GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Summary Page

Name of Facility Georgia Power Company – Plant Wansley

NPDES Permit No. GA0026778

This permit is a reissuance of an extended NPDES permit for Georgia Power Company – Plant Wansley. The facility discharges a maximum of 149.7 MGD of cooling tower blowdown, ash pond discharge, FGD blowdown, bottom ash transport water, low volume waste, chemical metal cleaning waste, coal pile runoff, employee car wash water, intake and pump backwash, sanitary wastewater, and stormwater. This facility discharges to the Chattahoochee River (Outfall Nos. 01, 01E, & 05), an Unnamed Tributary of the Chattahoochee River (Outfall Nos. 03A & 03B), and Yellowdirt Creek (Outfall Nos. 04 & 06) in the Chattahoochee River Basin. The permit expired on August 31, 2011 and became administratively extended.

The permit was placed on public notice from June 29, 2020 to August 07, 2020. EPD received substantial comments during the public notice period which have been addressed in the response to comments document.

Please Note The Following Changes to the Proposed NPDES Permit From The Existing Permit

Part I.A.1. – Effluent Limitations and Monitoring Requirements (External Outfalls 01 & 01E)

- Modified flow reporting requirements by substituting the annual flow characterization requirement with weekly flow reporting.
- Added a daily maximum instream temperature limit of 90 °F to be achieved at the edge of an approved mixing zone.
- Added a daily maximum delta temperature limit of +5 °F and ambient temperature monitoring to be used in the delta temperature calculation.
- Added a permit condition requiring chronic whole effluent toxicity monitoring once during the permit term with an additional chronic WET test to be submitted with the next permit application based on EPD's best professional judgement (BPJ).
- Removed ammonia monitoring, as the data provided during the previous permit term indicated no reasonable potential for ammonia to cause or contribute to a violation of Georgia's instream Water Quality Standards.
- Added effluent limitations to 01E which are equivalent to the effluent limitations established for outfall 01, as outfall 01E can be used as the facility's main discharge outfall when outfall 01 is undergoing maintenance.

Part I.A.2. – Effluent Limitations and Monitoring Requirements (Internal Outfalls 01A, 01B, 01H, 01I, 01J, and 01K)

- Modified flow reporting requirements by substituting the annual flow characterization requirement with daily flow reporting.

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- Modified the monitoring frequency for TRC, FAC, and TRC/FAC discharge time to include daily monitoring during continuous chlorination of the service water system, in accordance with Plant Wansley's *Best Management Practices Plan – Macrofouling, Biofouling, Corrosion, and Deposition Control (Revised 2018)*.

Part I.A.3. – Effluent Limitations and Monitoring Requirements (Internal Outfall 01C)

- Modified flow reporting requirements by substituting the annual flow characterization requirement with weekly flow reporting.
- Modified the TSS effluent limitations from 30 mg/L daily average and 100 mg/L daily maximum to 30.0 mg/L daily average and 100.0 mg/L daily maximum to include the appropriate amount of significant figures established in 40 C.F.R. Part 423.
- Modified the oil & grease effluent limitations from 15 mg/L daily average and 20 mg/L daily maximum to 15.0 mg/L daily average and 20.0 mg/L daily maximum to include the appropriate amount of significant figures established in 40 C.F.R. Part 423.
- Added an implementation schedule requiring that there shall be no discharge of pollutants in bottom ash transport water generated after December 31, 2023 except that which is used in the FGD scrubber.

Part I.A.4. – Effluent Limitations and Monitoring Requirements (Internal Outfall 02A)

- Modified flow reporting requirements by substituting the annual flow characterization requirement with daily flow reporting.
- Added TSS effluent limitations of 30.0 mg/L daily average and 98.1 mg/L daily maximum in accordance with 40 C.F.R. Part 423.
- Added oil & grease effluent limitations of 14.5 mg/L daily average and 19.3 mg/L daily maximum in accordance with 40 C.F.R. Part 423.
- Removed free available chlorine effluent limitations of 0.2 mg/L daily average and 0.5 mg/L daily maximum as the internal outfall now identifies low volume waste instead of cooling tower blowdown.
- Removed total residual chlorine monitoring as the internal outfall now identifies low volume waste instead of cooling tower blowdown.
- Removed the total residual chlorine discharge time effluent limitation of 120 minutes/day/unit daily maximum as the internal outfall now identifies low volume waste instead of cooling tower blowdown.
- Removed the total chromium effluent limitation of 0.2 mg/L daily maximum as the internal outfall now identifies low volume waste instead of cooling tower blowdown.
- Removed the total zinc effluent limitation of 1.0 mg/L daily maximum as the internal outfall now identifies low volume waste instead of cooling tower blowdown.

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Part I.A.5. – Effluent Limitations and Monitoring Requirements (Internal Outfall 02E)

- Added flow reporting requirements, consistent with EPD's current permitting approach.
- Added TSS effluent limitations of 30.0 mg/L daily average and 100.0 mg/L daily maximum in accordance with 40 C.F.R. Part 423.
- Added oil & grease effluent limitations of 15.0 mg/L daily average and 20.0 mg/L daily maximum in accordance with 40 C.F.R. Part 423.
- Added copper, total effluent limitations of 1.0 mg/L daily average and 1.0 mg/L daily maximum in accordance with 40 C.F.R. Part 423.
- Added iron, total effluent limitations of 1.0 mg/L daily average and 1.0 mg/L daily maximum in accordance with 40 C.F.R. Part 423.

Part I.A.6. – Effluent Limitations and Monitoring Requirements (Internal Outfall 02P)

- Added an implementation schedule requiring that by December 31, 2023 the permittee shall achieve compliance with the effluent limitations established in Part I.A.6.
- Added flow reporting requirements.
- Added arsenic, total effluent limitations of 8 µg/L daily average and 11 µg/L daily maximum in accordance with 40 C.F.R. Part 423.
- Added mercury, total effluent limitations of 356 ng/L daily average and 788 ng/L daily maximum in accordance with 40 C.F.R. Part 423.
- Added selenium, total effluent limitations of 12 µg/L daily average and 23 µg/L daily maximum in accordance with 40 C.F.R. Part 423.
- Added nitrate/nitrite, as N effluent limitations of 4.4 mg/L daily average and 17.0 mg/L daily maximum in accordance with 40 C.F.R. Part 423.

Part I.A.7. – Effluent Limitations and Monitoring Requirements (Internal Outfall 02Q)

- Added flow reporting requirements, consistent with EPD's current permitting approach.

