of topics including program status, the permitting process, responsibilities, organization, and staffing.

National topic area permit reviews are conducted to evaluate similar issues or types of permits in all states. The national topics reviewed for the Georgia NPDES program were: nutrient regulation, the pesticide general permit, pretreatment, and stormwater permitting.

Regional topic area reviews target specific permit types or particular aspects of permits that are of specific importance to the relevant EPA region. The regional topic area selected by EPA Region 4 was implementation of Total Maximum Daily Loads (TMDLs) into NPDES permits. These reviews provide important information to Georgia, EPA Region 4, EPA Headquarters, and the public on specific program areas.

Twelve permits were reviewed as part of the Georgia PQR. All 12 permits were reviewed for the core topic areas, 8 of the permits addressed national topics, and five of the permits address the regional topic. Some permits were reviewed for more than one aspect of the PQR assessment. Permits were selected based on issue date and the review categories that they fulfill.

The information in Section II.A and B reflects information provided by EPD in response to interview questionnaires and an on-site interview.

II. STATE PROGRAM BACKGROUND

A. Program Structure

Within the EPD, the Watershed Protection Branch (WPB) administers the NPDES permitting program. Within the WPB, the Wastewater Regulatory Program includes an Industrial Permitting Unit, a Municipal Permitting Unit, and a Wastewater Regulatory Information Unit. The WPB also includes a Watershed Planning and Monitoring Program that includes (but is not limited to) a Water Quality Modeling Unit, a TMDL Modeling and Development Unit, and two (north and south) Monitoring Units. NPDES compliance is administered under the Watershed Compliance Program within WPB. EPD has seven district offices that generally conduct compliance and enforcement activities.

The WPB has 10 NPDES permit writers (three of whom also conduct Georgia Environmental Finance Authority reviews). In addition, staff that help support the NPDES permit development process include two unit coordinators, one program manager, four staff who conduct wasteload allocations and who conduct water quality modeling, three staff who write TMDLs, and a secretary who provides both permitting and compliance support.

The State of Georgia manages the day-to-day permit issuance and management activities of the permitting units through the use of the web-based Georgia Pollutant Discharge Elimination System (GAPDES) tool, which stores permitting and compliance information and facility records and includes a reporting tool. WPB tried to develop GAPDES such that it could generate permits, but found that the system does not yet have the needed flexibility. WPB uses both EPA's Integrated Compliance Information System (ICIS) and GAPDES to store permitting data. Some, but not all, data flows from GAPDES to ICIS.

EPD has recently begun to use two new systems for tracking and receiving permit applications electronically and to track water quality and biota data collected by EPD and permitted entities. Permit applications will be tracked through the Georgia EPD Online System (GEOS) once the system is completely online. The Georgia Environmental Monitoring and Assessment System (GOMAS) manages all water quality data collected by EPD, watershed assessment data collected by permittees, data used for assessing waters and preparing the CWA section 305(b)/303(d) list, and wetlands and groundwater monitoring data. Data in GOMAS are available for use by EPD modelers to help develop wasteload allocations and TMDLs.

EPD staff uses a range of tools to support permit development and implementation, including permit and fact sheet templates, analytical and limit development spreadsheets, water quality models and procedures/ guidance. EPD has developed several templates for different types of NPDES permits as well as for fact sheets. In addition, EPD has developed an Excel spreadsheet to calculate reasonable potential (RP) for whether a discharge will cause or contribute to an exceedance of water quality criteria for metals and nonmetals based on chronic and acute water quality criteria. The RP spreadsheet allows for the input of reported data for comparison with the water quality criteria. It includes embedded calculations that determine the effluent limitations. With regard to water quality modeling, permittees may propose mixing zones using CORMIX or

similar models, but EPD does not establish mixing zones absent such data. Rule 391-3-6-.06(10) states the “[e]ffluents released to streams or impounded waters shall be fully mixed and homogeneously dispersed and mixed insofar as practicable with the main flow or water body by appropriate methods at the discharge point.” EPD has over 20 written procedures and guidance documents that are available to support NPDES permitting, covering topics such as RP procedures, antidegradation analysis guidelines, public notice procedures, Georgia’s strategy for addressing phosphorus in NPDES permitting, and whole effluent toxicity.

With regard to permit QA/QC, draft permit packages for reissuance are reviewed by unit coordinators prior to public notice. Draft packages for new discharges or expansion are reviewed by the unit coordinator and program manager. New permit writers send their draft packages through peer review by senior permit writers before the package is reviewed by the unit coordinator. Permit discharges that are considered to be high priority or high profile may receive additional review by managers. WPB does not routinely use QA/QC checklists.

The official NPDES permit files are paper and are maintained in the main EPD office building. Many permit documents are scanned and uploaded into GAPDES for ease of access for the main and district offices. Some compliance records are maintained in district offices.

B. Universe and Permit Issuance

WPB estimates that its NPDES permit universe includes 1052 permits. This includes NPDES permits for 686 POTWs (166 major permits, 516 non-major permits; 4 include CSOs) and 394 non-POTW facilities (37 major permits, 333 non-major permits; 24 are CAFOs).

WPB also administers nine non-stormwater NPDES general permits, and four stormwater general permits, including three municipal separate storm sewer system (MS4) permits (Phase II Municipal, Phase II Department of Defense, and Phase II Department of Transportation), and an industrial stormwater general permit (GAR050000). EPD administers all stormwater permits. The nine non-stormwater general permits include the following:

- Sand & Gravel Dredgers (GAG100000) – Settlement Pond Discharges
- Private and Industrial Development Water Pollution Control Plants (GAG550000) - Domestic Wastewater Treatment Facilities
- Animal (non-swine) Feeding Operations (GAG930000) - Concentrated Animal Feeding Operations for more than 1000 animal units
- Cooling Water (GAG200000) – Once Through Non-contact Cooling Water With No Chemical Additives
- Filter Backwash (GAG640000) – Filter Backwash Discharges Associated With Water Treatment Activity With Sludge Handling Capabilities
- Pesticides (GAG820000) – Aquatic Pesticides to Waters of the State

- Land Disposal of Domestic Septage (GAG620000) – Issued Tier I Operation for Land Disposal of Domestic Septage
- Reuse (GAG600000) - Water Treatment Facility (potable & non-potable), and
- Gwinnett County Reuse (GAG96000) – Reuse permit specific for Gwinnett County

WPB estimates that as of March 1, 2015 there are 172 municipal stormwater permittees and 2,349 industrial permittees that have submitted notices of intent to be covered (NOIs) and 571 that have submitted no exposure exclusion forms. NOIs are tracked by being uploaded into the GAPDES data system and entered in an MS Excel tracking spreadsheet. They are also retained in hard copy in the public files.

Significant industries within Georgia include: pulp and paper, agribusiness, poultry, food processing, timber, clay, kaolin and fuller's earth production, crushed stone and stone building materials, manufacture of transportation equipment and energy production.

For major individual NPDES permits 95.4% are current and 4.6% (46 permits) are administratively continued. For non-major permits, 94.2% are current and 5.8% (61 permits) are administratively continued. EPA sets a goal in the Georgia 106 workplan that 85% or more of NPDES permits should be current for effective program administration. It is noteworthy that EPD has significantly reduced its permit backlog rate despite enduring reductions in staff resources over several years.

