



Indirect Potable Reuse Guidance Document

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1. Overview

Georgia's water resources are finite, and as the state's population continues to grow, their capacities will be stressed. Some portions of the state already operate under water resources constraints. Local governments and industries are faced with finding new options to meet increasing water demands and limited assimilative capacity, many times within geographical limitations. As entities across the state continue to expand and build new operations, coordination among potable surface water intakes and wastewater discharges to promote safe, healthy water reuse practices becomes both inevitable and a viable option for improving water resource resiliency.

The Georgia Environmental Protection Division (EPD) manages surface water resources in the state by closely coordinating the allocation of water with the protection of the water quality of rivers and lakes. EPD uses multiple mechanisms to achieve this coordination: water withdrawal permitting, water conservation, water reuse, and wastewater discharge permitting. The concept of water reuse not only fits within Georgia's comprehensive water management strategy, it is a consideration that traverses these key water management mechanisms and is a critical element of ensuring the long-term stewardship of Georgia's water resources.

EPD's stated mission is to pursue a sustainable environment that provides a foundation for a vibrant economy and healthy communities. It seeks to harness the benefits of surface water supply augmentation while protecting human health and safety and sees environmental stewardship, protection of human health, and economic vitality as compatible and mutually beneficial goals. EPD currently coordinates internally to achieve a comprehensive review of applicable projects; however, in order to formalize this internal process for review of projects with implications for neighboring entities, EPD has created this guidance document for certain new permit or permit modification requests classified as indirect potable reuse (IPR) according to the criteria defined within. The guidance outlines EPD's practices to fairly and consistently enforce laws, rules, and policies, while providing process transparency to stakeholders.

1.1 Indirect Potable Reuse Background

According to the US Environmental Protection Agency (USEPA), indirect potable reuse (IPR) is defined as the augmentation of a drinking water source with reclaimed water, followed by an environmental buffer that precedes drinking water treatment (USEPA 2012). Several different combinations of wastewater and drinking water interactions can be considered IPR. Figure 1 below displays a generic surface water IPR configuration, recognizing that specific situations are dependent upon state and local regulatory factors, as well as geographic considerations.

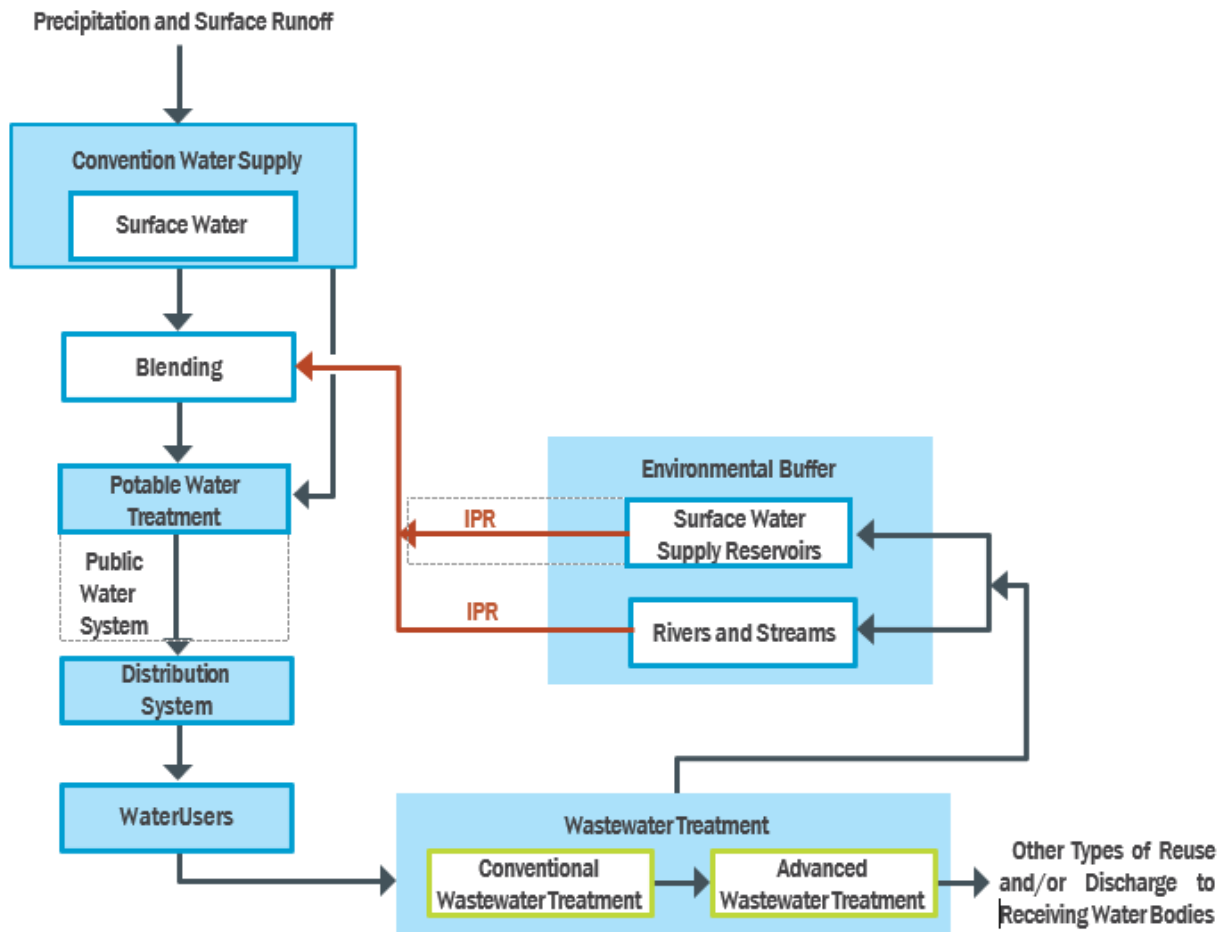


Figure 1. Indirect Potable Reuse Approaches (Adapted from EPA’s 2017 Potable Reuse Compendium)

The term IPR implies the proactive decision by a utility to discharge or encourage discharge of highly treated reclaimed water into surface water supply that augments the yield of that source for drinking water supply. This guidance document would automatically apply in such cases. In some cases, however, separate entities may control the discharge and the withdrawal in an IPR situation. Without the specified intent to augment the water supply, these cases can be classified as “de facto” reuse. De facto reuse refers to a situation in which the discharge of treated wastewater into a surface water body by one entity impacts downstream drinking water sources of another entity. Occurrence of de facto reuse is often driven by the proximity of multiple entities, the limited availability and yield of alternate sources, or the high cost of developing alternate water sources. Though not driven by one single entity, these instances could be considered IPR because the State of Georgia intentionally manages resources across the State and conducts planning based on this management. The following sections of this guidance reflect this reality and provide a framework for evaluating and classifying potential indirect potable reuse projects in this context. Additional information on various permutations of IPR scenarios can be found in USEPA’s 2017 Potable Reuse Compendium (USEPA 2017).

1.2 Applicability and Approach

This integrated permitting guidance or IPR guidance outlined in the following sections applies only to requests for **new or modified** drinking water, surface water withdrawal, and wastewater discharge permits and is intended to shepherd applicants through existing permitting processes if the request may affect an existing or currently proposed facility. This includes activities initiated by an entity to augment its own water supply using potable reuse principles. Note, however, that these guidelines for IPR in

Georgia are based on existing laws and regulations that may change in the future. If regulatory changes should occur, this document will be updated to be consistent with those changes.

Because this guidance applies only to **new or modified** permit requests, any applicable permitting scenario falls into one of the following categories:

1. Existing wastewater discharge and new drinking water intake downstream;
2. Existing drinking water plant intake (withdrawal permit) and new wastewater discharge upstream;
3. Existing drinking water plant and existing wastewater discharge, and modification of one or both facilities; or
4. New drinking water intake/plant AND new wastewater discharge

In each scenario, the *party initiating the change to the existing configuration* (i.e., requesting a new or modified withdrawal, drinking water, or discharge permit) has the starting responsibility for ensuring protection of human health and the environment. This may include consideration of, but not be limited to, the following elements: treatment technologies and limitations, coordination among multiple entities, and public engagement.

Criteria to determine whether a permitting scenario involving two or more entities qualifies as IPR are provided in Section 3 of this guidance document. The identification of an IPR scenario involves a combination of the physical location of a wastewater discharge in relation to any relevant drinking water intake(s), the cumulative instream waste concentration (IWC) at the drinking water intake(s), and the contribution of a wastewater discharge to this cumulative IWC at the downstream drinking water intake(s). The IWC is calculated using the permitted flow contribution of a discharge to the receiving water at the drinking water intake location under low flow conditions (7Q10 or minimum flow protection thresholds contained in the applicable water withdrawal permit). According to USEPA, 7Q10 is defined as the lowest 7-day average flow that occurs (on average) once every 10 years. Cumulative IWC is calculated by adding the IWCs contributed by all upstream wastewater sources.

The IPR classification resulting from use of this methodology, based on low flow conditions as described above, conservatively captures permitting scenarios that would benefit from the additional considerations outlined in this document. In all cases, including those in which an IPR request is submitted by an entity with the intention of using its discharge to augment its own water supply, EPD reserves the right to only approve projects that adequately protect human health and the environment. Section 4 outlines additional requirements and considerations for projects that meet the IPR criteria outlined in Section 3. Note that these additional requirements and considerations, including associated costs, apply specifically to the entity requesting the new or modified permitting action. The additional information provided by these requirements will enable both the applicant and EPD to make informed decisions and ensure their respective responsibilities are upheld.

2. EPD's Existing Frameworks and Permits Required

Laws, rules, and policies relevant to IPR are currently implemented within five different programs within EPD: The Water Supply, Drinking Water, Watershed Planning and Monitoring, Wastewater Regulatory, and Watershed Compliance Programs. The first four of these programs regulate relevant permitting processes while the Watershed Compliance Program regulates coordination actions among facilities in the event of a spill or permit violations. The regulatory framework of each program is based on the authorities outlined in State laws, rules, and policies. An overview of these existing regulatory structures and programs is provided to understand how the elements that comprise IPR scenarios are currently evaluated and highlight coordination among them, including for compliance purposes.

Additionally, a section has been provided to demonstrate how these existing structures handle contaminants suspected to be present in drinking water for which regulatory standards have not been established.