Part I.A.8. – Effluent Limitations and Monitoring Requirements (External Outfalls 03A and 03B)

- Modified flow reporting requirements by substituting the annual flow characterization requirement with daily flow reporting.
- Modified the TSS effluent limitations from 30 mg/L daily average and 100 mg/L daily maximum to 30.0 mg/L daily average and 100.0 mg/L daily maximum to include the appropriate amount of significant figures established in 40 C.F.R. Part 423.
- Modified the oil & grease effluent limitations from 15 mg/L daily average and 20 mg/L daily maximum to 15.0 mg/L daily average and 20.0 mg/L daily maximum to include the appropriate amount of significant figures established in 40 C.F.R. Part 423.
- Added selenium, total concentration-based effluent limitations of 5.0 µg/L daily average and 7.5 µg/L daily maximum based on EPD's reasonable potential analysis.

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- Added selenium, total mass-based effluent limitations of 0.316 lbs/day daily average and 0.473 lbs/day daily maximum based on EPD's reasonable potential analysis.
- Added mercury, total concentration-based effluent limitations of 0.012 µg/L daily average and 0.018 µg/L daily maximum based on EPD's reasonable potential analysis.
- Added mercury, total mass-based effluent limitations of 0.001 lbs/day daily average and 0.001 lbs/day daily maximum based on EPD's reasonable potential analysis.
- Added daily when discharging monitoring requirements for total dissolved solids; copper, total; arsenic, total; chromium, total; lead, total; cadmium, total; zinc, total; and nickel, total to characterize emergency discharges.
- Modified the pH effluent limitations from 6.0 – 9.0 s.u. to 6.0 – 8.5 s.u. based on the calculated IWC of 99.9%.
- Removed ammonia monitoring, as the data provided during the previous permit term indicated no reasonable potential for ammonia to cause or contribute to a violation of Georgia's instream Water Quality Standards.

Part I.A.9. – Effluent Limitations and Monitoring Requirements (Internal Outfalls 03H, 03J, and 03K)

- Added TSS effluent limitations of 30.0 mg/L daily average and 100.0 mg/L daily maximum in accordance with 40 C.F.R. Part 423.
- Added oil & grease effluent limitations of 15.0 mg/L daily average and 20.0 mg/L daily maximum in accordance with 40 C.F.R. Part 423.

Part I.A.10. – Effluent Limitations and Monitoring Requirements (External Outfall 04)

- Added flow reporting requirements, consistent with EPD's current permitting approach.
- Added pH effluent limitations of 6.0 – 9.0 s.u. based on the calculate IWC of 4.05%.

Part I.A.11. – Effluent Limitations and Monitoring Requirements (External Outfalls 05 and 06)

- Added flow reporting requirements, consistent with EPD's current permitting approach.

Part III.C – Special Conditions

- The prohibition of discharges of polychlorinated biphenyl compounds included in Paragraph 1 of the previous permit has been moved to Paragraph 2 in this permit.
- Paragraphs 2 and 3 from the previous permit have been removed since metal cleaning waste is now addressed in Part I.A.5.
- The discharge regulations for free available chlorine and total residual chlorine included in Paragraphs 4 and 5 of the previous permit have been consolidated and included as Paragraph 1 in this permit.

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- The annual certification requirement for cooling tower blowdown discharges included in Paragraph 6 of the previous permit has been modified and included as Paragraph 4 in this permit.
- Paragraphs 7-17 from the previous permit have been removed since the requirements are not necessary.
- Added Paragraph 3 in this permit to include applicable 316(b) requirements.
- Added Paragraph 5 in this permit to address the revised 40 C.F.R. Part 423 Steam Electric Power Generating Point Source Category Effluent Limitation Guidelines.
- Added Paragraph 6 in this permit to address the implementation schedule for ash transport water and FGD wastewater requirements.
- Added Paragraph 7 to address coal ash dewatering plans.
- Added Paragraph 8 to address the approved thermal mixing zone.
- Added Paragraph 9 to indicate that no detectable level of hydrazine is allowed from outfall 01.
- Added Paragraph 10 to ensure an inventory of water treatment chemicals is kept in order to determine compliance with Paragraph 4.

Part III.E – Coal Ash Pond Impoundment Integrity

- Language for impoundment integrity inspections requirements has been added to the permit.

Other

- Added internal outfall numbers 02E, 02P, 02Q, 03H, 03J, and 03K due to facility flow reconfigurations.
- Removed internal outfall numbers 02B and 02J due to facility flow reconfigurations.
- Due to facility flow reconfigurations, internal outfall 02A will now contain low volume wastes, not cooling tower blowdown.

Standard Conditions & Boilerplate Modifications

The permit boilerplate includes modified language or added language consistent with other NPDES permits.

Final Permit Determinations and Public Comments

☒ Final issued permit did not change from the draft permit placed on public notice.
☒ Public comments were received during public notice period.
☒ Public hearing was held on August 04, 2020.
☐ Final permit includes changes from the draft permit placed on public notice. See attached permit revisions and/or permit fact sheet revisions document(s).

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Watershed Protection Branch
2 Martin Luther King, Jr. Drive
Suite 1152, East Tower
Atlanta, Georgia 30334
404-463-1511

Persons who commented on
Draft NPDES Permit No. GA0026778

10/15/2020

RE: EPD Response to Comments
Georgia Power Company – Plant Wansley
NPDES Permit No. GA0026778

To Whom it May Concern:

Thank you for your comments regarding the permit issuance for the Georgia Power Company – Plant Wansley NPDES Permit. Attached is a summary of comments from the public and our responses to the issue raised. We appreciate your interest in this matter.

After consideration of your comments, EPD has determined that the permit is protective of water quality standards and we have issued the permit.

If you have any questions, please contact Ian McDowell of my staff at 404-232-1567.