With regard to the permit development process, EPD sends a permit application reminder consisting of a copy of the application and directions regarding how to access the EPD website 18 months prior to expiration for major POTW permits and 12 months ahead for minor POTW permits. For major industrial permits, a 12 month notice is provided to permittees. Georgia uses EPA NPDES permit application forms and includes an addendum for all facilities. Permit writers are assigned to each facility based on the city or type of industry. The permit writers check that the applications are complete and send the permittee either a completeness or incompleteness notification as warranted. EPD has developed standard consent orders for permittees who do not submit permit applications in a timely manner.

Permit writers use the information in each permit application to develop the permit conditions and fact sheet. Information is shared with the water quality modeling unit, which develops wasteload allocation-based limits for oxygen-demanding pollutants and rationales for these limits. Wasteload allocations are based on state-wide water quality data and consider impaired waters (i.e., 303(d)-listed waters), TMDLs, modeling, and nutrients. EPD works to issue NPDES permits within 90 days from receipt of a complete application.

Technology-based effluent limitations (TBELs) are developed based on regulations or a case-by-case basis (i.e., best professional judgment). Limits based on best professional judgment (BPJ) consider federal criteria, similar industries and stakeholder input, and permitting staff indicated that current fact sheets document this process better than in the past. For POTW facilities, water quality-based effluent limitations (WQBELs) based on wasteload allocations are normally more

stringent than TBELs (i.e., limits based on secondary treatment) and, thus, are used as the permit limits.

WQBELs are based on wasteload allocations as well as other analyses of priority pollutant data provided as part of the permit application and other available data. When sampling data pollutant levels exceed the detection limit, the permit writer analyzes the data for reasonable potential to cause or contribute to an exceedance of water quality criteria. If reasonable potential is indicated, the permit writer follows the EPD guidance entitled *NPDES Reasonable Potential Procedures* in determining permit requirements. Whole effluent toxicity data also are considered in establishing limits and monitoring requirements. EPD staff indicated that relatively few permits include mixing zones, and those permits are based on modeling data.

When a new permit is being developed the County Engineer normally asks for a wasteload allocation, an antidegradation assessment is prepared, environmental information is developed, and a Design Development Report is completed. An antidegradation assessment is also prepared for expanded discharges (an increase in pollution, not flow) using EPD's *Antidegradation Analysis Guidelines*. Fact sheets document the review and findings of these analyses.

Anti-backsliding restrictions are routinely considered in developing or revising permit limits. Fact sheets document consideration of anti-backsliding by indicating that limits remain the same or by explaining the basis for any limits that were eliminated or made less stringent.

When a facility discharges to an impaired water the permit writer reviews the CWA section 303(d) list, the fact sheet discusses any relevant impairment, and permit limits are established to ensure the discharge meets water quality standards. If the receiving waterbody is subject to a TMDL, the permit writer considers whether and how the TMDL affects the facility's discharge and ensures that permit conditions are consistent with applicable portions of the TMDL. TMDLs are listed on EPD's website (EPD has access to web-based mapping information for impaired waters and TMDLs).

Permits include monitoring requirements for parameters subject to discharge limits and also typically monitor for priority pollutants identified above detection levels to implement the EPD reasonable potential policy. Nutrients are often monitored to obtain data for modeling and to support water quality criteria development. EPD has developed monitoring frequency guidance for POTW permits. Reporting requirements correspond with monitoring provisions and relevant permit conditions, including some standard conditions. Industrial permits now include monthly reporting requirements (in the past quarterly reporting was required). With regard to sampling and analysis methods, permits include standard language requiring the use of methods that are consistent with federal requirements (i.e., 40 CFR Part 136) and capable of measuring compliance with permit limits. Georgia has proposed revisions to its pathogens water quality standards and is in the process of adopting *E. coli* standards for recreational waters.

Municipal and industrial permits include standard conditions. Special conditions for POTW permits include pretreatment and biosolids provisions as well as spill reporting requirements. Permits also require notification to DNR and affected third parties of any significant change in a

discharge. Industrial permits also include specific requirements consistent with federal regulation (e.g., mining BMPs).

EPD has permit fact sheet templates that are structurally similar for POTWs and non-POTWs. Fact sheets are developed for all major permits and rationales are developed for minor permits.

State regulations address the process for public comment on NPDES permits. The public notice process affords the public an opportunity to comment on the draft permit and fact sheet. Comments are submitted by letter or email (through the use of an electronic comment box). EPD provides public notice of NPDES general permits. Comments are included in the NPDES permit file and EPD responses to those comments are discussed in the relevant fact sheet or the addendum to the fact sheet if changes are made to the permit based on public comment.

All NPDES permits are subject to appeal; however, EPD receives few permit objections. Appeals are often associated with more complex or controversial permits. Permit appeals are presented before an administrative law judge.

The final official administrative record for NPDES permits is maintained in hard copy. EPD also maintains electronic files.

C. State-Specific Challenges

Select achievements and challenges faced by the Georgia EPD's NPDES program include the following:

- Six years ago EPD had a NPDES permit backlog rate of 28%, and, despite losing half of their staff since that time, today the backlog rate is less than 10%.
- EPD is challenged by certain difficult permits; that is, ones that are complex, technically challenging, and/or politically charged.
- Permit fact sheets have grown more robust and are clearer and more useful than in the past, yet EPD does not want to make fact sheets excessively lengthy.
- Some TMDLs in downstream states are not final, and in some instances these delay the Georgia permit development/issuance process.

D. Current State Initiatives

State initiatives that strengthen the NPDES program include the following:

- Nutrients –
 - Georgia has a phosphorus permitting strategy in place, which has been implemented for 10-15 years (waters in the State tend to be phosphorus-limited; algal blooms are not a significant issue).
 - Georgia is currently developing a Total Nitrogen permitting strategy, as well as an ammonia toxicity permitting strategy.
 - Georgia has water quality criteria for six major lakes and is working to develop criteria and collect more information for 22 additional lakes. All large lakes will be addressed. Estuaries are also a current focus. Georgia Numeric Nutrient Criteria Development Plan also addresses rivers, streams, and wetlands

- Improvements in nutrient levels have been observed.
- EPD updated their Stormwater Management Manual to include a Coastal Stormwater Supplement to address the impacts of increased population in coastal areas on sensitive water resources, habitats and wildlife. The Supplement provides coastal communities with comprehensive guidance on integrated, green infrastructure-based approach to natural resource protection, stormwater management and site design that can be used to better protect coastal Georgia's unique and vital natural resources from the negative impacts of land development and nonpoint source pollution.
- EPD's Stormwater Management Manual was recently updated to reflect new findings in stormwater included low impact design practices and better site design.
- EPD is working with its non-MS4 communities to educate them on stormwater impacts to water quality and how to design stormwater management programs.
- EPD has drafted a new general permit for non-metallic mining operations and concrete and asphalt productions (GAG300000). This permit authorizes discharges of process wastewater comingling with stormwater for facilities under nine different Standard Industrial Classification codes. The draft general permit includes discharge limitations for Total Suspended Solids (TSS), turbidity, and oil and grease, as well as monitoring requirements for flow, turbidity, and precipitation. When this permit is issued, it will be the first of its kind in Georgia to streamline permitting for mining facilities.
- EPD sends permit reminder letters to all permittees one year in advance of their permit expiration data. EPD issues enforcement orders to permittees who fail to submit timely permit applications. EPD stated this has become a very effective tool in getting permits reissued and is one of the reasons they have been able to reduce the backlog rate.