2.1 Water Supply Program

The Water Supply Program interfaces with IPR considerations through surface water withdrawal permitting. Surface water withdrawal permits from EPD are required as part of the Georgia Water Quality Control Act for entities that intend to withdraw, divert, or impound more than 100,000 gallons of surface water per day on a monthly average from waters of the State. In accordance with the Act, EPD issues surface water withdrawal permits at defined locations and with specific withdrawal limits under the following conditions:

- Sufficient water is present to support water quality and aquatic life while providing for the requested withdrawal;
- Withdrawal is reasonably necessary to meet the applicant's needs;
- The Permit “shall not have unreasonably adverse effects upon other water uses in the area”

2.1.1 Relevant Federal and State Regulations and Guidelines

In addition to the requirements outlined in the Water Quality Control Act (O.C.G.A. §12-5-20), surface water withdrawal permits comply with the surface water withdrawal provisions of the Georgia Rules for Water Quality Control (Ga. Comp. R. & Reg. r. 391-3-6-.07), Georgia Rules for Environmental Planning Criteria (Ga. Comp. R. & Reg. r. 391-3-16), and Rules for Public Water Systems to Improve Water Supply Efficiency (Ga. Comp. R. & Reg. r. 391-3-33). Note that some aspects of the Rules for Environmental Planning Criteria are implemented through the Comprehensive Planning Process required by the Georgia Department of Community Affairs (DCA). Information required for submission of a complete water withdrawal application package is directly related to the provisions included in these Rules, though not all provisions apply in every case. An overview of required information and application processing procedures for new and modified permit applications is presented in the following section.

2.1.2 Permitting Process

The permitting process for new and modified surface water withdrawal permits evaluates three main elements: availability of the requested water, need for the requested water, and impact to downstream users. Distinctive steps define this process: Application Evaluation, Draft Permit Finalization, Public Notice, and Final Permit Recommendation. Note that necessary coordination for an IPR scenario, with the Drinking Water, Wastewater Regulatory, and Watershed Planning and Monitoring Programs (WPMP), occurs during the Application Evaluation portion of the surface water withdrawal permit application process. This programmatic overlap is indicated by the green box in the schematic below. Further details outlining the coordination required between the Water Supply Program and other relevant programs are provided in a Coordination Matrix provided in Attachment 1. Note that EPD initiates all steps of this process except “Application Evaluation,” which is initiated by the applicant. Permit application forms and associated permitting resources for Surface Water Withdrawals are currently found on EPD’s website, here: <https://epd.georgia.gov/forms-permits/watershed-protection-branch-forms-permits/water-withdrawal-permitting-forms>.

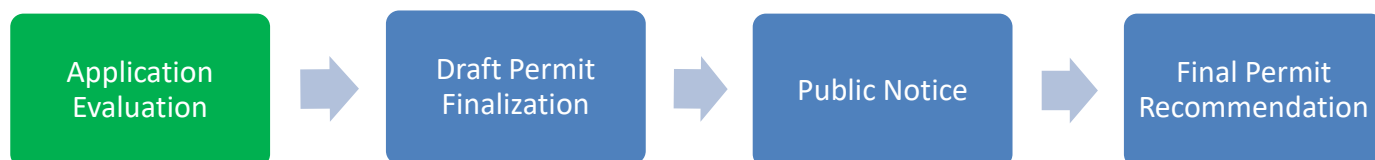


Figure 2. Surface Water Withdrawal Permitting Process

2.1.2.1 Application Evaluation

An applicant must first submit a complete application package to EPD to apply for a new or modified surface water withdrawal permit. The Surface Water Unit reaches out to other EPD programs in the Watershed Protection Branch for coordination during this stage of the process. Procedures for internal EPD coordination ensure that each permit application is evaluated for how it might interact with other branch permits according to the location and resource impacted. When necessary, this coordination extends to other EPD branches as well. In accordance with the Georgia Rules for Water Quality Control (391-3-6-.07(4)(b)), all surface water withdrawal applications must include the following elements:

1) General Information

General information regarding the applicant and the water withdrawal request must be submitted as presented in the application form. This information must include the amount of water requested, the use of the requested water, and the place of use. The exact location of the water withdrawal would be requested here, which would enable EPD to determine the intake location's relationship to existing discharge and intake locations for IPR determination.

2) Documentation / Justification of Need

For municipal applications, this documentation must include current and projected populations, descriptions of interconnections with other systems, current and projected water use, compliance with the appropriate Regional Water Plan, and long-range planning considerations, including the effects of water conservation and efficiency practices. For other types of applications, documentation will include current and projected water use, industrial processes (if applicable), and long-range planning considerations. These materials allow EPD to evaluate the need for the requested water, one of the key tenets described above.

3) Current and Future Water Supplies

Required documents must describe all available existing water supply sources and describe the availability of current supplies to meet current and future unmet demands. This information supplements documentation provided in #2 above to evaluate the need for the requested water.

4) Current and Future Water Use

Required documents must consider consumptive losses, the effects of water conservation actions, and emergency measures for droughts and accommodating peak daily demand in drought situations. This information supplements documentation provided in #2 above to evaluate the need for the requested water.

5) Current and Future System Water Management Information

Required documents must include information on water efficiency and conservation goals and implementation, as well as compliance with DCA Comprehensive Plans (for municipal applications). This information also ties into long-range planning considerations and need for the requested water (referenced in #2 above).

6) Interbasin Transfers

Documentation must acknowledge any interbasin transfers and adequately track them, if already in place. Data may be used in future determinations for the State Water Plan or to prepare annual interbasin transfer reports.

7) Water and Wastewater Planning

Required documentation includes existing and planned permitted capacities of applicant's water and wastewater treatment facilities and associated project design criteria. Note that further coordination with the Drinking Water and Wastewater Regulatory Programs may be required if the information provided differs substantially from the amount of water requested.

8) Water Conservation Plan

The plan must include documentation about current and planned water conservation and water loss control activities in the system, as well as system management, relevant policies or ordinances to achieve these ends, and education programs. The plan must also discuss any reuse or water recycling programs in place or planned. Guidance is included with the Water Withdrawal Permit Application found on EPD's website, here: <https://epd.georgia.gov/forms-permits/watershed-protection-branch-forms-permits/water-withdrawal-permitting-forms>

9) Drought Contingency Plan

The plan must include alternative system and resource management strategies to be implemented under drought conditions that may severely reduce the availability of the resource. The plan must be consistent with the Georgia Rules for Drought Management (Ga. Comp. R. & Reg. r. 391-3-30) as well. Documentation provided must incorporate low flow protection (including mitigation of downstream impacts), storage available (including safe yield for reservoirs), drought indicators, water use priorities, and the conditions that put certain priority systems into effect. Guidance is included with the Water Withdrawal Permit Application found on EPD's website, here: <https://epd.georgia.gov/forms-permits/watershed-protection-branch-forms-permits/water-withdrawal-permitting-forms>

2.1.2.2 Draft Permit Finalization

Only once EPD has determined that the applicant has met all application requirements and that the request does not place undue burden on the surface water resource or other users will a surface water withdrawal permit be drafted. This draft permit is sent to the applicant, who has the opportunity to offer comments and approve the permit before moving forward with the permitting process.

2.1.2.3 Public Notice

Once approved by the applicant, all new and modified surface water withdrawal permits undergo a 30-day public notice period. The draft permit is posted on EPD's website and comments are accepted for 30 days. This part of the process allows for input from the public and any drinking water or wastewater facilities that may be impacted by the proposed project. A public hearing may be held if the Director of EPD finds a significant degree of public interest in a draft permit. In addition, if a new interbasin transfer is involved, a notice of the draft permit shall be circulated by at least one of the following means: publication in one or more newspapers of general circulation in the area which would be affected by such issuance; posting on the applicant's website(s); or distribution to interested parties by email or other mechanisms. Section 4.3.1 describes impacts to this process for projects classified as IPR.

2.1.2.4 Final Permit Recommendation

After 30 days, if comments have been received, EPD considers them in the evaluation of the final permit and issues an official response. If the applicant has agreed with the draft permit, and there are no significant public comments, the Director issues a final permit that complies with all applicable laws, rules, and policies.

2.2 Drinking Water Program

The Drinking Water Program interacts with IPR considerations during an applicant's request to obtain a new permit to operate a public water system (drinking water permit) or complete a permit modification. The regulatory requirements for these actions are specified in the Georgia Rules for Safe Drinking Water (Ga. Comp. R. & Reg. r. 391-3-5) and EPD Minimum Standards for Public Water Systems. In accordance with the Rule, "[N]o person shall erect, construct, or operate a public water system, nor undertake substantial enlargements, extensions, additions, modifications, renovations or repairs to any public water system, including storage, distribution, purification, or treatment components, without having first secured the Division's approval of: the source of water supply; the means and methods of treating, purifying, storing and distributing said water; and obtaining a permit to operate a public water system." In practice, compliance with this Rule indicates the following:

- Public water systems (PWS) shall have an approved drinking water permit;
- Public water systems are required to submit engineering documents (ED) and other information to support the issuance of requested drinking water permits;
- New public water systems, increases in raw water treatment capacity, and water treatment plant improvements require EPD approval prior to construction or operation;
- Source Water Assessment Plans (SWAPs) must be developed in accordance with EPD's requirements in order to identify potential pollution sources and their impacts; and
- Source Water Quality (SWQ) "must be of such quality that with reasonable treatment it will meet the maximum contaminant levels (MCLs) of the Georgia Rules for Safe Drinking Water"

2.2.1 Relevant Federal and State Regulations and Guidelines

The Georgia Safe Drinking Water Act (O.C.G.A. §12-5-170) carries out the purposes and requirements of the Federal Safe Drinking Water Act. In addition to the requirements outlined in the Georgia Safe Drinking Water Act, drinking water permits comply with the provisions of the Georgia Rules for Safe Drinking Water (Ga. Comp. R. & Reg. r. 391-3-5) and Rules for Public Water Systems to Improve Water Supply Efficiency (Ga. Comp. R. & Reg. r. 391-3-33). Information required for submission of a complete application package is directly related to the provisions included in these Rules, though not all provisions apply in every case. An overview of required information and application processing procedures for new and modified permit applications is presented the following section.

2.2.2 Permitting Process

The steps for submission of a permit application and supporting documents to obtain a drinking water permit, as well as the relevant regulatory citations, are shown in the approval process diagram below (Figure 3). All steps are required in order to obtain a new or modified drinking water permit. These steps comply with the Georgia Rules for Safe Drinking Water and EPD's Minimum Standards for Public Water Systems and are outlined on EPD's website, here: <https://epd.georgia.gov/watershed-protection-branch/drinking-water>. Permit application forms and associated permitting resources are also found on EPD's website, here: <https://epd.georgia.gov/forms-permits/watershed-protection-branch-forms-permits/drinking-water-forms>. In an IPR scenario, the Drinking Water Program coordinates internally with the Water Supply Program, Wastewater Regulatory Program, and WPMP during the initial three steps of the permitting process (SWAP, SWQ, & ED). This coordination is indicated by the green boxes below. Further details outlining the coordination required between the Drinking Water Program and other relevant programs are provided in a Coordination Matrix provided in Attachment 1. Note that the applicant initiates all steps of this process except "Issuance of a Permit to Operate a Public Water System."