Sincerely,

Audra Dickson, Manager
Wastewater Regulatory Program
Watershed Protection Branch

AHD/im

Attachment: Response to Comments

Public Comments and EPD Responses on Draft NPDES Permit
Georgia Power Company – Plant Wansley NPDES Permit No. GA0026786

Acronyms

BAT – Best Available Technology Economically Achievable
CFR – Code of Federal Regulations
CPP – Clean Power Plan
CWA – Clean Water Act
CWIS – Cooling Water Intake Structure
ELG – Effluent Limit Guideline for Steam Electric Power Generating Facilities, 40 CFR Part 423
EPD – Environmental Protection Division
EPA – Environmental Protection Agency
MCL – Maximum Contaminant Level
Permittee – Georgia Power Company – Plant Wansley
RPA – Reasonable Potential Analysis
Rules – Georgia Rules and Regulations for the Water Quality Control Act
TBEL – Technology Based Effluent Limit
WQBEL – Water Quality Based Effluent Limit
WQS – State of GA Water Quality Standards

COMMENTS RECEIVED	EPD RESPONSE
The Draft Permit would allow Georgia Power to dewater Plant Wansley's massive, 343-acre, 16-million-ton coal ash pond without specific limits on the amount of pollution that can be discharged into the Chattahoochee River. Instead of proactively protecting Georgia's most-used river, EPD is opting for a wait-and-see approach. According to the Draft Permit, EPD will evaluate Georgia Power's effluent sampling and upstream and downstream stream sampling, and "determine if there is a reasonable potential for the discharge to cause or contribute to a violation of the instream water quality standards and if necessary, may open the permit to include applicable effluent limits to protect the receiving waterbody." (Draft Permit Part III.C.7.a.9). Waiting for a disastrous result violates the Clean Water Act because it fails to adequately protect the Chattahoochee River by imposing stringent, bright-line effluent limits for toxic metals commonly found in coal ash pond wastewater. EPD should rewrite this section of the Draft Permit to provide that when Plant Wansley submits its dewatering plan, EPD will reopen the permit to perform an analysis of and set technology-based effluent limitations on the pollutant-laden discharge from the coal ash pond.	40 C.F.R. § 125.3(c) allows for technology-based treatment requirements to be imposed on a case-by-case basis under Section 402(a)(1) of the Clean Water Act, to the extent that EPA-promulgated effluent limitations are inapplicable. Thus, EPD is not authorized to develop a TBEL when a federal categorical ELG already contains applicable TBELs. The draft permit includes the applicable TBELs required by 40 C.F.R. Part 423. EPD evaluated the need for WQBELs by conducting a reasonable potential analysis on the pollutant data submitted with the application for all external outfalls. This reasonable potential analysis was conducted in accordance with the Rules and Regulations of the State of Georgia as outlined in 391-3-6-.06(4)(d)(5). The reasonable potential analysis for each outfall indicated that there was no reasonable potential for the discharge to cause or contribute to instream violations of Georgia's WQS and thus monitoring or effluent limitations are not required to be included. The draft permit contains effluent limits sufficient to cover both the current activities and future dewatering activities, which do not result from a fundamentally different activity. EPD, however, has included heavy metals monitoring requirements for discharges related to future coal ash dewatering through the Coal Ash Dewatering Plan requirements included in the permit. Upon approval, the Coal Ash Dewatering Plan will be available at: https://epd.georgia.gov/coal-ash-pond-dewatering-plans

COMMENTS RECEIVED	EPD RESPONSE
	Upon the commencement of dewatering, the permittee will monitor the effluent and the receiving waterbody for pollutants of concern and provide the results to EPD for evaluation. This monitoring will provide continued characterization of the effluent throughout the permit term. EPD will evaluate this data to determine if a reasonable potential exists and take appropriate actions to ensure the discharge does not cause or contribute to water quality violations. Existing dewatering data from Plants McManus, McDonough-Atkinson, McIntosh, Branch, and Bowen has thus far indicated that no reasonable potential exists for the discharge to cause or contribute to instream violations of Georgia's WQS.
The Draft Permit states in part that "If bromine or a combination of bromine and chlorine is utilized for control of biofouling, limitations for [total residual chlorine] and [free available chlorine] shall be applicable to TRO (Total Residual Oxidants) and FAO (Free Available Oxidants)." (Draft Permit Part III.C.1.c.). The Draft Permit's Special Conditions contemplate the use of bromine without imposing monitoring or reporting requirements, raising the prospect of Plant Wansley discharging indeterminate amounts of bromine to the Chattahoochee River. This is of particular concern because of the potential for bromine to form carcinogens in drinking water when mixed with chlorine in water treatment plants. Requiring Plant Wansley to report bromine and bromide discharges to the Chattahoochee River would allow downstream water treatment plants in Heard County and on West Point Lake to respond appropriately.	Georgia does not have a numeric Water Quality Standard for bromide. Bromide has however been identified as a potential pollutant of concern when present at high concentrations in the source water of a drinking water treatment plant due to the potential formation of carcinogenic disinfection by-products (DBPs). While bromide was not identified above the detection limit in the sampling conducted for the application, bromide has been identified as a common pollutant present in FGD wastewater discharges and may additionally be present in biofouling control measures. Georgia EPD identified the LaGrange drinking water system (GA2850001) as the closest surface water intake downstream of

COMMENTS RECEIVED	EPD RESPONSE
	Plant Wansley. The surface water intake is located on West Point Lake, more than 25 miles downstream of Plant Wansley. Review of the past five (5) years of compliance monitoring indicated no violations of the MCLs established in the Stage 2 Disinfection Byproducts Rule; hence, EPD has not included bromide monitoring in the permit. In accordance with Part II.A.1. of the permit, the permittee is required to submit a notification of change for any planned physical alterations or additions to the permitted facility which could significantly change the nature or increase the quantity of pollutants discharged. As such, any potential increases in bromide or bromine concentrations would be reported to EPD and evaluated to determine if a permit modification is warranted.
Section 316(b) of the Clean Water Act is intended to reduce the number of fish and other aquatic species killed or mutilated when power plants pull massive volumes of water from rivers into their intake structures. In 2014, EPA introduced a set of regulations under Section 316(b) to reduce this widespread ecological harm, called the the 316(b) Rule. One provision requires facilities to conduct "at least weekly" visual inspections of the intake structure, or employ remote [monitoring devices during the period the cooling water intake structure is in operation to ensure that any technologies operated] … are maintained and operated to function as designed …" 40 C.F.R. § 125.96(e). "The [EPD] Director may establish alternative procedures if this requirement is not feasible (e.g., an offshore intake, velocity cap, or during periods of inclement weather)." *Id.*	The rationale behind the CWIS requirements included in the permit is discussed in Section 5.4 of the fact sheet. 40 C.F.R. § 125.96(e) requires the permittee to conduct visual inspections or employ remote monitoring devices at least weekly to ensure that any technologies operated to comply with 40 C.F.R. § 125.94 are maintained and operated to function as designed. The regulations do not specify the inspection/monitoring location to be at the intake structure, nor would this be the appropriate location for Plant Wansley which utilizes a closed-cycle recirculating system. As the reduction of impingement mortality and entrainment is considered proportionate to the reduction of flow achieved by a closed-cycle recirculating system, daily monitoring of actual intake flows satisfies the weekly remote monitoring requirements in 40 C.F.R. § 125.96(e) that demonstrates proper operation of maintenance. EPD has additionally included quarterly