III. CORE REVIEW FINDINGS

A. Basic Facility Information and Permit Application

1. Facility Information

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

The core permits reviewed specifically authorize the discharge subject to specified permit conditions, identify the permit issuance, effective and expiration dates, and provide for a term of

five years or less. The fact sheets and rationales for these permits indicate for each permit the type of facility, the facility address, the wastewater being discharged, the treatment process, the outfall location, and the name of receiving water. For two permits (GA0025607, GA0031046) the specific location of the outfalls (i.e., latitude and longitude) is included in the permit application but does not appear in the relevant fact sheet. While the current NPDES regulations do not require certain facilities to submit geographic coordinates of their outfalls on all permit applications, EPA is currently proposing an NPDES Updates Rule that if finalized would require geographic coordinates mandatory on permit applications. In one of the permits (GA0038130) the facility expanded and added a new outfall but the facility description didn't change to reflect the expansion. In several of the municipal permits reviewed, the limits tables apply to the discharge from each respective water pollution control plant but such discharges are not referred to as numbered outfalls (e.g., 001).

2. Permit Application Requirements

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

EPD uses the federal NPDES permit application forms for POTW and non-POTW permits. Application forms were identified for the core permits reviewed in each of the respective permit files. All of the required application forms were present for the non-POTW permits and Form 2A (Municipal Facilities) was present for all of the POTW permits reviewed. Complete applications for non-POTW permits appeared to be submitted in a timely manner but complete applications for four of the POTW permits (GA0020486, GA0037222, GA0025607, GA0031046) were not received 180 days prior to expiration of the prior permit. EPD has undertaken an initiative to issue administrative orders to facilities that do not submit permit applications in a timely manner, and the State reports that this has proven to be an effective strategy.

In general, the permit applications reviewed include all of the effluent sampling data required. The permit files reviewed document several instances when EPD required the submittal of additional data to fill an initial gap.

B. Technology-based Effluent Limitations

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

1. TBELs for POTWs

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

The fact sheets for the POTW core permits reviewed include basic descriptions of the respective facilities and good descriptions of the treatment processes employed. The fact sheets consistently discuss the basis for the effluent limits in these permits, although this discussion does not focus on secondary treatment. Rather, the basis for the limits in the core POTW permits includes a wasteload allocation (focused on oxygen demanding pollutants), and, depending on the permit, also included an evaluation of priority pollutant data submitted with the permit application, discharge monitoring report data and Whole Effluent Toxicity (WET) test data. As a result, the POTW permit limits are largely water quality-based. In nearly all cases the POTW permit limits for BOD, TSS and pH are more stringent than required by secondary treatment standards (in a few instances these limits are equal to secondary treatment requirements). In addition, the POTW permits reviewed included limits for parameters beyond BOD, TSS and pH. These limits are expressed in appropriate units and forms. In one of the permits reviewed (GA0031046) a limit for Ultimate Oxygen Demand (UOD) is used as a substitute for limits on BOD and ammonia. The fact sheet explains that the UOD limit in this permit is based on a final TMDL and that the UOD limit is based on a BOD monthly limit of 5 mg/l (which is below secondary treatment) and an ammonia limit of 1 mg/l.

2. TBELs for Non-POTW Dischargers

Permits issued to non-POTWs must require compliance with a level of treatment performance equivalent to Best Available Technology Economically Achievable (BAT) or Best Conventional Pollutant Control Technology (BCT) for existing sources, and consistent with New Source Performance Standards (NSPS) for new sources. Where federal effluent limitations guidelines (ELGs) have been developed for a category of dischargers, the TBELs in a permit must be based on the application of these guidelines. If ELGs are not available, a permit must include requirements at least as stringent as BAT/BCT developed on a case-by-case basis using BPJ in accordance with the criteria outlined at 40 CFR 125.3(d).

Four non-POTW permits were reviewed during the PQR. Three of these permits (GA0000281, GA0003280, and GA0032620) are subject to ELGs and for one permit (GA0000281) the ELGs are reserved. The fact sheets for these permits include waste stream characterization information and also identify the applicable discharge standards. In addition, the fact sheets include a table that indicates the basis for each limit, which is informative. The two non-POTW permits with applicable effluent guidelines include basic facility categorizations. The technology-based limits for the four non-POTW permits are based on several factors including consideration of ELGs, BPJ, demonstrated performance, and anti-backsliding requirements. In addition, some limits are based on wasteload allocations or settlement agreements as result of third party lawsuits. These

limits meet or exceed the relevant ELGs and also address additional parameters. The limits in the non-POTW permits are expressed in appropriate units and forms.

A few items were not readily identified in the permit files. Calculations of discharge limits based on ELGs were not identified in the permit files; however, not all limits based on ELGs require calculations as some are based on production and/or concentration. Where calculations are required by an ELG, the State includes these in the permit file. In addition, for three permits (GA0000281, GA0032620 and GA0003271), the original basis for some BPJ-based limits that were carried forward from the prior permit was not clearly identified in the fact sheet (i.e., the basis was not clear in the current permit how BPJ limits were developed considering all the criteria established in 40 CFR 125.3(d)). For another permit (GA0003280), the fact sheet does not explain why some limits are lower in the final permit than in the proposed permit (the response to comment indicates this may have resulted from decisions made in response to challenges to some permit requirements).

C. Water Quality-Based Effluent Limitations

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

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

- determined the appropriate water quality standards applicable to 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.

The fact sheets for the core permits reviewed identify the receiving water for each facility and discuss the impairment status of each waterbody, including TMDLs when relevant, and how the

permit limits reflect any impairment or TMDL. The fact sheets also document consideration of anti-backsliding and discuss antidegradation when relevant, and include information that characterizes the respective discharge and also discuss the basis for each permit's discharge limits. Overall, the core permits reviewed include WQBELs that are consistent with the documentation in the permit record. EPD staff explained that a wasteload allocation is developed for each permitted facility that discharges oxygen-demanding pollutants, and that all priority pollutant data with levels above detection limits are evaluated for reasonable potential in accordance with State's Reasonable Potential Strategy. EPD staff explained that wasteload allocation modeling is based on extensive water quality modeling data developed on nearly a statewide basis.

The core permit files include the results of the wasteload allocation and reasonable potential analyses (RPA), and these analyses are based on effluent characterization, any mixing, and applicable water quality standards. While the RPA was included in the permit files it wasn't included in the fact sheets for several permits reviewed (GA0000281, GA000003280, GA0037222, and GA0020222). In other instances, when RPA was found to exist for a particular pollutant effluent limits were not given and an explanation was not provided in the permit fact sheet. For example, in GA0020222, the RPA showed zinc as a parameter of concern but no limit was given and in GA0003271 the analysis showed RP for several metals but effluent limits were not required. EPD staff explained their RP Strategy is to require monitoring first before including effluent limits in the permit as a way to collect additional data to determine appropriate permit limits.

D. Monitoring and Reporting

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

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

The core permits reviewed require monitoring for all of the parameters subject to permit limits and specify the frequency and location of such monitoring. The description of the monitoring location in all but one of the POTW permits reviewed (GA0038130) is very general (e.g., influent, effluent) and in two of the permits reviewed (GA0032620 and GA0031046) the fact

sheet provides either a map of the outfalls or a general description but the locations within the receiving waterbodies are not in the permits or fact sheets. The core permit monitoring requirements appeared sufficient to assess compliance with effluent limitations. The major POTW permits include chronic WET monitoring requirements, and all of the POTW permits include influent monitoring for BOD and TSS. The major non-POTW permits include acute and/or chronic WET monitoring as warranted. All of the core permits reviewed require sampling and analysis methods consistent with 40 CFR Part 136 and state that such methods be sufficiently sensitive. The permits reviewed require that monitoring information be reported on a Discharge Monitoring Report (POTW) or Operation Monitoring Report (non-POTW) forms and any other EPD-specified forms. In one of the permits (GA0000281) the basis for the ammonia limits was not found in the files despite a reference to a wasteload allocation that was not in the record. In another POTW permit (GA0023493), the fact sheet and record were unclear as to whether the fecal coliform limits were based on a WQBEL, a TMDL, or the WQS. In two of the non-POTW permits reviewed (GA0032620 and GA0003271), the fact sheet and record were not clear on how the pollutants of concern were selected.