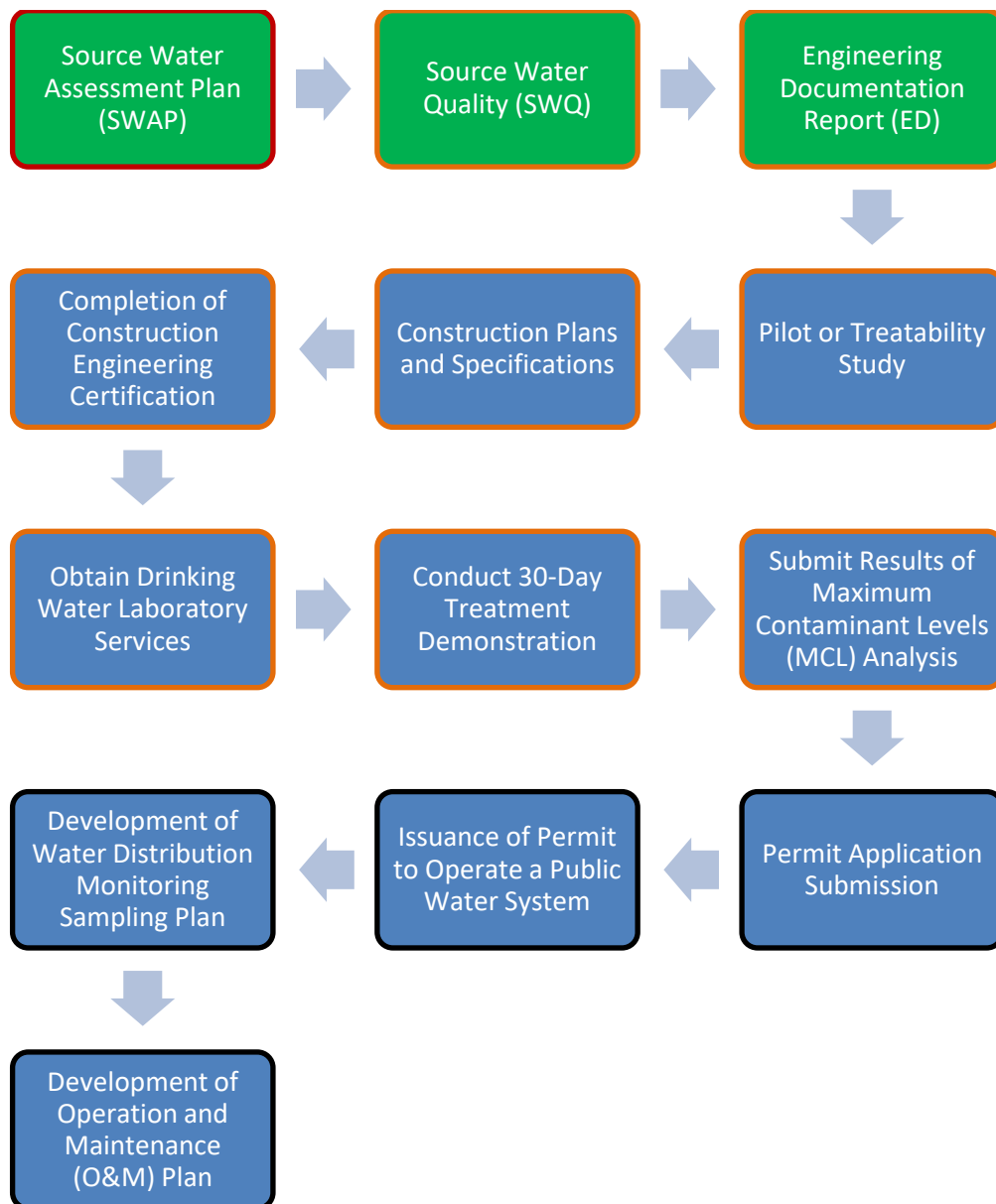


Figure 3. Drinking Water Permitting Approval Process

2.2.2.1 Permit Application & Engineering Documentation Review

Figure 3 above describes the individual steps involved in obtaining approval for a new or modified drinking water permit. EPD reviews the documents submitted for each of the steps, including engineering documents, and notifies the PWS within 90 days of any missing information and compliance with the requirements in the Georgia Rules for Safe Drinking Water (Ga. Comp. R. & Reg. r. 391-3-5) and the EPD Minimum Standards for Public Water Systems. These steps, however, can be grouped into three main categories: Source Water Assessment (red border), Engineering Document Approval (orange border), and Permit Application/Supporting Documents (black border). The steps included in each group are indicated by the colored borders of the boxes in Figure 3.

1) Source Water Assessment (Red Border)

For any proposed new surface water intake or changed source water, a SWAP must be prepared in accordance with 391-3-5-.42 of the Georgia Rules for Safe Drinking Water. EPD's Source Water Assessment Unit, the unit responsible for review and approval of these plans, can be reached at

(404) 463-1511 for more information. The SWAP must be updated every 10 years, and these updates may not coincide with permit renewal. A SWAP must also be updated for any change in water source.

2) Engineering Document Approval (Orange Border)

The applicant shall conduct Source Water Quality Analysis in accordance with 391-3-5-.06 of the Georgia Rules for Safe Drinking Water and submit the results along with an engineering report. The engineering report should describe how the plant has been designed to treat the characterized source water to comply with MCLs. In some cases, an applicant may submit a Pilot Study, Treatability Study Plan, or an Alternative Plan in lieu of pilot study plan as outlined in 391-3-5-.09 of the Rules. The applicant shall also submit construction plans and specifications in accordance with 391-3-5-.05 of the Rules and “Part 1, Section 1.2.1 - Plans and Specifications” of the latest edition of EPD’s Minimum Standards for Public Water Systems. The plans and specifications must reflect the approved plant design in the engineering report. After construction is completed, the applicant must submit an engineer’s certification signed by a registered professional engineer stating that construction was completed in accordance with the approved construction plans and specifications. At this point, the applicant must also provide Drinking Water Laboratory Services information in accordance with 391-3-5-.29 of the Rules. EPD then performs a site visit to confirm the information in the engineer’s certification. Finally, in accordance with 391-3-5-.14 of the Rules, the applicant conducts an in-plant demonstration or start-up study to treat water for a period of 30 days. This period serves as a trial run to prove the viability of the plant and its ability to treat source water to meet MCLs.

3) Permit Application and Supporting Documents (Black Border)

After construction certification, plant certification, and confirmation that the plant can produce finished water that meets MCLs, the applicant must complete, sign, and send to EPD an Application for a Permit to Operate a Public Water System in accordance with 391-3-5-.17 of the Rules. The applicant must also submit a Distribution Water Sampling Plan, including a Stage 2 Disinfectant By-Product (DBP) Monitoring Plan, and an Operation and Maintenance (O&M) Plan (in accordance with 391-3-5-.21, 391-3-5-.24, 391-3-5-.10, 391-3-5-.14, and 391-3-5-.23 of the Rules).

2.2.2.2 Final Permit Recommendation

After the applicant has satisfied each requirement outlined in Figure 3 above, EPD will send an approval letter to the PWS that includes the next step in the approval process. Once the Director has issued the final drinking water permit, the PWS must review the information in the Georgia Drinking Water Watch Database and follow the compliance sampling schedule. The permitted PWS is ultimately required to comply with both primary and secondary MCLs for finished water once the permit is issued.

2.3 Watershed Planning and Monitoring Program

The WPMP, as required under the Federal Clean Water Act (Federal Act), establishes water quality standards (WQS). WQS include specification of designated uses, water quality criteria to protect those designated uses, and an Antidegradation Policy. The purposes and intent of the State’s WQS are as follows:

- Provide enhancement of water quality and the prevention of pollution;
- Protect the public health and welfare in accordance with the public interest for drinking water supplies;
- Conserve fish, wildlife, and other beneficial aquatic life;
- Protect agricultural, industrial, recreational, and other reasonable and necessary uses; and

- Maintain and improve the biological integrity of the waters of the State.

WQS require that all waters be free from toxic substances discharged from municipalities, industries, or other sources, that produce turbidity, color, odor, or other objectionable conditions in amounts, concentrations, or combinations that are harmful to humans. WQS also require that all waters be free from turbidity that results in a substantial visual contrast in a water body due to a man-made activity.

2.3.1 Relevant Federal and State Regulations and Guidelines

EPD adopts, promulgates, modifies, amends, and repeals rules and regulations necessary for the control and management of water pollutants and surface water use to protect the environment and health of humans, animals, or aquatic life in accordance with the Georgia Water Quality Control Act (O.C.G.A. §12-5-23). In turn, the Georgia Rules for Water Quality Control (Ga. Comp. R. & Reg. r. 391-3-6) carry out the purposes and requirements of the Federal Act (Sections 301, 302, 303, 304(e), 306, 307, 402, and 405). EPD applies the WQS, limitations, and prohibitions necessary to achieve the purposes of said sections of the Federal Act.

2.3.2 Permitting Process

The WPMP does not issue permits, but it performs the water quality modeling and analysis necessary to determine appropriate wasteload allocations (WLAs) for wastewater point source discharges to protect the designated use of the receiving water body. The WLAs establish the water quality-based effluent discharge limits found in wastewater discharge permits (See Section 2.4.2). These limitations, standards, or prohibitions are based upon an assessment to protect the designated uses of the waterbody, including human health and aquatic life. Details outlining the internal EPD coordination required between the WPMP and other relevant EPD Watershed Protection programs are provided in a Coordination Matrix provided in Attachment 1.

Discharge limits protect instream water quality standards by ensuring, as required, that all waters be free from toxic substances discharged from municipalities, industries, or other sources, in amounts, concentrations, or combinations that are harmful to humans and/or aquatic life.

2.4 Wastewater Regulatory Program

The Wastewater Regulatory Program interacts with IPR considerations through the issuance of National Pollutant Discharge Elimination System (NPDES) permits. NPDES permits are required as part of the Federal Act and Georgia Water Quality Control Act (O.C.G.A. §12-5-23) for entities that intend to discharge into waters of the State from a point source. In accordance with the Act, EPD issues NPDES permits to protect instream water quality standards under the following conditions:

- Any person discharging or proposing to discharge into the waters of the State any pollutant from a point source, including those defined in the Georgia Rules for Water Quality Control (Ga. Comp. R. & Reg. r. 391-3-6-.06(2)), under any of the circumstances described in the Georgia Water Quality Control Act (O.C.G.A. §12-5-30(a)), shall obtain a permit from the EPD to make such discharge.
- Effluent limitations are required to ensure compliance with applicable State water quality standards, including those to prohibit the discharge of toxic pollutants in toxic amounts.

2.4.1 Relevant Federal and State Regulations and Guidelines

The Georgia Water Quality Control Act (O.C.G.A. §12-5-20) carries out the purposes and requirements of the Federal Act and amendments. In addition to the requirements outlined in the Georgia Water Quality Control Act, NPDES permits comply with the provisions of the Georgia Rules for Water Quality Control (Ga. Comp. R. & Reg. r. 391-3-6). Information required for submission of a complete application package is directly related to the provisions included in these Rules, though not all provisions

apply in every case. An overview of required information and application processing procedures for new and modified permit applications is presented in the following section.