COMMENTS RECEIVED	EPD RESPONSE
The Draft Permit does not require Georgia Power to inspect the intake structure whatsoever, much less on a weekly basis. Instead, the Draft Permit requires inspections of the cooling towers only four times a year. (Draft Permit Part III.C.3.c) this is a clear violation of the 316(b) Rule, as the record is lacking any basis to conclude that weekly inspections of the intake structure are not feasible. 40 C.F.R. § 125.96(e). While Plant Wansley's cooling towers and closed-cycle recirculating system significantly reduce the amount of water drawn from the river – and satisfies the Best Technology Available standard under the 316(b) Rule – it does not replace or overwrite the requirements to visually inspect the intake pipe every week. Even with the reduced amount of water required to operate Plant Wansley, fish and other aquatic species will continue to be killed and mutilated. Ensuring that the intake structure is not causing undue harm should be a bare minimum requirement in the Draft Permit.	inspections of the cooling towers to ensure proper maintenance of the towers and to maximize flow reductions.
Coal ash contains toxic pollutants such as arsenic, mercury, and selenium. Arsenic causes cancer, skin tumors, and nervous system disorders. Mercury impairs brain development in children and causes nervous system and kidney damage in adults. Selenium is acutely poisonous to fish and aquatic life in even small doses. According to the U.S. Environmental Protection Agency, steam electric power plants like Plant Wansley discharge at least half of all toxic pollutants from industrial sources into the nation's rivers and streams. Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, 78 Fed. Reg. 34,431 (June 7, 2013).	As specified by the rule, the "as soon as possible" date determined by the permitting authority for the implementation of BAT limitations is November 1, 2018 for fly ash transport water and November 1, 2020 for bottom ash transport water and FGD wastewater, unless the permitting authority determines another date after receiving information submitted by the discharger. Assuming that the permitting authority receives relevant information from the discharger, in order to determine what date is "as soon as possible" within the implementation period, the permitting authority must then consider the following factors:

COMMENTS RECEIVED	EPD RESPONSE
To comply with the Clean Water Act and reduce the dumping of toxic wastewater into the Chattahoochee River, Plant Wansley must meet technology-based limits on the pollutants discharged under the 2015 ELG Rule, 40 CFR Part 423, which requires dischargers to meet the pollution limits for bottom ash transport water ("BATW") and flue gas desulfurization wastewater ("FGDW") by November 1, 2020, unless the EPD determines another, "as soon as possible" date based on information from the discharger. In the Draft Permit, EPD would give Georgia Power until the end of 2023 – or more than 40 months from now – to comply with the ELGs for BATW and FGDW based on the possibility that President Trump's Environmental Protection Agency ("EPA") will extend the compliance deadlines. But compliance with the more stringent pollution control requirements is achievable sooner, rather than later. Georgia Power Company acknowledged in its Draft Permit application ("Application") that it began evaluating how to comply with the ELG rule "well before" it was issued in November 2015 (with the effective date in January 2016), and has begun the engineering work to that end. (Application, pdf page 108.) Based on a report compiled in 2017 on behalf of SELC for Plant Hammond by Dr. Ranajit Sahu, an expert in coal-fired power plant processes, ELG compliance is achievable in roughly 24 months when starting from scratch. (Sahu Report, Attachment A). The basis of Dr. Sahu's conclusion applies equally here, as it was based on demonstrated timelines for installing treatment and handling systems for BATW and FGDW at other coal-fired power plants and discussions with vendors that show that compliance was readily achievable.	(a) Time to expeditiously plan (including to raise capital), design, procure, and install equipment to comply with the requirements of the final rule; (b) Changes being made or planned at the plant in response to greenhouse gas regulations for new or existing fossil fuel-fired power plants under the Clean Air Act, as well as regulations for the disposal of coal combustion residuals under subtitle D of the Resource Conservation and Recovery Act; (c) For FGD wastewater requirements only, an initial commissioning period to optimize the installed equipment; and (d) Other factors as appropriate. Additionally, GA. Comp. R. & Regs. 391-3-6-.06(10)(a) requires the Director to determine the shortest reasonable period of time necessary to achieve such compliance, but in no case later than an applicable statutory deadline. The current federal statutory deadline for the applicable wastestreams is December 31, 2023. The permittee submitted relevant information in a document, entitled "Plant Wansley Effluent Limitation Guidelines Rule Applicability Timing NPDES Permit Application 2018" with the NPDES application. Plant Wansley has demonstrated that they can comply with the new federal regulations for fly ash transport water upon the effective date of the permit but has requested that the applicable statutory deadline of December 31, 2023 be applied to bottom ash transport water and FGD wastewater based on the factors outlined above. The first three factors are fairly self-explanatory,

COMMENTS RECEIVED	EPD RESPONSE
Additionally, Georgia Power cited the Clean Power Plan ("CPP") as one of its main reasons for requesting an extended deadline, asserting a need to coordinate the greenhouse gas regulations at Plant Wansley. (Application, pdf page 109-110). That's no longer a valid justification. In June 2019, the EPA repealed the CPP and replaced it with the Affordable Clean Energy rule. At the very least, EPD should require Georgia Power to reassess its timeline for complying with the ELG rule based on the change. As is too often the case, Georgia Power seeks once again to delay for as long as possible developing pollution reduction controls governing its wastewater discharges when the record establishes that compliance can be achieved sooner. The permit should require compliance with the ELG Rule by 2022, rather than allow the continued discharge of increased levels of toxic industrial pollution to contaminate Georgia's waterways for an artificially extended time period, under the auspices of a renewed permit that itself may not come up for renewal for years to come.	but the fourth factor serves as a less precise general catch-all for other factors that may be relevant to this determination. EPA has however provided examples of factors that may be appropriate to consider through their statements in the preamble of their final rule postponing the compliance dates for certain effluent limitation guidelines. (See bullets below) • "…the CWA directs EPA to consider several factors, including 'other factors as the Administrator deems appropriate,' and the Agency is afforded considerable discretion in deciding how much weight to give each factor. See, e.g., Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1045 (D.C. Cir. 1978). In this case, where EPA has decided to undertake a new rulemaking, which may result in substantive changes to the 2015 Rule, that is an appropriate factor to consider and one that warrants the postponement of compliance dates for the new, more stringent BAT and PSES requirements for two wastestreams in the 2015 Rule, until such a rulemaking is complete (i.e., EPA issues any final rule that substantively revises the 2015 Rule or EPA decides not to issue such a final rule). This will prevent the potentially needless expenditure of resources during a rulemaking that may ultimately change the 2015 Rule in these respects." • "In light of the compliance date postponements being finalized today, in determining the 'as soon as possible date,' EPA believes it would be reasonable for permitting authorities to consider the need for a facility to make integrated planning decisions regarding compliance with the requirements for all of the wastestreams currently subject to new, more stringent requirements in the 2015 Rule, as well as the other rules