EPD appears to collect a significant amount of monitoring data that can be used during permitting, including ambient monitoring data used to support surface water quality modeling, watershed assessments (focused on stormwater discharges affecting new and expanding POTW permits), watershed protection planning data and information supporting integrated water planning. EPD also requires additional monitoring in permits when necessary.

E. Special and Standard Conditions

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

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

In general, the core permits reviewed include the standard permit conditions specified in 40 CFR 122.41. EPD appears to use two versions of fairly uniform language for standard conditions in POTW and non-POTW permits, respectively. These provisions are written and organized differently than in the federal regulations, which makes it challenging to compare the state and

federal requirements. Based on a review of select core POTW and non-POTW permits, the following provisions were not readily identified¹:

- Reporting Requirement – Compliance Schedule (status report within 14 days) (40 CFR 122.41(l)(5)). Note: State regulations at 391-3-6-.06(10)(c) require permittees to comply with this requirement.
- Standard condition for signatory requirement does not indicate that the appropriate official has to sign the application.
- Duty to Comply – The non-POTW permits appear to rely on the page-1 permit conditions that require compliance with effluent limitations, monitoring requirements, and conditions set forth in the permit. The penalty provisions in the permits reviewed do not mention criminal penalties or the possibility of imprisonment. Note: *O.C.G.A. § 12-5-53 appears to provide this authority.*

EPD staff indicated that they are in the process of updating their standard conditions template language to ensure consistency with federal requirements. EPD staff are encouraged to work with the Region 4 compliance/enforcement staff to ensure new template language complies with federal regulations.

The core permits reviewed also include certain special conditions. These vary by some degree by permit and include sludge disposal and monitoring provisions, power failure provisions, notice regarding endangering waters of the State, mercury characterization/ minimization provisions, long-term BOD testing requirements, watershed protection plan requirements, operator and laboratory analyst certification provisions, pretreatment and sludge management requirements, and other special requirements.

F. Administrative Process

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

Each of the core permit files reviewed includes a public notice for the respective draft permit that includes information required by 40 CFR 124.10. Two of the permit files (GA0038130, GA0003280) included comments on the relevant draft permit as well as EPD responses to those comments. Three permits were subject to relatively minor changes, and these modifications were documented and explained in the relevant permit fact sheets and files.

¹ Georgia Regulations Provide at 391-3-6-.06, Waste Treatment and Permit Requirements. Amended, (8)(c): The terms and conditions specified on the permit issued shall be in accordance with Federal Regulations, 40 C.F.R. 122.41, 122.42 and 122.44 and applicable State laws and regulations promulgated thereunder.

G. Administrative Record

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

Current federal regulations require fact sheets to 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.

The core permit files were reviewed for the following information: permit application and associated data, draft permit, fact sheet or rationale, public notice, select correspondence, and public comments and EPD responses in cases where comments were submitted. The files also include a wasteload allocation form (summary/results) and a reasonable potential summary. Both of these documents support WQBEL development and are referenced in the respective fact sheets. In general, the files were well organized and generally complete. Materials in the files explained where and why a permit may have been modified, and fact sheet addendums indicated when changes were made between the draft and final permit.

A fact sheet was part of the permit file for each of the major core permits reviewed (a rationale was included for each minor permits, these were much more limited in the amount of information they included). During the site visit, EPD staff provided EPA with updated boiler plate language for permit rationales that includes more documentation than previously provided. In general, the fact sheets present a detailed description of the basis for the permit requirements. As an example of the type of information presented, the major sections in the fact sheet for one POTW permit (GA0020222) include: Synopsis of Application, Basis for Final Effluent Limits and Permit Conditions, Requested Variances or Alternatives to Required Standards, Effective Date of Proposed Effluent Limits and Compliance Schedule (if applicable), Water Quality Standards and Effluent Standards Applied to the Discharge, Procedures for the Formulation of Final Determinations. The fact sheets for the non-POTW permits include similar section headings with some with minor differences (e.g., Other Conditions). For one major permit (GA0003280), a public hearing was held and, although the file included notes regarding the hearing, no additional documentation of the hearing was identified in the file. EPD staff indicated that hearing files are kept separate from the facility file and that the hearing files were

available during the site visit but EPA did not request them for review. EPD amends permit fact sheets after the public notice period to include whether any comments were received and whether a public hearing was requested and held and the outcome of any such hearing.

1. Documentation of Effluent Limitations

Permit records for POTWs and industrial facilities should contain comprehensive documentation of the development of all effluent limitations. Technology-based effluent limits should include assessment of applicable standards, data used in developing effluent limitations, and actual calculations used to develop effluent limitations. The procedures implemented for determining the need for water quality-based effluent limitations as well as the procedures explaining the basis for establishing, or for not establishing, water quality-based effluent limitations should be clear and 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.

With regard to the documentation supporting TBELs in the core, non-POTW permits, the fact sheets include brief descriptions of the respective facilities and, where an ELG is applicable, basic categorizations that identify the applicable discharge standard. The fact sheets also include good descriptions of the waste stream, characterizations of pollutants being discharged, and descriptions of the treatment process. TBEL implementation is discussed where relevant but is brief as the fact sheets also discuss several other sources of limits (the fact sheets do a good job of identifying all of these sources).

Most of the POTW permits reviewed do not include TBELs based on secondary treatment (or an alternative) because these permits include limits based on wasteload allocations, third party settlement agreement, TMDLs, or BPJ. The basis for effluent limits (i.e., TBELs or WQBELs) was not clear in several of the fact sheets and in some permits the fact sheets lacked a comparison between TBELs and QBELs and whether the more stringent limit was selected. Several major POTW and non-POTW permits reviewed include limits for BOD and TSS that appear to be based on secondary treatment requirements yet the relevant fact sheets do not discuss secondary treatment as the basis for these limits. In one non-POTW permit (GA0003280), effluent limits are based on secondary treatment standards and not Effluent Limitations Guidelines (ELGs) and EPD indicated the limits are based on a settlement agreement in a third party lawsuit and are more stringent than the ELG for this industry. In one POTW permit (GA0023493) effluent limit calculations for various pollutants (e.g., fecal coliform, dissolved oxygen, TSS and BOD) were not included in the record.

Calculations for TBELs were not identified in the respective permit files, although the fact sheets for the POTW permits include example calculations, and a set of example calculations was made available by EPD. For three non-POTW permits (GA0000281, GA0032620 and GA0003271) the basis for certain BPJ-based limits was difficult to determine. For example, the fact sheet for GA0000281 indicates that some limits are based on BPJ/demonstrated performance, but no further explanation or documentation on how the limits were derived was included in the file.