2.4.2 Permitting Process

The permitting processes for **new and modified** individual wastewater discharge permits (NPDES permits) have consistent requirements for municipal (domestic) and industrial (non-domestic) facilities with few exceptions. The full process is outlined as follows with any differences in applicability noted: WLA Request, Antidegradation Analysis, Environmental Information Document (EID) (domestic only), Design Development Report (DDR) (domestic only), Draft Permit, 30-day Public Notice, USEPA Review (major domestic and non-domestic discharges only), Public Hearing (if requested) and Final Permit Recommendation. Concurrently, any new and expanded domestic discharge permits require completion of a Watershed Assessment and Watershed Protection Plan (WA / WPP). Note that necessary internal EPD coordination for an IPR scenario with the Water Supply Program, Drinking Water Program, and WPMP occurs during the WLA Request, Antidegradation Analysis, EID (domestic only), and WA / WPP portions of the wastewater discharge permit application process. This programmatic overlap is indicated by the green boxes in the schematic below. The party initiating each action is also indicated in each box. Further details outlining the coordination required between the Wastewater Regulatory Program and other relevant programs are provided in the Coordination Matrix (Attachment 1). Also note the submittal of plans and specifications for review and approval, construction, and EPD operability inspection is only required for domestic facilities. Permit application forms are completed online through GEOS and associated permitting resources for NPDES permitting are currently found on EPD's website, here:

<https://epd.georgia.gov/watershed-protection-branch/wastewater/wastewater-discharge-permitting-technical-review-process>.

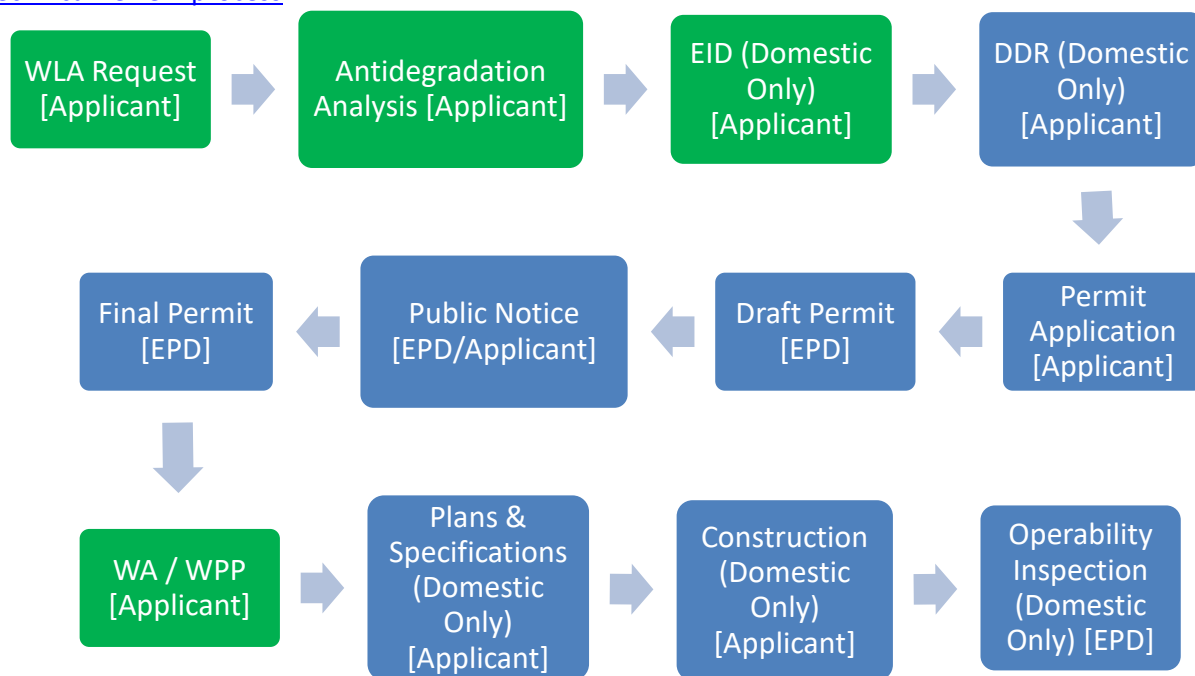


Figure 4. Wastewater Discharge Permitting Process

2.4.2.1 Wasteload Allocation (WLA) Request

All new or modified individual domestic and non-domestic discharges require the development of a WLA. The WLA provides the water quality-based effluent limits to which a permittee must adhere, and these limits are reflected in the NPDES permit. These water quality-based effluent limits are determined using available monitoring data, flow data, and water quality modeling. They also consider

the potential impacts of a discharge under low flow conditions on downstream users. This is a point of internal EPD coordination between WPMP, the Wastewater Regulatory, Water Supply, and Drinking Water Programs.

2.4.2.2 Antidegradation Analysis

All new or expanding domestic and non-domestic discharges require the submission of an Antidegradation Analysis. This analysis must contain a socioeconomic demonstration and alternatives analysis to justify the necessity of lowering local water quality to accommodate important economic or social development in the area in which the water is located. The report must consider technical feasibility and economic viability for any practicable alternatives considered that may result in degradation of water quality. This is a point of coordination between the Wastewater Regulatory Program and Water Supply Program.

2.4.2.3 Environmental Information Document (Domestic Only)

Submission of an EID is required for all new or modified domestic discharges only. The purpose of the EID is to document the awareness of the owner, designer, and public to all potential environmental impacts resulting from the construction of any new or modified wastewater treatment facilities. The EID is a concise document that adequately discusses the environmental impacts of the proposed project. As part of the EID process, a local government must conduct at least one public meeting. In the context of IPR, relevant requirements of an EID consist of Water Resources, Water Supply, and associated Water Quality. Appropriate supporting documentation may include:

- Evaluation of whether the proposed action will have the potential for decreasing either the quality or quantity of water available for water supply;
- The approximate location of all water supply intakes on water bodies adjacent to the project. Due to the confidential nature of water supply intake locations, note that EPD assistance may be necessary to obtain this information;
- Determination of whether the water body is listed or proposed to be listed on Georgia's 305(b)/303(d) lists, if it has an existing or is proposed to have a Total Maximum Daily Load (TMDL), or an evaluation has been completed documenting whether the proposed project improves or maintains water quality or allows the stream to be delisted;
- A copy of the section of Georgia's Integrated 305(b)/303(d) Report that addresses the water bodies adjacent to the project; and
- Determination of whether the receiving stream is supporting or non-supporting its designated use.

This is a point of internal EPD coordination among the Wastewater Regulatory Program, WPMP, Water Supply Program, and Drinking Water Program.

2.4.2.4 DDR (Domestic Only)

The DDR provides the basis of the design for the wastewater treatment plant, including any assumptions of influent characteristics, technologies to be used in the design of the facility, and associated calculations confirming their ability to adequately treat the wastewater for discharge. The design must ensure the proposed discharge meets the limits established in the WLA. IPR-related elements of the DDR may include:

- Indication of whether the existing facility is complying with its existing wastewater permit, and/or is under an EPD consent order, administrative order and/or sewer ban;

- Discussion of the type of wastewater to be treated. Indication of the percentage of non-domestic (commercial and industrial) and domestic wastewater. Indication of the types of industries present in the community that would be generating wastewater that would be disposed at this facility (regardless of size);
- Discussion of the wastewater treatment alternatives evaluated;
- Discussion of design influent and effluent wastewater characteristics, specifically:
 - Flow – average daily and peak
 - Parameters – Biochemical oxygen demand (BOD_{5-day}), total suspended solids (TSS), total nitrogen (TN), ammonia (NH₃-N), total Kjeldahl nitrogen (TKN), nitrites, nitrates, phosphorous, dissolved oxygen (DO), pH, temperature, fecal coliform/*E. coli*/enterococci, total residual chlorine, and any known parameters from industrial users
- Description of the selected wastewater treatment processes, including redundancy, operating conditions for design, operational flexibility, and ability to bypass treatment units if necessary; and
- Description of ability to operate or respond under emergency conditions, including loss of power, freezing, or over-heating.

2.4.2.5 *Permit Application*

EPD evaluates both municipal domestic and non-domestic new or modified discharge requests using permit applications in an electronic format. The permit application captures the following information: type of discharge, receiving waterbody, wastewater treatment facility components, effluent characterizations, and information regarding industrial and hazardous waste users (domestic only).

2.4.2.6 *Draft Permit*

Once the Antidegradation Analysis, EID (if applicable), DDR (if applicable) and permit application have been determined to be complete and adequate and all relevant considerations addressed, EPD will draft an NPDES permit. The effluent limits in the permit reflect those calculated in the WLA and reasonable potential analysis. In all cases, domestic permits will include, at a minimum, secondary treatment standards or more stringent limits based on technologies employed, and in some cases, industrial permits may also include technology-based effluent limits from the applicable federal Effluent Limit Guidelines (ELGs). In all cases, the conditions of the permit must comply with all applicable TMDLs or other considerations relevant to the nature of the discharge, including IPR. This draft permit is sent to the applicant and placed on public notice.

2.4.2.7 *Public Notice*

All new and modified individual domestic and non-domestic discharge NPDES permits undergo a 30-day public notice period. This part of the process allows for input from both the public and any other entities that may be affected by the proposed project in an IPR scenario. Additionally, major discharge permits must be reviewed by the USEPA. A public hearing may be held if the Director of EPD finds a significant degree of public interest in a draft permit. Section 4.3.1 describes impacts on this process for projects classified as IPR.

2.4.2.8 *Final Permit Recommendation*

After 30 days, if comments have been received, EPD considers them in the evaluation of the final permit and issues an official response. EPD also considers any comments provided by USEPA, if applicable. If there are no significant public comments, the Director issues a final permit that complies with all applicable laws, rules, and policies.

2.4.2.9 Watershed Assessment / Watershed Protection Plan

Concurrently with the permitting process, any new or expanding individual municipal (domestic) dischargers must complete a Watershed Assessment (WA) and Watershed Protection Plan (WPP). The goal of the WA/WPP process is to provide a means of restoring and protecting the waters and associated biological communities within a permittee's watershed assessment area. The watershed assessment area consists of the permittee's sanitary sewer service area and jurisdictional watersheds. The applicant must complete water quality sampling as part of the WA. The results of this analysis may be provided to the Drinking Water Program as a point of coordination in an IPR scenario. A WPP addresses water quality issues identified in the WA and provides tools to ensure the future protection of the water resources and biological communities.

The WPP is developed and formally adopted by the permittee and applies to all portions of the permittee's watershed assessment area. The WPP describes watershed protection strategies that will be used by the permittee to restore and protect water quality and maintain the biological integrity of the waters within its watershed assessment area, which is mainly accomplished through the implementation of Best Management Practices (BMPs). The WPP should identify and adopt specific BMPs to ensure that Georgia water quality standards are met. These BMPs should be enforceable through ordinances or some other method (i.e., new development plans, stormwater management plans, green space programs, etc.).

2.4.2.10 Plans & Specifications & Construction

For municipal and domestic facilities, after the Director issues a final NPDES permit, the applicant must submit plans and specifications reflecting the elements of the approved DDR. Construction can commence in accordance with the plans after EPD has concurred with them.