COMMENTS RECEIVED	EPD RESPONSE
	identified in § 423.11(t) to the extent that a facility demonstrates such a need. This could include harmonizing schedules to the extent provided for under the 2015 Rule for meeting the 2015 Rule requirements for fly ash transport water and FGMC wastewater to allow time for a facility to have certainty regarding what their ultimate requirements will be under the steam electric ELGs, as well as the requirements under the other rules listed in § 423.11(t)." It is clear that EPA intends to preserve that regulatory status quo and prevent industries from incurring needless costs preparing to comply with the 2015 Rule which is under reconsideration. It is thus appropriate to delay capital and design determinations until the promulgation of a revised rule Following promulgation of a revised rule, Plant Wansley will require time to expeditiously plan (including to raise capital), design, procure, and install equipment to comply with the rule requirements. In addition, an initial commissioning period to optimize the installed FGD wastewater equipment is required. Finally, the facility will need to evaluate the changes being made or planned at the plant in response to greenhouse gas regulations under the Clean Air Act, as well as regulations for the disposal of coal combustion residuals under Subtitle D of the Resource Conservation and Recovery Act to ensure retrofit or closure decisions do not result in stranded assets. It is thus appropriate to establish a December 31, 2023 applicability date for FGD wastewater after consideration of the factors listed in 40 C.F.R. § 423.11(t). Georgia Power Company has installed a remote mechanical drag chain (RMDC) system at Plant Wansley for the handling of bottom ash transport water (BATW). EPA in its technical

COMMENTS RECEIVED	EPD RESPONSE
	development document for the 2015 rule recognized RMDC systems as Best Available Technology Economically Achievable (BAT) for bottom ash transport water because of potential space constraints at some plants' boilers. The resulting installation will result in an approximately 96-98% reduction of BATW discharge but may blowdown 2-4% to the FGD scrubber system. Such blowdowns may be necessary to accommodate an excess water balance in the closed-loop system due to stormwater events, maintenance activities, or to address water quality challenges that may affect system operation. Due to such challenges, the facility may be unable to comply with the zero discharge of pollutants requirement for BATW at all times. While these infrequent blowdown events may be addressed in the rule reconsideration, an avenue exists in the 2015 rule that allows for bottom ash transport water to be used in the FGD scrubber. This avenue however is dependent on BAT compliance for FGD wastewater and thus the applicability date for BATW is intimately tied to the applicability date for FGD wastewater. At the time EPD is drafting these comments, EPD cannot yet consider how the finalized revised rule will address the RMDC blowdown, and it is appropriate to establish a December 31, 2023 applicability date for BATW due to the inherent ties with the FGD wastewater applicability date. EPD has reviewed the submitted information and determined the permittee has demonstrated good faith efforts to comply with the new rules, and will need an extended timeframe, past November 1, 2020 for bottom ash transport water, to implement the necessary changes to comply with the rules. As stated in the EPA document, Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category: EPA's

COMMENTS RECEIVED	EPD RESPONSE
	Response to Public Comments, "The time provided for in the rule allows the permitting authority to account for time the facility needs to coordinate all the requirements of this rule, along with other regulatory requirements, to make the correct planning and financing decisions, and to implement the new requirements in an orderly and feasible way….given the extent of the capital expenditure and the complexity of these facilities, it is reasonable (referring to the deadline year 2023)." On August 31, 2020 EPA submitted for publication in the Federal Register, the Steam Electric Reconsideration Rule. The rule will become effective 60 days following the publication of the rule in the Federal Register. The rule will revise the BAT effluent limitations and compliance dates for bottom ash transport water and FGD wastewater. Following the effective date of the rule, EPD will modify the permit to include the revised federal regulations.
The coal ash dewatering plan that will be created for Plant Wansley's massive stores of toxic coal ash must be made an enforceable element of the permit with numeric effluent limits for heavy metals and other constituents of concern found in coal ash wastewater. The draft permit contemplates the forthcoming dewatering of Plant Wansley's massive, 343-acre, 16-million-ton coal ash pond. See Draft Permit Part III.C.7, page 35 of 40. However, EPD fails to require specific limits on the amount of pollution that can be discharged into the Chattahoochee River. We know coal ash contains toxic heavy metals. We know that these contaminants currently are present in groundwater at Plant Wansley and other Georgia Power plants across the state. And	EPD evaluated the need for WQBELs by conducting a reasonable potential analysis on the pollutant data submitted with the application for all external outfalls. This reasonable potential analysis was conducted in accordance with the Rules and Regulations of the State of Georgia as outlined in 391-3-6-.06(4)(d)(5). The reasonable potential analysis for each outfall indicated that there was no reasonable potential for the discharge to cause or contribute to instream violations of Georgia's WQS and thus monitoring or effluent limitations are not required to be included.