With regard to the documentation supporting WQBELs, the fact sheets for the core permits reviewed do a good job identifying the receiving waters and associated designated uses (one fact sheet did not include the designated use of the receiving water) as well as describing the impairment status of the waterbody and any applicable TMDLs. The fact sheets include a discussion of water quality standards and effluent standards applied to the discharge, and applicable water quality standards are also evaluated in the context of the discharge as part of the wasteload allocation and reasonable potential/limits spreadsheets. The fact sheets identify when a wasteload allocation, priority pollutant scan or WET test is used to develop water quality-based permit limits. In seven of the permits reviewed (GA0000281, GA0003280, GA0037222, GA0038130, GA0025607, GA0020222 and GA0020486), the fact sheets do not discuss comparison of technology-based limits with water quality based limits and selection of the most stringent limit. EPD staff explained that this comparison is performed as a matter of practice but is not explicitly documented (permit limits appeared to reflect this approach). The fact sheets discussed anti-backsliding and antidegradation where relevant and the file materials included documentation of antidegradation analyses.

The discussion on the basis for the permit limits indicates that priority pollutants are evaluated for reasonable potential, but it does not explain how the data are evaluated. This discussion does not indicate which pollutants are assessed in wasteload allocations or how the wasteload allocation analyses were done. EPD staff explained which pollutants and factors these analyses consider and how they are developed using EPD's reasonable potential guidance documents. These analyses include WQBEL calculations; however, the calculations were not included in the files reviewed. EPD staff explained that the wasteload allocation analyses are developed and maintained by the water quality modeling unit, and the reasonable potential analyses are developed and maintained by each permit writer. The results of each of these separate analyses are supposed to be part of the respective NPDES permit files.

Five of the core permits (GA0037222, GA0038130, GA0025607, GA0031046, and GA0032620) include pH limits of 6.0-9.0 s.u., and have fact sheets that discuss the applicable water quality standard as 6.0-8.5 s.u. EPD staff explained that effluent mixing in the receiving water results in the discharge consistently meeting the WQS. However, four of the five relevant fact sheets do not explain this (GA0038130 discusses mixing generally). Federal regulations at 40 CFR 124.56 require "Any calculation or other necessary explanation of the derivation of specific effluent limitations and conditions" be included in the fact sheet. EPD further clarified the pH limits in permits and indicated that when the instream waste concentration (IWC) is less than 50%, the pH limit assigned in permits is 6.0-9.0 s.u., and when the IWC is greater than 50%, the pH limit is 6.0-8.5 s.u.

H. National Topic Areas

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: nutrients, pesticides, pretreatment and stormwater.

1. Nutrients

Background:

For more than a decade, both nitrogen and phosphorus pollution has consistently ranked as one of the top causes of degradation of surface waters in the U.S. Since 1998, the EPA has worked at reducing the levels and impacts of nutrient pollution and, as a key part in this effort, has provided support to States to encourage the development, adoption and implementation of numeric nutrient criteria as part of their water quality standards (see the EPA's *National Strategy for the Development of Regional Nutrient Criteria*). In a 2011 memo to the EPA regions entitled *Working in Partnerships with States to Address Nitrogen and Phosphorus Pollution through use of a Framework for State Nutrient Reductions*, the Agency announced a framework for managing nitrogen and phosphorus pollution that in part relies on the use of NPDES permits to reduce nutrient loading in targeted or priority watersheds. To assess how nutrients are addressed in the Georgia NPDES program, five permits (GA0025607, GA0020222, GA0038160, GA0020486, and GA0031046) were reviewed during the PQR, as well as the document *Georgia's Plan of the Adoption of Water Quality Standards for Nutrients, Revision 2.0* [July 2013]. In addition, EPD completed the PQR Nutrient Program questionnaire which provided background information on the State's policy and procedures for addressing nutrients in permits.

Georgia is making progress towards development of numeric water quality standards for nutrients. Currently, EPD has general narrative WQS for nutrients and they intend to update their narrative criteria to include more specific language related to maintaining biological integrity. Georgia has numeric WQS for nitrogen and/or phosphorus for most of its large reservoirs and narrative criteria for streams and rivers. The State also uses numeric values for dissolved oxygen and chlorophyll *a* as response variables for determining impacts from nutrients. EPD's policy is to control the limiting nutrient first, usually total phosphorus, and it is unclear from the fact sheets reviewed if a reasonable potential analysis was completed to determine whether limits for total nitrogen are needed. EPA recommends that EPD consider permit limits for both nitrogen and phosphorus to maintain balanced ratios of nutrients as part of its control strategy.

Program Strengths:

EPD works collaboratively with the U.S. Geological Survey (USGS) to conduct water quality monitoring throughout the state. The USGS provides water quality monitoring results to EPD through program reports and data exchanges. EPD also incorporates public participation into its nutrient criteria development, which includes publishing notices, holding public hearings, and receiving comments.

EPD intends to include nutrient limits in permits when nutrients are a pollutant of concern and when a determination is made on the appropriate levels necessary to protect water quality. These

determinations are made when TMDLs are developed; when nutrient standards are implemented for waterbodies and modeling or other methods are available to translate the instream concentrations to an allowable level; where an impairment is known to occur; or an alternate approach where a technically justifiable limitation is determined. EPD has initiated a proactive strategy to reduce phosphorus loadings prior to promulgation of specific numeric criteria. EPD uses the Algal Growth Potential Tests to determine whether lakes are phosphorus or nitrogen limited or co-limited. EPD is currently developing a nitrogen strategy and an ammonia toxicity strategy for permitting purposes.

Critical Findings:

In four of the five permits reviewed for nutrients, nutrient limits and monitoring requirements were required for total phosphorus and two of these four permits had limits for ortho-phosphorus. The remaining POTW permit (GA0031046) had only monitoring requirements for TP and nitrate/nitrite. None of the permits reviewed as part of the PQR required effluent limits for nitrogen-based constituents and only one permit required monitoring for nitrogen-based constituents. None of the permits reviewed included reasonable potential analyses for nutrients or nutrient-related pollution and this made it very difficult to determine the rationale for not requiring limits and/or monitoring requirements for nitrogen-based constituents, other than ammonia as a toxic. In three of the permits reviewed (GA0020486, GA0025607 and GA0038130) it was not clear after reviewing the permit files how downstream protection of waters was considered in the permits.

2. Pesticides

Background:

On January 7, 2009, the Sixth Circuit Court vacated the EPA's 2006 NPDES Pesticides Rule on Aquatic Pesticides (71 Fed. Reg. 68483, November 27, 2006) and found that point source discharges of biological pesticides and chemical pesticides that leave a residue, into waters of the U.S. were pollutants under the CWA. *National Cotton Council of America v. EPA*, 553 F.3d 927 (6th Cir. 2009). As a result of the Court's decision to vacate the 2006 NPDES Pesticides Rule, NPDES permits are required for discharges of biological pesticides and of chemical pesticides that leave a residue, to waters of the United States. In response to this decision, on April 9, 2009, the EPA requested a two-year stay of the mandate to provide the Agency time to develop general permits, to assist NPDES-authorized states to develop their NPDES permits, and to provide outreach and education to the regulated community. On June 8, 2009, the Sixth Circuit Court granted the EPA the two-year stay of the mandate. On March 28, 2011, the U.S. Court of Appeals for the Sixth Circuit granted the EPA's request for an extension to allow more time for pesticide operators to obtain permits for pesticide discharges into U.S. waters. The court's decision extended the deadline for when permits would be required from April 9, 2011 to October 31, 2011.

The EPA issued the final NPDES Pesticide General Permit (PGP) for Discharges from the Application of Pesticides. The federal PGP applies where the EPA is the permitting authority. Georgia issued a Pesticide General Permit, GAG820000, on October 28, 2011 and it expires on

October 27, 2016. At the time of the PQR, there were approximately 62 applications received to date for coverage under the PGP. There are no facilities in Georgia covered under an individual pesticides permit.