2.4.2.11 Operability Inspection

The final step in the NPDES permitting process for new and modified facilities is an operability inspection of the plant. EPD completes an inspection, comparing the constructed facility to the approved plans and specifications. Upon a successful inspection, EPD transmits a letter to the permittee authorizing operability of the treatment plant for discharge in accordance with the issued permit.

2.5 Watershed Compliance Program

Currently, the two primary mechanisms that ensure coordination among permitted facilities are compliance with the Emergency Action Rule (Ga. Comp. R. & Reg. r. 391-3-6-.05) and public comment periods for proposed permitting actions. The Water Supply and Wastewater Regulatory Programs manage public comment periods for their respective permitting actions, as described in Sections 2.1 and 2.4, while the Watershed Compliance Program and Emergency Response Team ensure compliance with the Emergency Action Rule (O.C.G.A. §12-14-1) and regulation of "Oil or Hazardous Material Spills or Releases" (O.C.G.A. §12-14-1).

The Emergency Action Rule applies in cases involving discharge of, "any toxic or taste and color producing substance(s), or any other substance which would endanger downstream users of waters of the State or would damage property." In all cases, the entity responsible for the discharge must notify EPD in person or by telephone of the location and nature of the discharge, and "take all reasonable and necessary steps to prevent injury to property and downstream users of said water." The Emergency Action Rule outlines notification, reporting, and mitigation requirements in all applicable cases. Figure 5 below displays notification procedures for various types of releases and spills. Note that different types of notification are required for "spills" and wastewater NPDES permit non-compliance, as described below.

The following sections outline procedures for spills and major spills, as well as wastewater NPDES permit non-compliance.

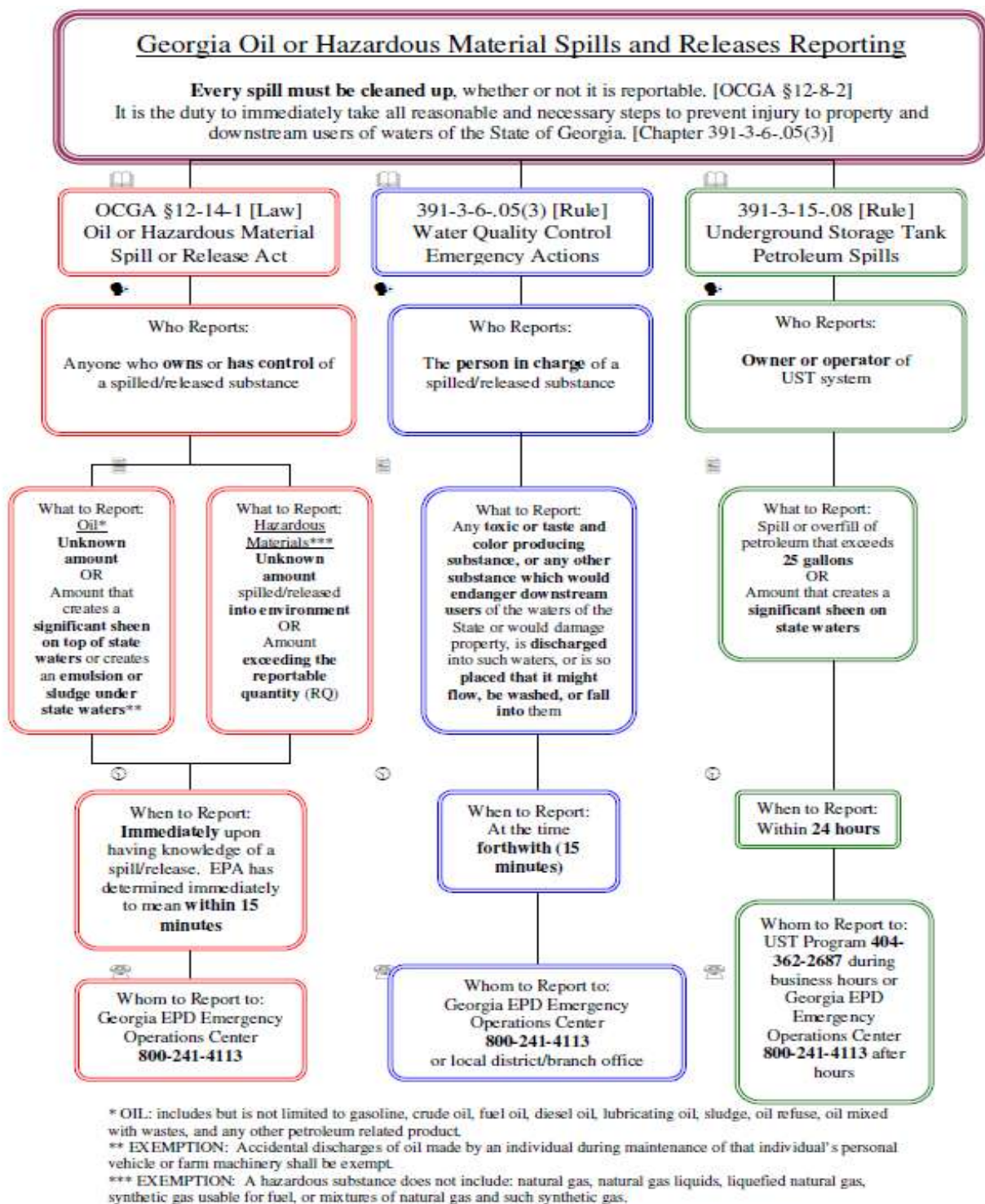


Figure 5. Reporting Procedures for Spills and Releases

2.5.1 Spills and Major Spills Procedures

In the context of the Emergency Action Rule, a spill means any discharge of raw sewage by a publicly owned treatment works (POTW) to waters of the State, and a “major spill” is:

1. This discharge of pollutants into the waters of the State by a POTW that exceeds the weekly average permitted effluent limit for biochemical oxygen demand (5-day) or total suspended solids by 50 percent or greater for any one day, provided that the effluent discharge concentration is equal to or greater than 25 mg/L for biochemical oxygen demand or total suspended solids.
2. Any discharge of raw sewage that (1) is in excess of 10,000 gallons or (2) results in water quality violations in the waters of the State.

When a spill occurs, the party responsible for the POTW must undertake notification procedures. When a major spill occurs, the party responsible for the POTW must undertake both notification and monitoring procedures. Detailed requirements are discussed in the following sections.

2.5.1.1 Notification Procedures (Spills and Major Spills)

The responsible party must notify multiple parties within specified timeframes. All notifications must include: the date of the spill, its location and cause, estimated volume discharged, name of receiving waters, and corrective action taken to mitigate or reduce the adverse effects of the spill. The owner of a POTW must notify the following affected parties within the following timeframes:

Immediately (within 15 minutes)

- EPD (in person or by telephone; spill or major spill). Note that in an IPR scenario, EPD would in turn notify all involved IPR entities immediately as well.
- Local health department(s) for the area(s) affected by the incident, including any areas containing a facility related to the POTW in an IPR scenario (spill or major spill).
- Post notices as close as possible to where the spill occurred and entered State waters and along portions of the waterway affected by the incident (i.e. at bridge crossings, trails, boat ramps, recreational areas, and other points of public access). These must remain posted for at least 7 days after the spill or major spill has ceased (spill or major spill).

Within 24 Hours

- Every county, municipality, or other public agency whose public water supply is within a distance of 20 miles downstream (major spill only).
- Local media (spill or major spill).

Within 5 Days

- EPD (written report, may be submitted electronically; spill or major spill)

Within 7 Days

- Publish notice of the major spill in the legal organ, or newspaper of record, of the County where the incident occurred (major spill only). This notice may be published electronically or in the hardcopy of the newspaper.

2.5.1.2 Monitoring Procedures (Major Spills Only)

The owner of the POTW must also immediately establish a monitoring program of the waters affected by the major spill or by consistently exceeding an effluent limit, for at least one year. The monitoring must be at the expense of the POTW and include at least one upstream sampling point as well as sufficient downstream locations to accurately characterize the impact of the major spill or exceedance in question. At minimum, monitoring must include:

- Dissolved Oxygen (DO);
- Fecal coliform or *E. coli* bacteria, or enterococci (depending on the designated use of the receiving stream);
- pH;

- Temperature.

EPD may determine the monitoring and reporting frequency and the need to monitor additional parameters. The results of the monitoring will be provided by the POTW owner to EPD and all downstream public agencies using the affected waters as a source of public water supply.

Note that EPD's Emergency Response Team responds to emergency releases of oil and hazardous substances, as well as spills and major spills occurring outside of business hours. The team contacts the EPD Watershed Compliance Program to ensure adequate coordination occurs with affected wastewater NPDES and drinking water facilities in the event of an emergency or non-permit related release.

2.5.2 Permit Non-Compliance Procedures

If a permittee does not or cannot comply with any effluent limit specified in its NPDES permit, it must provide EPD with an oral report within 24 hours from the time the permittee becomes aware of the circumstances, followed by a written report within five days. The written description, which may be submitted electronically, must contain the following:

- A description of the non-compliance and its cause; and
- The period of noncompliance, including exact dates and times, or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-complying discharge.

2.6 Unregulated Contaminants

As stated in the beginning of the document, these guidelines for IPR in Georgia are based on existing laws and regulations, and they will be updated to be consistent with any future changes in these areas. Sections 2.1 through 2.5 describe the regulatory framework that exists to address specific contaminants; however, other contaminants exist that are suspected to be present in drinking water for which regulatory standards have not been established. The regulatory framework described above captures unregulated contaminants by effectively managing general risks to water quality in two principal ways: Unregulated Contaminant Monitoring Rule compliance and compliance with state narrative water quality standards.

2.6.1 Unregulated Contaminant Monitoring Rule

The Unregulated Contaminant Monitoring Rule (UCMR) requires collection of data for contaminants that are suspected to be present in drinking water and do not have health-based standards specified under the Safe Drinking Water Act (SDWA). USEPA uses the results to determine whether to regulate certain contaminants in the interest of protecting public health ("Learn About the Unregulated Contaminant Monitoring Rule"). All public water systems serving more than 10,000 people (i.e., large systems) and representative public water systems serving 10,000 or fewer people (i.e., small systems) in Georgia monitor no more than 30 unregulated contaminants approximately every 5 years. USEPA identifies potential contaminants for monitoring using the following sources:

- Previous evaluations as part of an existing prioritization processes;
- Current research on occurrence and health effect risk factors; and
- Extensive health effects evaluations typically performed by the USEPA Office of Water's Office of Science and Technology.

USEPA then ranks contaminants according to health effect risk factors and the probability of occurrence to determine that monitoring will be required. The results of this monitoring, if warranted, may lead to the eventual creation of health-based regulatory limits for certain contaminants. Steps toward this end will include updates to health advisory values for the contaminant of concern, development of MCLs, and for USEPA to propose a regulatory determination, which provides the opportunity for public

comment. These results also serve to inform drinking water systems how to adjust operations to reduce or eliminate occurrences of these contaminants in their finished water.