COMMENTS RECEIVED	EPD RESPONSE
we know coal ash-laden wastewater will continue to sit intermingled with groundwater for decades during and after the forthcoming dewatering process. Even so, EPD is opting for a wait-and-see approach. According to the Draft Permit, EPD will evaluate Georgia Power's effluent sampling and upstream and downstream stream sampling, and "determine if there is a reasonable potential for the discharge to cause or contribute to a violation of the instream water quality standards and if necessary, may open the permit to include applicable effluent limits to protect the receiving waterbody." See Draft Permit Part III.C.7.a.9. This is not an appropriate or protective approach to managing the treatment and discharge of this toxic wastewater in the Chattahoochee River. It was not sufficient at Plant McDonough-Atkinson, is not sufficient at Plant Yates, and will not be sufficiently protective at Plant Wansley. The agency's decision to separate the dewatering activities from the NPDES permitted activities leaves EPD without true oversight over the coal ash wastewater discharges. As a result, CRK has little confidence that EPD wishes to or even can exercise its regulatory authority if or when the coal ash wastewater discharges present a threat to the Chattahoochee River. EPD should include numeric effluent limits for heavy metals such as selenium, arsenic, chromium, lead, cadmium, zinc, nickel and boron for Outfall 1. At a minimum, the special conditions in the draft permit should require that when Georgia Power provides notice of dewatering and submits its dewatering plan, EPD will reopen the permit to perform an analysis of and set	Part III.C.7 of the draft permit placed on public notice did address future dewatering of the coal ash ponds on site, which is not a fundamentally different activity. This included a permit condition mandating that the permittee submits to EPD a Coal Ash Dewatering Plan no fewer than ninety (90) days before beginning dewatering activities. Minimum requirements for the Coal Ash Dewatering Plan were also established and available for public comment. This is an enforceable condition in the permit and indeed regulates coal ash dewatering within the NPDES permitting scheme. As such, EPD's regulatory authority has not been compromised or diminished. The draft permit contains effluent limits sufficient to cover both the current activities and future dewatering activities, which do not result from a fundamentally different activity. EPD, however, has included heavy metals monitoring requirements for discharges related to future coal ash dewatering through the Coal Ash Dewatering Plan requirements included in the permit. Upon approval, the Coal Ash Dewatering Plan will be available at: https://epd.georgia.gov/coal-ash-pond-dewatering-plans Upon the commencement of dewatering, the permittee will monitor the effluent and the receiving waterbody for pollutants of concern and provide the results to EPD for evaluation. This monitoring will provide continued characterization of the effluent throughout the permit term. EPD will evaluate this data to determine if a reasonable potential

COMMENTS RECEIVED	EPD RESPONSE
technology-based effluent limitations on the pollutant-laden discharge from the coal ash pond. EPD has not provided any explanation how mere weekly monitoring of flow at outfall number 01 and TSS and oil & grease at outfall number 03A is sufficient to safeguard the river from the pollutants of concern known to be in coal ash wastewater. EPD must require monitoring and effluent limits for heavy metals at outfall number 01, through which treated coal ash wastewater will be discharged. CRK believes the agency's inaction with regard to Georgia Power's coal ash dewatering activities establishes a dangerous precedent under which permittees may seek to funnel new pollutants through existing permitted wastewater outfalls without adhering to the existing NPDES permitting program. These permits and their mandatory self-reporting schemes form the bedrock of Georgia's environmental regulatory program. EPD still has not provided adequate explanation for its decision to allow coal ash pond dewatering to go forward in the Chattahoochee and other Georgia waterways outside of the legally required NPDES permitting scheme that otherwise applies to wastewater discharges from point sources into state waters.	exists and take appropriate actions to ensure the discharge does not cause or contribute to water quality violations. Existing dewatering data from Plants McManus, McDonough-Atkinson, McIntosh, Branch, and Bowen has thus far indicated that no reasonable potential exists for the discharge to cause or contribute to instream violations of Georgia's WQS.
The simple addition of monitoring requirements for heavy metals at outfalls 03A and 03B are insufficiently protective of instream water quality. These outfalls cover emergency overflow points in Plant Wansley's coal ash pond. Releases from these so-called outfalls would not go through wastewater treatment, and thus	EPD has evaluated the submitted permit application and supporting documentation and proposed a permit with appropriate effluent limits based on applicable federal and state regulations and the reasonable potential analysis conducted on the pollutants of concern submitted in the Form 2C permit

COMMENTS RECEIVED	EPD RESPONSE
would constitute untreated releases and should be considered unpermitted discharges of pollutants to waters of the state. It is inappropriate for EPD to essentially rubber stamp in advance anticipated emergency releases of untreated toxic wastewater from Plant Wansley's coal ash pond.	application and other supporting documents ensuring the permit is legal, enforceable and protective of human health and the environment. This evaluation includes the discharges from Outfalls 03A and 03B which did not indicate the need for water quality or technology based effluent limitations. Furthermore, as indicated in the application, discharges from these outfalls do not consist of untreated wastewater.
Further, there is no reasonable justification provided for the creation of a new "internal" outfall—01C—located between the coal ash pond and the final outfall 01. There is even less reason for that outfall to be given effluent limits for Total Suspended Solids and Oil and Grease, but not for any of the heavy metals noted above. As far as CRK can tell, this "internal" outfall serves no purpose. It ultimately connects to outfall number 01 which then directly discharges to the Chattahoochee River. EPD does not explain the purpose of this new outfall.	The addition of Internal Outfall 01C allows for the application of technology-based effluent limitations (i.e. total suspended solids and oil & grease) prior to commingling with other facility wastestreams, eliminating the need to include flow-weighted technology based effluent limitation at External Outfall 01. Heavy metal effluent limitations have not been included at Internal Outfall 01C, as no such limitations have been established by the federal effluent limitation guidelines and thus no technology-based effluent limitations for heavy metals are required. Furthermore, water-quality based effluent limitations are not applicable to internal outfalls.
What few monitoring requirements placed on outfall 01 are insufficient. Flow should be monitored daily rather than weekly. Temperature monitoring should be more frequent than quarterly. Further, there needs to be clarity for the conditions under which quarterly upstream/downstream temperature monitoring will be conducted. The draft permit should be revised to establish proper conditions for monitoring that reflect average river conditions. If	Weekly flow monitoring is sufficient to characterize the facility's discharge from Outfall 01 over the course of the permit term. Based on the data submitted in the application, quarterly temperature monitoring is adequate to ensure compliance with the effluent limitations included in the permit. Furthermore, the monitoring frequency is consistent with previously issued power

COMMENTS RECEIVED	EPD RESPONSE
Georgia Power can select the timing of its quarterly monitoring event, and those events occur when river flows are inordinately high, EPD will not receive an accurate snapshot of the plants impact on river temperature. These quarterly sampling events should be tied to instances of near-average flows through this stretch of the river.	plant permits (*See Plant Yates and Plant McIntosh*) with closed-cycle cooling. Part I.B.1 of the permit requires representative sampling, stating that "samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. The permittee shall maintain a written sampling plan and schedule onsite" The permittee is required to conduct sampling at the edge of their mixing zone that is representative of volume and nature of both their effluent and the receiving water. No further adjustments to the instream sampling language have been made.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

EPD Director's Office
2 Martin Luther King, Jr. Drive
Suite 1456, East Tower
Atlanta, Georgia 30334
404-656-4713

Mr. Scott Hendricks, Water & Natural Resources Permitting Manager
Georgia Power Company 10/15/2020
241 Ralph McGill Blvd, N.E.
Atlanta, GA 30308

RE: Permit Issuance
Plant Wansley
Permit No. GA0026778
Carroll County, Chattahoochee River Basin

Dear Mr. Hendricks:

Pursuant to the Georgia Water Quality Control Act, as amended, the Federal Clean Water Act, as amended, and the Rules and Regulations promulgated thereunder, we have issued the attached permit for the above-referenced facility.