Program Strengths:

Region 4 reviewed EPD's pesticide general permit with a focus on verifying its consistency with NPDES program requirements. It was found that this permit meets the requirements to obtain coverage for all discharges from the application of pesticides including all pesticide use patterns described in the EPA pesticide permit, all operators of discharges, including decision-makers and applicators and the permits identify the locations/waters within the state. The review found that the permit was consistent with CWA requirements.

Critical Findings: None

3. Pretreatment

Background:

The EPA Region 4 industrial pretreatment program routinely performs comprehensive audits of the state's permitting, compliance, and enforcement activities to assure consistency with the Clean Water Act, state law, the Memorandum of Agreement (MOA), the state grant workplan and all applicable federal regulations.

These Comprehensive State Pretreatment Program Audits (CSPPA) include: (1) on-site visits to all appropriate state offices, including central and field offices; (2) compliance oversight visits to a statistically significant percentage of public utility (POTW) pretreatment programs and state industrial users; and (3) a desk audit of the legal authorities, formal procedures, and resources available to the state's industrial pretreatment program. Since the CSPPA takes a more comprehensive look at the pretreatment program, the EPA's evaluation of the state's pretreatment permitting activities will be included in the report resulting from the next CSPPA and provided separately to the State Director.

4. Stormwater

Background:

The NPDES program requires stormwater discharges from certain MS4s, industrial activities, and construction sites to be permitted. Generally, the EPA and NPDES-authorized states issue individual permits for medium and large MS4s and general permits for smaller MS4s, industrial activities, and construction activities. The EPA Region 4 staff reviews all draft MS4 and construction permits as per the MOA with the State of Georgia. The Region makes its official comments and recommendations about permit quality during these reviews.

The MS4 permit requires permittees to develop and implement a storm water management program that includes the six minimum control measures, evaluation/assessment and reporting

efforts, and recordkeeping. MS4s are required to design a storm water management program that:

- Reduces the discharge of pollutants to the "maximum extent practicable" (MEP);
- Protects water quality; and
- Satisfies the appropriate water quality requirements of the Clean Water Act.

MEP is the standard that establishes the level of pollutant reductions that MS4 operators must achieve through implementation of a storm water management program. The strategies used to reduce pollutants to the MEP may be different for each MS4 because of unique local hydrologic, geologic, and water quality concerns in different areas.

As part of the PQR, EPA reviewed the MS4 permit applicable to all Phase I and Phase II communities (GAG610000), the construction stormwater general permits (GAR100001, GAR100002 and GAR100003) and the industrial stormwater general permit (GAR050000). Phase I MS4 communities are issued individual MS4 permits while Phase II MS4 communities are regulated under a general permit. In 2015, there were 57 Phase I MS4 communities covered under individual permits and 113 communities covered under the Phase II MS4 general permit. For construction stormwater permits and industrial stormwater permits, EPA reviewed the general permits and did not review any information pertaining to an individual coverage request.

Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s)

Phase I MS4s: There are 57 Phase I MS4s within the State of Georgia. Maintenance activities include cleaning inlets of debris and sediment, maintaining channels to reduce erosion and maximize pollution reduction capabilities, and the removal of blockages. Improvements to the MS4 system include solving watershed scale infrastructure problems, channel stabilization, safety improvements, stream habitat enhancement, water quality enhancement, and resolving flooding problems associated with stormwater generated from public streets. Some Georgia MS4's have adopted stormwater utilities to provide funding for their stormwater management program.

The Phase I MS4 permits issued by EPD contains all the required core Phase I elements including the development of the Stormwater Management Program (SWMP). The SWMP is routinely updated with permit reissuance, Development of new content in the SWMP based on permit directives are completed within one (1) year of issuance. Implementation of SWMP permit elements are completed within five (5) years from issuance.

Phase II MS4s: There are 113 Phase II MS4s within the State of Georgia covered under general permit. Unlike the Phase I MS4 communities, the Phase II rules take a slightly different approach for implementing local stormwater management programs by requiring the SWMP to consist of six "minimum control measures."

Program Strengths:

Upon reissuance, Region 4 staff reviews all MS4 permits to ascertain permit adherence to federal MS4 requirements. The State of Georgia's overall administration of the NPDES stormwater

program and its permits continue to meet EPA's expectations. EPD staff are proactive in keeping MS4s up to date on State and federal initiatives/policies. Plans and annual reports are reviewed and updated as necessary. The State is working towards having the same permit requirements for Phase I and II MS4s and the EPA commends the State for this initiative. Currently there are no MS4 permits that are administratively continued.

Georgia is commended for having provided a five year period during which MS4 communities were to review their local codes and ordinances with the goal of removing any barriers to the implementation of green infrastructure post construction BMPs. To assist the MS4 communities, EPD updated its Stormwater Management Manual to provide a technical overview of green infrastructure BMPs. The manual includes a design spreadsheet for use by site design professionals as well as city planners and inspectors.

Recommendations:

The Phase I and Phase II MS4 permits do not address anti-degradation and there are no effluent limits in the permits, only monitoring and reporting requirements. Therefore, it is recommended that Georgia complete a statewide evaluation of MS4 Phase I and Phase II permit effectiveness in reducing nonpoint source pollution. Other recommendations to improve the stormwater program include:

- Require new and redevelopment post construction BMPs to control the first 1.2 inches of stormwater runoff through infiltration, evapotranspiration, harvest and reuse.
- Strengthen the language in the MS4 permits to include public education and participation on illicit discharge detection and elimination.
- MS4 permits should provide a specific minimum frequency for catch basin cleaning, street sweeping, and maintenance of municipally-owned structural controls.

Critical Findings: None

General Permit for Stormwater Discharges from Construction Activity

EPD issues three general permits for construction activities: GAR100001, for stand-alone construction activities; GAR100002, for infrastructure construction activities; and GAR100003, for common development construction activities. These three permits were issued on September 24, 2013, and will expire on September 23, 2018. As part of the PQR, EPA reviewed all three general permits for stormwater discharges from construction activity.

Program Strengths:

The State has done an exemplary job in the implementation of its construction program, particularly in its delegation of authority to local municipalities. In addition, EPD ensures that under its delegation, all construction sites are inspected routinely and tier enforcement mechanisms are in place to ensure compliance. The construction general permits emphasize the application of best management practices to control erosion and sedimentation processes during the construction phase for all developments disturbing an area equal to or greater than one acre.

In addition, the permits include language that green infrastructure approaches and practices be used and installed at construction sites to the maximum extent practicable.

The construction general permits are reinforced by the State's Erosion and Sedimentation Control Act (ESCA). The ESCA includes special requirements for land-disturbing activities in stream buffer zones and special requirements for streams designated as "trout streams". Construction activities are not allowed within a 25 foot buffer along the banks of all State waters, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action unless EPD grants a variance. EPD also requires a 25-foot buffer along coastal marshlands. For all State waters classified as "trout streams," EPD requires a 50 foot undisturbed vegetated buffer be maintained.

The Construction General Permits require an erosion, sedimentation and pollution control plan to be designed, installed and maintained for the entire construction activity covered under the general permit. The Plan shall include, as a minimum, best management practices, including sound conservation and engineering practices to prevent and minimize erosion and resultant sedimentation, which are consistent with, and no less stringent than, those practices contained in the "Manual for Erosion and Sediment Control in Georgia" published by the State Soil and Water Conservation Commission. Once construction is complete, the construction general permit is no longer valid and all post construction stormwater controls are regulated through the MS4 program.

Georgia has established turbidity limits for waters of the State. For waters classified as "trout streams", turbidity of the receiving waters cannot be increased by more than 10 nephelometric turbidity units (NTU) and by no more than 25 NTU for waters supporting warm water fisheries.