Thirty-three constituents have been detected in UCMR samples since 1988. The incorporation of these results into the IPR consideration process is described in Section 4.1.

Unregulated compounds may move through USEPA's evaluation process toward regulation under the SDWA. This serves as a reminder that while these IPR guidelines focus on current regulatory requirements, those requirements may change: contaminants that are unregulated presently may become regulated in the future and adequately characterizing effluent (for wastewater projects) and source water (for drinking water projects) is in the best interest of the permittee and public, especially in an IPR scenario.

2.6.2 Narrative Water Quality Standards

Georgia establishes WQS "to provide enhancement of water quality and prevention of pollution; to protect the public health or welfare in accordance with the public interest for drinking water supplies, conservation of fish, wildlife, and other beneficial aquatic life, and...other reasonable and necessary uses to maintain and improve the biological integrity of waters of the State" (Ga. Comp. R. & Reg. r. 391-3-6-.03). EPD enforces WQS in accordance with general criteria for all waters as well as the specific water use classification and designation of a surface water body.

The following narrative criteria are necessary and applicable to all waters of the State:

- All waters shall be free from materials associated with municipal or domestic sewage, industrial waste or any other waste which will settle to form sludge deposits that become putrescent, unsightly or otherwise objectionable.
- All waters shall be free from oil, scum and floating debris associated with municipal or domestic sewage, industrial waste or other discharges in amounts sufficient to be unsightly or to interfere with legitimate water uses.
- All waters shall be free from material related to municipal, industrial or other discharges which produce turbidity, color, odor or other objectionable conditions which interfere with legitimate water uses.
- Turbidity. The following standard is in addition to the narrative turbidity standard in 391-3-6-.03(5)(c) above: All waters shall be free from turbidity which results in a substantial visual contrast in a water body due to a man-made activity. The upstream appearance of a body of water shall be as observed at a point immediately upstream of a turbidity-causing man-made activity. That upstream appearance shall be compared to a point which is located sufficiently downstream from the activity so as to provide an appropriate mixing zone. For land disturbing activities, proper design, installation, and maintenance of best management practices and compliance with issued permits shall constitute compliance with 391-3-6-.03(5)(d) of the Rules.
- All waters shall be free from toxic, corrosive, acidic and caustic substances discharged from municipalities, industries or other sources, such as nonpoint sources, in amounts, concentrations or combinations which are harmful to humans, animals or aquatic life.

Though unregulated contaminants do not have MCLs or numerical WQS, their regulation may occur through compliance with the above narrative criteria. As in the UCMR case above, EPD strongly encourages permittees to adequately characterize effluent or source water, as applicable.

3. IPR Determination

As stated previously, this guidance applies only to new and modified individual permit requests that fall into one of four specific permitting scenarios. Therefore, any new surface water withdrawal, drinking water, or wastewater discharge permit request, or action requiring the modification of any of these permits, would qualify for further EPD review to determine whether an IPR permitting scenario exists and this guidance applies. Note that as described in Section 1.1, any IPR request submitted by an entity with the intention of using its discharge to augment its own water supply would automatically be considered IPR and this guidance would apply. Qualification using the criteria in the following sections is not necessary. In all cases, EPD reserves the right to only approve projects that adequately protect human health and the environment. The following section outlines the decision criteria used by EPD to identify a potential IPR scenario in which at least two entities are involved. Figure 6 provides a summary of these criteria.

3.1 Initial Screening Criteria

As described in Section 1.2, the identification of an IPR scenario considers the physical locations of wastewater discharge(s) in relation to any relevant drinking water intake(s), the cumulative instream waste concentration (IWC) at the drinking water intake(s), and the contribution of a wastewater discharge to this cumulative IWC at the downstream drinking water intake(s). The IWC is calculated using the permitted flow contribution of a discharge to the receiving water at the drinking water intake location under low flow conditions. The IPR classification resulting from use of this methodology, which uses low flow conditions, conservatively captures permitting scenarios that would benefit from the additional considerations outlined in this document.

In most cases, identifying facilities within 20 river miles of one another will capture all possible IPR scenarios; however, evaluation of wastewater facility IWC contributions and cumulative IWC at the drinking water intake are required to confirm whether this guidance applies. Facilities more than 20 river miles apart may still be classified as IPR if the cumulative IWC at the drinking water intake location is greater than 60% and one facility contributes at least 40% to that total. Due to the confidential nature of drinking water intake locations, EPD will calculate the cumulative IWC for a proposed project and notify the applicant whether this guidance applies. See Section 4.2 for further details on notification timelines and procedures.

Exceptions to these criteria include the following scenarios:

- Any facilities within 1 river mile of one another will be considered direct potable reuse (DPR) and this guidance would not apply. A proposed DPR project will require special consideration and coordination between the applicant and EPD.
- Drinking water intake located on Federal reservoir or on a large reservoir, whose ratio of storage area to intake drainage area is 400 ac-ft/mi² or greater.
- Federal reservoir or reservoir whose ratio of storage volume to intake drainage area is 400 ac-ft/mi² or greater located between the relevant wastewater discharge and drinking water intake.

These exceptions consider the ability of large reservoirs, including Federal reservoirs and those with substantial storage capacity, to dilute wastewater contributions to de minimis levels. Currently, reservoirs that qualify for this exemption include:

Lake Allatoona	Parks Creek Reservoir
Bear Creek Reservoir	Lake Petit
Lake Blue Ridge	Richard B. Russell Lake
Carters Lake	Richland Creek Reservoir
Cedar Creek Reservoir	Rush Creek Reservoir

Lake Chatuge	Lake Seminole (Jim Woodruff Dam)
Clarks Hill Lake	Shoal Creek Reservoir
Lake Harding (Bartlett's Ferry Dam)	Lake Sinclair
Lake Hartwell	Still Branch Reservoir
Horton Creek Reservoir	Town Creek Reservoir
J.W. Smith Reservoir	Upper Towaliga River Reservoir
Lake Jackson	Upper Williams Lake (Cornish Creek Reservoir/Lake Varner)
Lake Sidney Lanier	Walter F. George Lake
Long Branch Reservoir	West Point Lake
Lake Nottely	Yargo Lake (Marbury Creek NRCS #24)
Lake Oconee	

Note that the drinking water intakes referenced in this section refer only to those intakes that transport water directly to a drinking water treatment plant. For complex systems, such as those using non-exempt pump-storage reservoirs, quarries, or other manmade environmental buffers filled by water pumped from a dedicated intake, that routing should be considered in evaluating the distance between an intake and a discharge and cumulative IWC. For instance, a discharge upstream of an intake that fills a non-exempt reservoir would consider the distance from the discharge to the intake. Note that non-exempt reservoirs will be conservatively assumed to have no additional dilution. As more granular data becomes available in the future, this practice may be expanded to consider dilution provided by runoff and flow contributed by tributaries to an on-stream reservoir.

See Figure 6 on the following page for the IPR Determination Decision Tree.

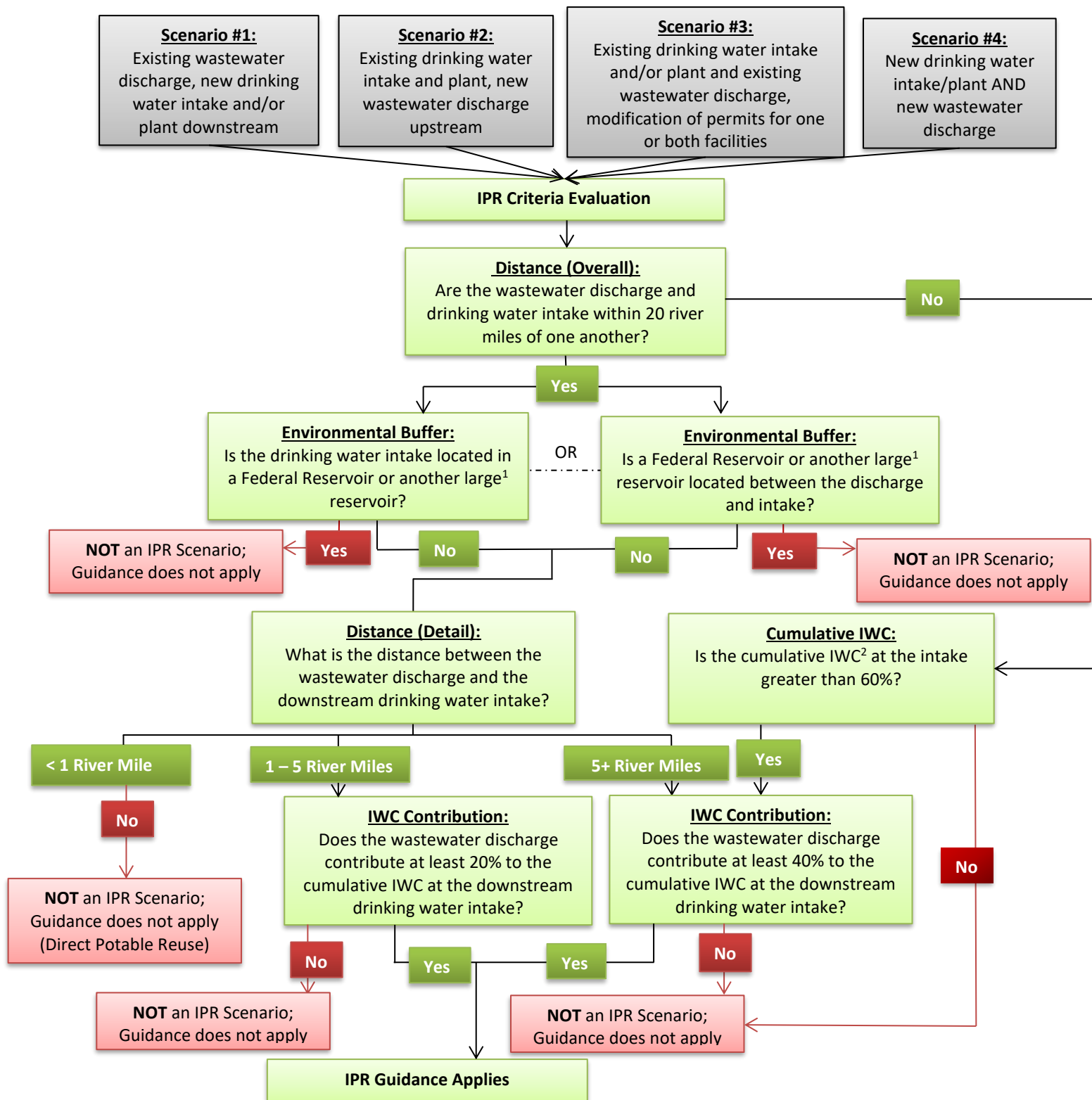


Figure 6. IPR Determination Decision Tree

¹Large reservoirs have a ratio of storage vol. to intake drainage area of 400 ac-ft/mi² or greater

²Cumulative IWC considers all discharging facilities between the discharge and the intake under consideration

3.2 Instream Waste Concentration

As described in Section 3.1, evaluation of wastewater facility IWC contributions and cumulative IWC at the drinking water intake are required to confirm whether this guidance applies. Within this criterion, four possibilities exist, depending on the relative locations of the applicable facilities. This IPR Guidance applies in each of the following scenarios:

- An entity is pursuing IPR to intentionally augment its water supply using its own wastewater discharge;
- The cumulative IWC under 7Q10 conditions at the drinking water intake is greater than 60% when two or more entities are involved;
- A wastewater facility contributes >20 % to IWC at drinking water intake **AND** there are between 1 and 5 river miles between facilities (two or more entities involved);
- A wastewater facility contributes >40 % to IWC at drinking water intake **AND** there are greater than 5 river miles between facilities (two or more entities involved).