Your facility has been assigned to the following EPD office for reporting and compliance. Signed copies of all required reports shall be submitted to the following address:

Environmental Protection Division
Watershed Protection Branch
Watershed Compliance Program
2 Martin Luther King Jr. Drive, Suite 1152
Atlanta, Georgia 30334

Please be advised that on and after the effective date indicated in the permit, the permittee must comply with all terms, conditions, and limitations of the permit. If you have questions concerning this correspondence, please contact Ian McDowell at 404.232.1567 or *ian.mcdowell@dnr.ga.gov*.

Sincerely,

Richard E. Dunn
Director

RED:im
Enclosure(s)
cc: EPD Watershed Compliance Program, Karen Sauler (*karen.sauler@dnr.ga.gov*)

Permit No. GA0026778
Issuance Date: 10/15/2020

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

National Pollutant Discharge Elimination System Permit

In accordance with the provisions of the Georgia Water Quality Control Act (Georgia Laws 1964, p. 416, as amended), hereinafter called the State Act; the Federal Water Pollution Control Act, as amended (33 U.S. C. 1251 et seq.), hereinafter called the Federal Act; and the Rules and Regulations promulgated pursuant to each of these Acts,

Georgia Power Company (Operator)
241 Ralph McGill Blvd., N.E.
Atlanta, Georgia 30308

is issued a permit to discharge from a facility located at

Plant Wansley
1371 Liberty Church Road
Carrollton, Georgia 30116
Carroll County

to receiving waters

Chattahoochee River (Outfall Nos. 01, 01E, & 05), an Unnamed Tributary of the Chattahoochee River (Outfall Nos. 03A & 03B), and Yellowdirt Creek (Outfall Nos. 04 & 06) in the Chattahoochee River Basin.

in accordance with effluent limitations, monitoring requirements and other conditions set forth in the permit.

This permit is issued in reliance upon the permit application signed on May 11, 2018, any other applications upon which this permit is based, supporting data entered therein or attached thereto, and any subsequent submittal of supporting data.

This permit shall become effective on November 01, 2020.

This permit and the authorization to discharge shall expire at midnight October 31, 2025.

STATE OF GEORGIA
CONSTITUTION
WISDOM
JUSTICE
MODERATION
1776

Richard E. Dunn, Director
Environmental Protection Division

PART I

A.1. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from external outfall number 01[1,2] (33.403781, -85.031072) – Final Plant Discharge Commingled with Stormwater.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[3]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Week	Instant	Final Effluent
Upstream Temperature[4,5] (°F)		Report			1/Quarter	Grab	Instream[5]
Downstream Temperature[4,5] (°F)		90			1/Quarter	Grab	Instream[5]
Delta Temperature[4,5] (°F)		+Δ5			1/Quarter	Calculation[4]	
Chronic Whole Effluent Toxicity[6]			Report	Report	1/Permit Term	Composite	Final Effluent

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored twice per month by grab sample.

[1] The permittee is authorized to discharge via Outfall 01E (33.403781, -85.031072) if Outfall 01 is shut down for maintenance. Such discharges shall be limited and monitored by the permittee as specified in Part I.A.1.

[2] There shall be no discharge of floating solids, oil, scum, or visible foam other than trace amounts.

[3] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[4] Temperature measurements shall be taken between the hours of 9:00 a.m. and 3:00 p.m. at all times and shall be taken on the same day. The temperature differential shall be calculated as the downstream temperature minus the upstream temperature.

[5] See Special Conditions, Part III.C.8 of this permit.

[6] Chronic WET testing shall be conducted once during the permit term, and the results submitted to the EPD in accordance with Part I.D of this permit. An additional WET test shall be conducted and submitted with the subsequent permit application. The testing must comply with the most current U.S. Environmental Protection Agency (EPA) chronic aquatic testing manuals. The referenced document is entitled Short-Term Methods of Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Edition, U.S. EPA, 821-R-02-013, October 2002. Definitive tests must be run on the same samples concurrently using both an invertebrate species (i.e. Ceriodaphnia dubia) and a vertebrate species (i.e., Fathead Minnow, Pimephales promelas) and shall include a dilution equal to the facility's instream waste concentration (IWC) of 13.2%.

A.2. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from internal outfall numbers 01A, 01B, 01H, 01I, 01J, 01K – Unit 1 Cooling Tower Blowdown/Overflow (01A), Unit 2 Cooling Tower Blowdown/Overflow (01B), Unit 6 Cooling Tower Blowdown (01H), Unit 7 Cooling Tower Blowdown (01I), Unit 8 Cooling Tower Blowdown (01J), and Unit 9 Cooling Tower Blowdown (01K).

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[1]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Week	Continuous	See Footnote[2]
Free Available Chlorine (FAC)[3]			0.2	0.5	1/Week[6]	Multiple Grabs[4]	See Footnote[2]
Total Residual Chlorine (TRC)[3]			Report	Report	1/Week[6]	Multiple Grabs[4]	See Footnote[2]
FAC/TRC Discharge Time[3] (minutes/day/unit)				120[3]	1/Week[6]	Calculation	See Footnote[2]
Chromium, Total[5]			0.2	0.2	1/Quarter	Grab	See Footnote[2]
Zinc, Total[5]			1.0	1.0	1/Quarter	Grab	See Footnote[2]

[1] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[2] The permittee shall sample and analyze the discharge from each internal outfall prior to mixing with any other wastestream.

[3] See Special Conditions, Part III.C.1 of this permit.

[4] Multiple grab samples are to be collected on 15-minute intervals during periods of FAC/TRC discharges attributable to cooling tower chlorination.

[5] See Special Conditions, Part III.C.4 of this permit.