Recommendations:

The construction general permits only require final site stabilization. To strengthen the permit it is recommended that language is included requiring permanent stormwater controls be installed at the site to retain 85% of the stormwater onsite, or 1.2 inches of rainfall. The permits should also include standard language establishing the transfer or responsibility for long-term maintenance of permanent stormwater controls to the MS4, if applicable.

Critical Findings: None

Stormwater Discharges Associated with Industrial Activity (GAR050000)

EPD issues an industrial stormwater general permit authorizing all new and existing stormwater point sources within Georgia to discharge stormwater associated with industrial activity, excluding construction, to waters of the State. Georgia's industrial stormwater general permit (IGP) is modeled after the EPA's Multi-Sector General NPDES Permit for industrial stormwater, issued September 29, 2008 (2008 MSGP) and many of the benchmark values and recommended procedures, practices, control measures and BMPs are based principally on the 2008 MSGP.

Program Strengths:

Region 4 reviewed Georgia's IGP with a focus on verifying its consistency with NPDES program requirements. The review found that this permit meets the federal requirements to obtain coverage for all stormwater related discharges associated with industrial activities. Some of the highlights of the IGP are as follows:

- The IGP has 27 specific industrial sectors and some are required to conduct annual analytical sampling;
- The IGP contains benchmark values and facilities can generate their own; however, these are not considered effluent limits and exceeding a benchmark is not a permit violation;
- At least once during the term of the IGP, permittees must conduct a dye, smoke, or equivalent test to evaluate the presence of non-stormwater discharges into the storm sewer system, where applicable;
- If there is an exceedance of a benchmark value, the permittee is required to make modifications of BMPs and sample each subsequent quarter until the benchmark is met or make the determination that no further pollutant reductions are technologically available and economically practicable. If the facility passes the benchmark sampling requirement, it will be required to sample bi-annually for the pollutant of concern;
- If there is an exceedance of a numeric effluent limit, the IGP requires the permittee to conduct corrective action and follow-up monitoring which is to continue, at least quarterly, until the discharge is in compliance;
- The IGP requires the permittee to regularly review and refine their BMPs to reduce pollutants to the maximum extent practicable; and
- The IGP has additional requirements for dischargers to all impaired waters identified on the Georgia 305(b)/303(d) list, including monitoring for appropriate parameters and corrective action if the discharge exceeds the benchmark value for the pollutant of concern.

Critical Findings: none

IV. REGIONAL TOPIC AREA FINDINGS

A. Implementation of TMDLs

A TMDL is a calculation of the maximum quantity of a pollutant that may be added to a waterbody from all sources, without exceeding its applicable WQS. State must establish TMDLs for all impairing pollutants – pollutants that prevent waters from attaining WQS after implementing applicable technology-based requirements. Where a TMDL has been established for a waterbody, WQBELs must be consistent with the assumptions and requirements of any wasteload allocation (WLA) for point source dischargers.

In this PQR, EPA reviewed five permits and fact sheets (GA0020486, GA0020222, GA0025607, GA0031046 and GA0023493) to verify that EPD's NPDES permits implement the assumptions and requirements of applicable TMDL wasteload allocations. The TMDLs addressed in these

permits address fecal coliform impairments and one of the permits (GA0020222) requires limits for Total Phosphorus to address an impairment to a fishing designated use. All but one of the permits reviewed (GA0023493) were discharges from major POTWs. The review demonstrated that the permits for the major POTWs included WQBELs consistent with the assumptions and requirements of the wasteload allocation portion of the TMDL.

Program Strengths:

EPD prepares TMDL implementation plans for each TMDL and these are readily available on EPD's website. The purpose of the implementation plan is to identify the actions that must be taken in the future to decrease the pollutants of concern from entering the stream with the goal of improving water quality and better enabling the waterbody to meet the state water quality standard. The TMDL Implementation Plan concentrates on educating the public about non-point sources of water pollution and encouraging the use of best management practices at the agriculture, forestry, and urban and residential levels to reduce non-point source pollution. The implementation plan documents the public participation process used to define the issues and resolve any local concerns regarding specific sources of pollution contributing to the water quality impairment.

Critical Findings:

For the minor POTW permit reviewed (GA0023493), the record was not clear on how the pollutants of concern were selected, how effluent limits were calculated, and whether the bacteria limits in the permit were based on the fecal coliform TMDL, WQBELs or the WQS. It was not clear in the fact sheet for GA0020222 why a WLA was assigned only to Total Phosphorus (TP) and whether Total Nitrogen (TN) was a concern in the discharge. EPD's nutrient management strategy is to control the limiting nutrient first, and typically this is TP, and add effluent limits and/or monitoring requirements for TN or additional TP controls when the practices implemented are not achieving the required TMDL reductions.

It was not clear from the permits reviewed how frequently TMDL wasteload allocations are re-evaluated. The fact sheet should set an expectation for when the public can anticipate data collection sufficient to evaluate the iterative approach to nutrient management. EPD has a monitoring strategy detailing the types and locations of monitoring each year and it is readily available on the State's website. If a waterbody is monitored every five years, the permit cycle may be near completion before information exists to determine if phosphorus controls in lieu of nitrogen controls are sufficient.

V. ACTION ITEMS

This section provides a summary of the main findings of the review and provides proposed Action Items to improve EPD's NPDES permit programs. This list of proposed Action Items will serve as the basis for ongoing discussions between Region 4 and EPD as well as between EPA Region 4 and EPA HQ. These discussions should focus on eliminating program deficiencies to improve performance by enabling good quality, defensible permits issued in a timely fashion.

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

- **Critical Findings** (Category One) - Most Significant: Proposed Action Items will address a current deficiency or noncompliance with respect to a federal regulation.
- **Recommended Actions** (Category Two) - Recommended: Proposed Action Items will address a current deficiency with respect to EPA guidance or policy.
- **Suggested Practices** (Category Three) - Suggested: Proposed Action Items are listed as recommendations to increase the effectiveness of the states or Region's NPDES permit program.

The critical findings and recommended action items should be used to augment the existing list of "follow up actions" currently established as an indicator performance measure and tracked under EPA's Strategic Plan Water Quality Goals and/or may serve as a roadmap for modifications to the Region's program management. Anywhere a Category 1 finding is noted in the sections below the specific reference to the federal regulation that is not being followed is provided. The basis of all Category 2 findings is the EPA's NPDES Permit Writers' Course Manual (EPA 833-B-97-001).