If none of these situations applies, the IPR Guidance does not apply and the scenario is not considered to be IPR.

4. IPR Considerations

Classifying a proposal as IPR is the first step in determining that additional considerations may be necessary to ensure a successful and effective project. These additional considerations, which integrate into the existing EPD processes explained previously, include: Technology, Entity Coordination, and Public Education. The following sections are divided into two sub-sections, each representing a scenario in which a drinking water project or wastewater project initiates a permitting action request that triggers an IPR evaluation under this document. Note that the requirements outlined in the following sections and sub-sections apply only to the entity initiating the request for a new or modified permit action. As a result, the initiating party is responsible for the associated costs.

4.1 Technology

For both drinking water and wastewater treatment facilities, adequate treatment technologies must be used to produce water that meets MCLs and protects WQS, respectively. Classification as IPR does not change these requirements, which are evaluated through EPD's existing permitting processes described in Section 2. The IPR classification process recognizes that neighboring facilities may impact one another's ability to meet these requirements; therefore, consideration of neighboring facilities in an IPR scenario should occur when choosing treatment technologies for both drinking water and wastewater projects.

4.1.1 Drinking Water Projects

For new or modified drinking water projects classified as IPR, treatment technologies should consider the potential presence of both regulated and unregulated contaminants resulting from the proximity of upstream dischargers. As Section 2.6.1 explains, the presence of contaminants with human health effects in Georgia water systems is evaluated on a regular basis through compliance with existing MCLs and the UCMR. Over time, UCMR data may result in additional regulatory requirements in the form of MCLs; therefore, a proposed IPR intake or drinking water project benefits from a thorough evaluation of source water quality before finalizing an intake location. Such an evaluation offers the ability to make informed decisions to maximize efficiency and cost-effectiveness of treatment to comply with existing regulations and assurance of the protection of human health despite variable conditions.

To enable appropriate consideration of any regulated and unregulated contaminants contributed by upstream dischargers in an IPR scenario, a drinking water IPR project will require additional internal EPD coordination between the Water Supply and Drinking Water Programs for issuance of their respective permits, as well as the consideration of additional water quality data. The SWAP produced as part of the drinking water design and permitting process must consider the presence of all permitted upstream discharges and their characteristics as evidenced by monitoring data. If available, monitoring results for unregulated contaminants from these wastewater facilities must be considered. Additionally, the source water quality analysis conducted at the proposed drinking water intake location must include additional chemicals beyond those normally required. These include chemicals with primary or secondary MCLs that do not have water quality standards and any chemicals detected in any UCMR monitoring results from the state of Georgia since 1988. Additional constituents to be monitored in an IPR scenario, 79 in total, are listed in Table 1. Established, EPA-approved methods must be used, and the monitoring must occur in accordance with existing source water quality assessment requirements as described in Section 2.2. Furthermore, issuance of a new or modified surface water withdrawal permit in an IPR scenario will be coordinated with the results of the SWAP and source water quality analysis. In lieu of a final permit, a letter confirming the allocation of requested water may be issued for planning purposes and require periodic renewal until the Drinking Water Program's process, which addresses water quality issues, has been completed. At that point, both permits will be issued simultaneously. A surface water withdrawal permit will conversely require compliance with all Drinking Water Program requirements before operation under the permit. Such a permit would also specify that failure to comply with these requirements would result in revocation of the permit.

Table 1. Additional Chemical Monitoring Required for IPR Projects

1,1,1-trichloroethane	Foaming Agents
1,1-dichloroethane (1,2-dichloroethane)	Glyphosate
1,4-dioxane	Haloacetic Acids (HAA5)*
2,4,5-TP (Silvex)	Haloacetic Acids (HAA6Br)*
Alachlor	Iron
Aluminum	Lindane
Anatoxin-a	Manganese
Asbestos	Molybdenum
Atrazine	Monochlorobenzene
Barium	MTBE
Benzene	Nitrate
Beryllium	Nitrite
Bromate	NDMA (nitrosodimethylamine)
Bromochloromethane (Halon 1011)	o-Dichlorobenzene
Bromodichloromethane	Odor
Bromoform	Oxamyl (Vydate)
Carbofuran	para-Dichlorobenzene
Chloramines	Perchlorate
Chlorate	PFBS (perfluorobutanesulfonic acid)
Chloride	PFHpA (perfluoroheptanoic acid)
Chlorine	PFOA (perfluorooctanoic acid)
Chlorine Dioxide	PFOS (perfluorooctanesulfonic acid)
Chlorite	Picloram
Chlorobenzene	Polychlorinated biphenyls (PCBs)
Chloroform	Silver
Chromium-6	Simazine
Chromium (Total)	Strontium
Cis-1,2-Dichloroethylene	Styrene

Cobalt
 Color
 Corrosivity
 Dalapon
 Di(2-ethylhexyl) adipate
 Di(2-ethylhexyl) phthalate
 Dibromochloromethane
 Dibromochloropropane (DBCP)
 Dichloromethane
 Dinoseb
 Diquat
 Endothall
 Ethylene Dibromide (EDB)
 Fluoride

Sulfate
 Total Coliform
 Total Dissolved Solids
 Total trihalomethanes (TTHM)
 Trichloroethylene
 Turbidity
 Vanadium
 Xylenes (total)

*Figure 7 shows breakdown of relationships among HAA Groups

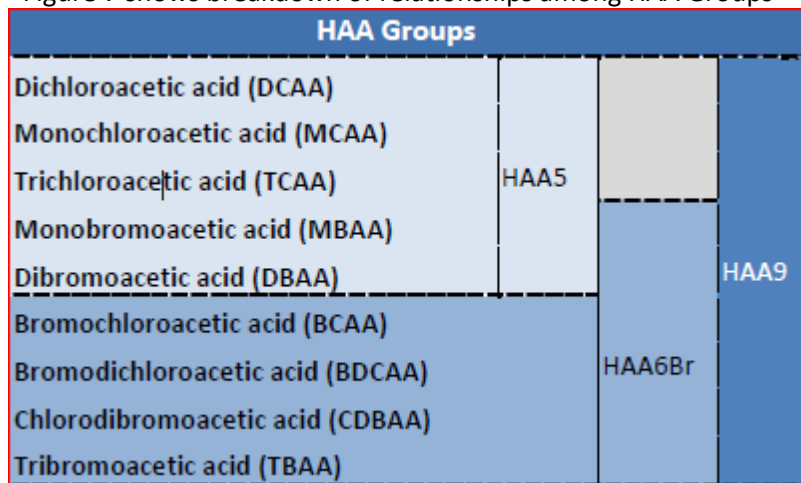


Figure 7. HAA Group Relationships

4.1.2 Wastewater Projects

Water quality-based effluent discharge limits for wastewater NPDES projects are determined based on WLAs and reasonable potential analyses. WLAs generally consider contaminants known to impact human health and aquatic life; reasonable potential analyses consider other relevant chemicals, such as metals and organics. For wastewater projects, a thorough evaluation of discharge water quality, including all contaminants believed to be present, enables a permittee to make informed decisions to maximize efficiency and cost-effectiveness of treatment for compliance with existing regulations, and to assure protection of human health and the environment despite variable conditions.

As a result, proposed wastewater IPR project applicants must submit effluent monitoring data for the constituents listed in Table 1 as required for the applicable new or modification application process described in Section 2.4. The timing of the monitoring within the application process is dependent on the nature of the specific project; however, monitoring must occur in the effluent, not the receiving stream. In some cases, using effluent monitoring data from a similar type of facility may be appropriate. For new or expanded discharges including industrial waste streams, for example, best professional judgement and documentation of contaminants present in similar industrial waste streams would be used to anticipate the characteristics of the discharge in the proposed project. For expansion of a municipal discharge, the existing plant effluent would be monitored to determine current waste characterization before

proceeding with plant upgrades. In either case, after completion of the project, the NPDES permit would then include requirements to monitor for the additional contaminants listed in Table 1 of the IPR Guidance document.

As in the case of proposed drinking water IPR projects, this monitoring data will offer a more comprehensive understanding of the request and enable both EPD and the applicant to make informed decisions about the project. The data will ensure that all relevant factors are considered for protection of human health and the environment in the project evaluation and permitting processes. EPD will evaluate the complete application materials, including additional monitoring results, in accordance with existing procedures to determine whether the requested discharge can be granted. If approved, EPD will also share the results with any related downstream users in the IPR scenario. The effluent limits resulting from these analyses will likely require advanced treatment to achieve compliance with the wastewater NPDES permit.

Furthermore, the configurations of downstream water supply and drinking water infrastructure may influence the considerations in an issued WLA or permit limits. A proposed IPR wastewater project upstream of a drinking water reservoir, for example, may include an appropriate phosphorus limit, an ammonia limit, and a nitrate limit to minimize algal growth. The nitrate limit will be protective of the 10 mg/L MCL required at the downstream drinking water facility under low flow conditions.

4.2 Entity Coordination

As mentioned in Section 1, rivers, streams, and lakes in many parts of Georgia are both primary sources of drinking water supply and primary points of discharge for treated wastewater. In some cases where these facilities would be classified as IPR, both the drinking water and wastewater systems are managed by the same entity; however, in other cases, multiple entities may withdraw drinking water and/or discharge wastewater along a given stretch of a river, stream, or lake. The State laws and rules described in Section 2 currently regulate drinking water supply and drinking water treatment, as well as wastewater treatment and disposal/reuse in order to protect public health and the environment, regardless of political boundaries, entity ownership, or wastewater type (i.e. domestic or non-domestic).

Coordination among all involved entities in an IPR scenario is necessary to ensure any potential impacts are addressed. In addition to ensuring protection of human health, secondary benefits of coordination among entities, both domestic and non-domestic, include:

- Ability for entities to share joint messages relating to public outreach/communications regarding IPR;
- Streamlined completion of permit modifications to enhance hazard mitigation, emergency capabilities, or resilience partnerships;
- Streamlined completion of permit modifications to enhance resource planning as it relates to surrounding water and wastewater permittees; and
- Sharing of training initiatives and partnerships developed as a result of IPR implementation.

Due to the confidential nature of drinking water intakes, EPD is the only organization with comprehensive information regarding the proximity and details of drinking water withdrawals and wastewater discharges; therefore, EPD holds primary responsibility for identifying IPR projects and ensuring coordination among different programs and entities.

The primary points of overlap in EPD's existing permitting processes are shown in Attachment 1. Note that the *party initiating the change to the existing configuration* (i.e., (i.e., requesting a new or modified withdrawal, drinking water, or discharge permit) has the starting responsibility for ensuring protection of human health and the environment and the responsibility to complete additional monitoring

and activities as required under this guidance document. As a result, the initiating party is responsible for the associated costs.

EPD will notify applicants and other affected facilities of their IPR status to ensure all necessary considerations are included as part of the permitting process, regardless of the type of project. Permit conditions may be added in the applicable permit by EPD to allow implementation of the actions outlined in the following sections.

4.2.1 Drinking Water Projects

For a drinking water project classified as IPR, EPD will notify the applicant within 20 days of application receipt and of its IPR status. EPD will also notify the affected associated wastewater facility or facilities of the proposed project and potential IPR impacts within 20 days of application receipt. Within 30 days of EPD's notification of the potential IPR project, both entities (drinking water and wastewater facilities) must provide contact information to EPD for those individuals responsible for IPR coordination. EPD will then coordinate with the associated upstream wastewater discharger to ensure update of the wastewater facility's spill notification SOP to consider the project triggering the IPR scenario. In the event of a spill, EPD would ensure that any downstream IPR facilities are notified immediately.

4.2.2 Wastewater Projects

For a wastewater facility project classified as IPR, EPD will notify the applicant within 20 days of application receipt of its IPR status. EPD will also notify the affected associated drinking water facility of the proposed project and potential IPR impacts within 20 days of application receipt. Within 30 days of EPD's notification of the potential IPR project, both entities (drinking water and wastewater facilities) must provide contact information to EPD for those individuals responsible for IPR coordination. As discussed in Section 4.1, the wastewater facility should provide accurate information about the quality of its effluent to EPD as part of the permitting process. The information will help to inform the type of effluent limits the wastewater facility will need to meet upon issuance of the requested permit.

4.3 Public Engagement and Education

How proponents of IPR projects communicate with their customers, community, and stakeholders about water reuse is a critical factor in the success of project implementation. Pursuit of an IPR project requires transparent public notification as part of the permitting process, as outlined below in Section 4.3.1.

Outreach should offer authentic engagement and public involvement opportunities and respond to the specific concerns of local people and decision makers. Model communication strategies and outreach materials focused on the development of domestic or municipal projects are available in *Phase II Model Communication Plans for Increasing Awareness and Fostering Acceptance of Direct Potable Reuse* (Millan et al. 2015), *The Water Reuse Roadmap* (WEF 2018), and through the Water Reuse Association at <http://WateReuse.org>.

4.3.1 IPR Permitting Public Notice Requirements

In order to ensure public outreach, applicants with projects classified as IPR must specify this designation in the appropriate public notice documents as required by the applicable permitting process. In addition, a public hearing must occur in an area convenient to both the project location and affected area within 45 days of public notice. The public notice should advertise the public hearing, and the hearing must address this aspect of the specific project. EPD will attend the public hearing and undertake the

responsibilities outlined in the following section. Section 4.3.2 describes the roles of the applicant and EPD in the public education process.

4.3.2 Roles in Public Education

EPD will make educational materials about IPR in general available online for public awareness. EPD will also participate in the required public meeting to offer detailed information about the applicable permitting process and coordination occurring due to the project's classification as IPR. This may include monitoring data, water quality or water quantity analysis results, proposed permit limits, specific location information, internal coordination conducted, and any other pertinent information. EPD will also clarify the next steps in the regulatory process, should the project move forward.

The applicant should seek to achieve productive public engagement during the required public meeting. Completion and implementation of a strategic communication plan can be helpful for the applicant to achieve productive public engagement. EPD recommends that the initiating party in an IPR scenario develop such a plan in advance of the required public hearing to aid in messaging and communication. The plan should enable communication of the details of the project, as well as its benefits to stakeholders. The GAWP Reuse Committee provides guidance to address this topic. The document includes suggested best practices for facilities participating in such a process. Organizations such as the American Water Works Association (AWWA), WaterReuse, and the Water Environment Federation (WEF) also provide resources to this end.

5. Summary

IPR plays an important part in bridging a gap between water needs and availability while utilizing technology to address any challenges that may arise as a result. This document provides information to guide users through existing regulatory processes when the proposed project has IPR implications and outlines additional considerations in EPD's review process to ensure protection of human health and aquatic life in these situations. As Georgia's needs for water increase, the State continues to manage its resources in the most sustainable, equitable, and safe manner through transparent processes and procedures.

6. References

American Water Works Association (AWWA), "Direct Potable Reuse Program Operation and Management," (2018)

"Learn About the Unregulated Contaminant Monitoring Rule." *Monitoring Unregulated Drinking Water Contaminants*, U.S. Environmental Protection Agency (USEPA), [<https://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule>].

Millan et al., WaterReuse Research Foundation, "Model Communication Plans for Increasing Awareness and Fostering Acceptance of Direct Potable Reuse," (2015)

U.S. Environmental Protection Agency (USEPA), "2012 Guidelines for Water Reuse, ed. Office of Water, Office of Wastewater Management (Washington, D.C., 2012)," <https://nepis.epa.gov/Adobe/PDF/P100FS7K.pdf>

U.S. Environmental Protection Agency (USEPA), "Potable Reuse Compendium, ed. Office of Ground Water and Drinking Water (2017),"

https://www.epa.gov/sites/production/files/2018-01/documents/potablereusecompendium_3.pdf
Water Environment Federation (WEF), “Water Reuse Roadmap,” (2018)

Overlapping Permitting Considerations

		Water Supply	Drinking Water	Watershed Planning & Monitoring	Wastewater
Initiating Permitting Process	Water Supply / Surface Water Withdrawal		For a new/modified water withdrawal permit request: <ul style="list-style-type: none"> • <u>Water Planning</u>- A system must have the means to treat the additional drinking water requested through an increase in withdrawal capacity • <u>Downstream Impact Analysis</u>- A system must consider impacts of proposed action on other resource users (permitted downstream surface water withdrawals) <i>*EPD completes this analysis, but applicant should be aware that this may influence instream flow protections required in the withdrawal permit*</i> 	For a new/modified water withdrawal permit request: <ul style="list-style-type: none"> • <u>Downstream Impact Analysis</u>- A system must consider impacts of proposed action on other resource users (permitted and proposed downstream NPDES facilities which have received WLAs developed based on certain instream flow conditions) <i>*EPD completes this analysis, but applicant should be aware that this may influence instream flow protections required in the withdrawal permit*</i> 	For a new/modified water withdrawal permit request: <ul style="list-style-type: none"> • <u>Wastewater Planning</u>- A system must have the means to treat the additional wastewater generated through an increase in withdrawal capacity • <u>Downstream Impact Analysis</u>- A system must consider the impacts of proposed action on other resource users (IPR classification, permitted downstream discharges) <i>*EPD completes this analysis, but applicant should be aware that this may influence instream flow protections required in the withdrawal permit*</i>
	Drinking Water	For a new/modified drinking water permit request: <ul style="list-style-type: none"> • <u>Availability of Water</u>- A system must have a permit to withdraw sufficient water supply (if greater than 100,000 gpd) to serve a new/expanded Drinking Water Treatment Facility 		For a new/modified drinking water permit request: <ul style="list-style-type: none"> • <u>Source Water Characterization</u>- A system must perform physical, chemical, biological, and radiological analysis of the source water to determine the treatment requirements in a Drinking Water Treatment Facility. The Facility must be designed to meet Safe Drinking Water Act Maximum Contaminant Levels (MCLs) for finished water. • <u>Raw Water Monitoring</u>- A system must perform monitoring of every compound that has a primary or secondary MCL on a monthly basis and submit the results to EPD. 	For a new/modified drinking water permit request: <ul style="list-style-type: none"> • <u>Source Water Assessment Plan (SWAP)</u>- A system must submit a SWAP, and it must be updated every 10 years. The SWAP must identify upstream NPDES discharges that are in the permitting process or have not been previously identified.
	WPMP	<ul style="list-style-type: none"> • <u>Watershed Assessment (WA)/Watershed Protection Plan (WPP)</u>- In its WA/WPP for a new/expanded discharge, a system should consider whether a surface water intake is present in the watershed area to inform the type of monitoring and measures required in the document. It should be updated every 10 years. • <u>Designated Uses</u>- When considering updates of the designated uses of water bodies, WPMP must coordinate with Water Supply to capture facilities that have emergency withdrawal locations. 	<ul style="list-style-type: none"> • <u>New/Modified WLA Request</u>- If a new/modified WLA is requested, WPMP must consider its potential effect on the characteristics of source water for a Drinking Water Treatment Facility (or waters with designated use of Drinking Water). • <u>Designated Uses</u>- When considering updates of the designated uses of water bodies, WPMP must coordinate with Drinking Water to capture facilities who withdraw/treat less than 100,000 gpd and emergency drinking water sources 		<ul style="list-style-type: none"> • <u>New/Modified WLA Request</u>- If a new/expanded wastewater discharge is the action that changes the status quo, the WLA must consider ambient water quality standards and, potentially, MCLs (or source water characterization data) for waters that have a designated use of Drinking Water. • <u>WA/WPP</u>- In its WA/WPP for a new/expanded discharge, a system should consider whether a surface water intake is present in the watershed area to inform the type of monitoring and measures required in the document. It should be updated every 10 years.
	Wastewater	For a new/modified NPDES permit request: <ul style="list-style-type: none"> • <u>Environmental Information Document (EID)</u>- The EID must document the awareness of the owner, designer, and public of all potential environmental impacts resulting from the construction of any new, upgraded or expanded wastewater treatment facilities, which may include: <ul style="list-style-type: none"> • Evaluation of whether the proposed action will have the potential for decreasing the <i>quantity</i> of water available for water supply. • Approximate location of all water supply intakes on water bodies adjacent to the project. 	For a new/modified NPDES permit request: <ul style="list-style-type: none"> • <u>Environmental Information Document (EID)</u>- The EID must document the awareness of the owner, designer, and public of all potential environmental impacts resulting from the construction of any new, upgraded or expanded wastewater treatment facilities, which may include: <ul style="list-style-type: none"> • Evaluation of whether the proposed action will have the potential for decreasing the <i>quality</i> of water available for water supply. • Approximate location of all water supply intakes on water bodies adjacent to the project. 	<ul style="list-style-type: none"> • <u>New/Modified WLA Request</u>- A new/modified wastewater discharge must incorporate the results of the appropriate WLA analysis by ensuring the plant can produce effluent that meets the standards specified in the WLA. • <u>Environmental Information Document (EID)</u>- The EID must document the awareness of the owner, designer, and public of all potential environmental impacts resulting from the construction of any new, upgraded or expanded wastewater treatment facilities, which may include: <ul style="list-style-type: none"> • Impacts to designated use of water body 	

Note: Red Text = Internal EPD Activities/Responsibilities