A. Basic Facility Information and Permit Application

The core permits and fact sheets reviewed include the basic facility, permit, and receiving water information necessary for a well-structured permit. The appropriate permit applications were included in the permit files; however, four applications were not submitted in a timely manner. EPD has developed and is implementing a standing enforcement order that can be used to compel and promote timely submittals. Proposed action items to help Georgia strengthen its NPDES permit program include the following:

- Number the outfalls in each permit to clearly link discharge points with discharge limits, and to clearly identify the location for monitoring. (Category 3)

B. Technology-based Effluent Limitations

In the permits reviewed, POTW permit limits for BOD and TSS are generally more stringent than required by secondary treatment because in most cases these are based on wasteload allocations. In addition, the limits in the POTW permits address additional parameters beyond those addressed by secondary treatment. For non-POTW facilities, the technology-based limits are based on several factors including consideration of ELGs, BPJ, demonstrated performance, and anti-backsliding requirements. In addition, some limits in the non-POTW permits are based on wasteload allocations. These limits meet or exceed the relevant ELGs and also address additional parameters. Proposed action items to help Georgia strengthen its NPDES permit program include the following:

- Document in the fact sheet or permit file the basis for BPJ-based limits including how the criteria in 40 CFR 125.3(c) are considered. (Category 1)

C. Water Quality-Based Effluent Limitations

The core permits reviewed include WQBELs that are consistent with the documentation in the permit record. It is unclear if permit writers compared technology-based limits with water quality based limits and selected the most stringent limits. Proposed action items to help Georgia strengthen its NPDES permit program include the following:

- EPD should ensure that reasonable potential analyses are well documented in the fact sheets. (Category 2)
- For each permit identify the designated uses of the receiving water in the relevant fact sheet. (Category 2)

D. Monitoring and Reporting

The core permits reviewed require monitoring for all of the parameters subject to permit limits and in general the monitoring appeared sufficient to assess compliance with effluent limitations. The description of the monitoring location in all but one of the POTW permits reviewed is very general (e.g., effluent). Proposed action items to help Georgia strengthen its NPDES permit program include the following:

- EPD should clarify in the fact sheets the basis for the effluent limit (e.g., TMDL, WQS, WQBEL, etc.) per 40 CFR 124.56. (Category 1)
- For POTW permits identify the monitoring location in a more specific manner either through a description of the location or reference to documents that identify the monitoring location. (Category 2)
- EPD should clarify in the fact sheets how the pollutants of concern were selected. (Category 2)

E. Special and Standard Conditions

In general, the core permits reviewed include the standard permit conditions specified in 40 CFR 122.41, although a couple of items were not readily identified. Proposed action items to help Georgia strengthen its NPDES permit program include the following:

- Review and update permit language to ensure inclusion of all aspects of the standard conditions language at 40 CFR 122.41, including compliance schedule requirements contained in State regulation 391-3-6-.06(10)(c) and separate Duty to Comply conditions for non-POTW permits rather than relying on language at the front of the permit. (Category 1)
- Amend the penalty provisions used in the permits to be consistent with 40 CFR 122.41(a) or to reference State authority for criminal penalties or the possibility of imprisonment. (Category 1)

F. Administrative Process (including public notice)

The core permit files reviewed include public notices for the draft permits and two included comments and EPD staff responses to those comments. Permit modifications were also documented and explained in the relevant permit fact sheets and files. There are no proposed action items for this subject area.

G. Documentation (including fact sheet)

The files for the core permits reviewed were well organized and generally complete, containing the relevant permit application and data, draft permit, fact sheet or rationale, public notice, select correspondence, public comments and EPD responses, and additional materials. In addition, the fact sheets for the major core permits include a significant amount of information that describes the facility, discharge, conditions and limitations, and procedures. These fact sheets appear to have improved in quality over time. Notwithstanding generally good permit file support, some aspects of core permit files could be better documented. Proposed action items to help Georgia strengthen its NPDES permit program include the following:

- Describe the basis for BPJ-based limits in the fact sheets and how these limits considered the criteria in 40 CFR 125.3(d). (Category 1)
- Include any calculation or other necessary explanation of the derivation of specific effluent limitations and conditions in the fact sheets per the criteria in 40 CFR 124.56. (Category 1)
- Include in the fact sheets the calculations for ELG-based and WQBEL limits or indicate where these calculations are documented. (Category 2).
- Include in the fact sheets documentation and calculations of reasonable potential analyses and wasteload allocations. (Category 2)
- Describe in the fact sheet or reference an explanation of how TBELs and WQBELs are compared and the most stringent limits are selected for final permits. (Category 2)
- In cases where limits are affected by permit appeals or challenges ensure that the fact sheet or permit record fully explains the basis for the final limit. (Category 2)
- Develop boilerplate documentation to include in fact sheets or the permit files that provides additional explanation regarding how WQBELs are based on both wasteload allocations and reasonable potential analyses, the pollutants addressed by each of these analyses, and the basic process for each. (Category 3)

H. National Topic Areas

Proposed Actions Items for core topic areas are provided below.

1. Nutrients

EPD implements its nutrient strategy iteratively by implementing phosphorus controls in permits, evaluating waterbody responses, and then considering nitrogen controls or additional phosphorus controls as necessary. This approach assumes that receiving waters are typically phosphorus limited. None of the permits reviewed as part of the PQR required effluent limits for nitrogen-based constituents and only one permit required monitoring for nitrogen-based constituents.

Proposed Action Items to help EPD strengthen its NPDES permit program include the following:

- EPD should document in the fact sheets how reasonable potential analyses was conducted for nutrients that have the potential to cause and/or contribute to a water quality impairment (40 CFR 122.44(d)(1)(ii)). (Category 1)
- EPD should document in the fact sheets how downstream protection of waters was considered when allocating limits and/or monitoring requirements for pollutants of concern (40 CFR § 122.4(d) and 40 CFR 122.44(a)). (Category 1)
- EPD should consider at a minimum, monitoring requirements for nitrogen-based constituents in all POTW permits and where appropriate numerical limits for these constituents. (Category 3)

2. Pesticides

There are no proposed action items for this subject area.

3. Pretreatment

There are no proposed action items for this subject area.

4. Stormwater

The State of Georgia's overall administration of the NPDES stormwater program and its permits continue to meet EPA's expectations. EPD staff are proactive in keeping MS4s up to date on State and federal initiatives/policies. Plans and annual reports are reviewed and updated as necessary. The State is working towards having the same permit requirements for Phase I and II MS4s and the EPA commends the State for this initiative. Currently there are no MS4 permits that are administratively continued. Proposed Action Items to help EPD strengthen its NPDES permit program include the following:

- MS4 permits and fact sheets should address anti-degradation and where appropriate include effluent limits in the permits and not just monitoring and reporting requirements. (Category 2)
- MS4 permits should require new and redevelopment post construction BMPs to control the first 1.2 inches of stormwater runoff through infiltrate, evapotranspiration, harvest and reuse. (Category 3)
- Strengthen the language in the MS4 permits to include public education and participation on illicit discharge detection and elimination. (Category 3)

- MS4 permits should provide a specific minimum frequency for catch basin cleaning, street sweeping, and maintenance of municipally-owned structural controls. (Category 3)
- Construction stormwater permits should also include standard language establishing the transfer or responsibility for long-term maintenance of permanent stormwater controls to the MS4, if applicable. (Category 3)
- Construction stormwater permits could include language to require staging construction to limit the acreage of soil exposure at any one time. (Category 3)

I. Regional Topic Area

Proposed Actions Items for the special focus area is provided below.

1. Implementation of TMDLs

The focus of the TMDL review has been to verify that final TMDL requirements applicable to point sources are being implemented in NPDES permits. EPA reviewed five permits and fact sheets to see if the permits adequately and correctly implemented TMDLs. The review demonstrated that the permits for the major POTWs included WQBELs consistent with the assumptions and requirements of the wasteload allocation portion of the TMDLs. Proposed Action Items to help EPD strengthen its NPDES permit program include the following:

- EPD should include information in permits and fact sheets that indicate whether limits are based on TMDLs, WQBELs or WQS. (Category 2)
- The fact sheet should set an expectation for when the public can anticipate data collection sufficient to evaluate the iterative approach to nutrient management. If a waterbody is monitored every five years, the permit cycle may be near completion before information exists to determine if phosphorus controls in lieu of nitrogen controls are sufficient. (Category 3)
- EPD should consider monitoring and/or effluent limits for both nitrogen- and phosphorus-based constituents rather than controlling one nutrient only. (Category 3)