[6] The measurement frequency shall be increased to daily during periods of FAC/TRC discharges attributable to continuous service water chlorination. (*See Special Conditions, Part III.C.1 of this permit.)*

A.3. Effluent Limitations and Monitoring Requirements

a. Upon the effective date of the permit and continuing until December 30, 2023[3], the permittee is authorized to discharge from internal outfall number 01C[3] – Ash Pond Discharge, Flue Gas Desulfurization (FGD) Blowdown, and Bottom Ash Transport Water Remote Mechanical Drag Chain Bleedoff.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[1]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Week	Instant	See Footnote[2]
Total Suspended Solids			30.0	100.0	2/Month	Grab	See Footnote[2]
Oil and Grease			15.0	20.0	2/Month	Grab	See Footnote[2]

[1] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[2] The permittee shall sample and analyze the discharge from internal outfall number 01C after the confluence of FGD blowdown and bottom ash transport water from internal outfall number 02P but prior to commingling with low volume waste from internal outfall number 03H.

[3] See Special Conditions, Part III.C.6 of this permit.

b. Effective on December 31, 2023[3] and continuing until the expiration date of the permit, the permittee is authorized to discharge from internal outfall number 01C[3] – Ash Pond Discharge.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[1]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Week	Instant	See Footnote[2]
Total Suspended Solids			30.0	100.0	2/Month	Grab	See Footnote[2]
Oil and Grease			15.0	20.0	2/Month	Grab	See Footnote[2]

[1] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[2] The permittee shall sample and analyze the discharge from internal outfall number 01C prior to commingling with FGD blowdown from internal outfall number 02P.

[3] See Special Conditions, Part III.C.6 of this permit.

A.4. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from internal outfall number 02A – Units 1&2 Wastewater Basin (Low Volume Waste, Service Building Sewage Treatment Plant, Units 1&2 Cooling Tower Basin Cleaning Waste, Chemical Metal Cleaning Waste, and Coal Pile Runoff).

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[1]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			2/Month	Estimation[3]	See Footnote[2]
Total Suspended Solids			30.0	98.1	2/Month	Grab	See Footnote[2]
Oil and Grease			14.5	19.3	2/Month	Grab	See Footnote[2]

[1] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[2] The permittee shall sample and analyze the discharge from this internal outfall prior to mixing with any other wastestream.

[3] Flow shall be estimated using Manning's Formula to calculate flow rate. The calculation shall be documented and retained on site. An alternative method for determining flow-rate may be used upon approval.

A.5. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from internal outfall number 02E – Chemical Metal Cleaning Waste.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[1]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Quarter	Estimation[3]	See Footnote[2]
Total Suspended Solids			30.0	100.0	1/Quarter	Grab	See Footnote[2]
Oil and Grease			15.0	20.0	1/Quarter	Grab	See Footnote[2]
Copper, Total			1.0	1.0	1/Quarter	Grab	See Footnote[2]
Iron, Total			1.0	1.0	1/Quarter	Grab	See Footnote[2]

[1] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[2] The permittee shall sample and analyze the discharge from each internal outfall prior to mixing with any other wastestream.

[3] Flow shall be estimated using Manning's Formula to calculate flow rate. The calculation shall be documented and retained on site. An alternative method for determining flow-rate may be used upon approval.

A.6. Effluent Limitations and Monitoring Requirements

Effective on December 31, 2023[3] and continuing until the expiration date of the permit, the permittee is authorized to discharge from internal outfall number 02P[3] – Flue Gas Desulfurization (FGD) Blowdown and Bottom Ash Transport Water Remote Mechanical Drag Chain Bleedoff.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[1]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Week	Continuous	See Footnote[2]
Total Suspended Solids			30.0	100.0	2/Month	Grab	See Footnote[2]
Oil and Grease			15.0	20.0	2/Month	Grab	See Footnote[2]
Arsenic, Total (µg/L)			8	11	1/Week	Grab	See Footnote[2]
Mercury, Total (ng/L)			356	788	1/Week	Grab	See Footnote[2]
Selenium, Total (µg/L)			12	23	1/Week	Grab	See Footnote[2]
Nitrate/Nitrite, as N			4.4	17.0	1/Week	Grab	See Footnote[2]

[1] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[2] The permittee shall sample and analyze the discharge from each internal outfall prior to mixing with any other wastestream.

[3] See Special Conditions, Part III.C.6 of this permit.

A.7. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from internal outfall number 02Q – Coal Pile Runoff.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[1]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			2/Month	Estimation[2]	See Footnote[3]

[1] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[2] Flow shall be estimated using Manning's Formula to calculate flow rate. The calculation shall be documented and retained on site. An alternative method for determining flow-rate may be used upon approval.

[3] The permittee shall sample and analyze the discharge from each internal outfall prior to mixing with any other wastestream.

A.8. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from external outfall numbers 03A[1,3,4] (33.405033, -85.061319) and 03B[1,3,4] (33.406411, -85.063628) – South and North Ash Pond Emergency Overflows.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[2]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			Daily When Discharging[5]	Estimation[6]	Final Effluent
Total Suspended Solids			30.0	100.0	Daily When Discharging[5]	Grab	Final Effluent
Oil & Grease			15.0	20.0	Daily When Discharging[5]	Grab	Final Effluent
Selenium, Total (µg/L)	0.316	0.473	5.0	7.5	Daily When Discharging[5]	Grab	Final Effluent
Mercury, Total (µg/L)	0.001	0.001	0.012	0.018	Daily When Discharging[5]	Grab	Final Effluent
Total Dissolved Solids			Report	Report	Daily When Discharging[5]	Grab	Final Effluent
Copper, Total			Report	Report	Daily When Discharging[5]	Grab	Final Effluent
Arsenic, Total			Report	Report	Daily When Discharging[5]	Grab	Final Effluent
Chromium, Total			Report	Report	Daily When Discharging[5]	Grab	Final Effluent
Lead, Total			Report	Report	Daily When Discharging[5]	Grab	Final Effluent
Cadmium, Total			Report	Report	Daily When Discharging[5]	Grab	Final Effluent
Zinc, Total			Report	Report	Daily When Discharging[5]	Grab	Final Effluent
Nickel, Total			Report	Report	Daily When Discharging[5]	Grab	Final Effluent

The pH shall not be less than 6.0 standard units nor greater than 8.5 standard units and shall be monitored daily when discharging by grab sample.

[1] There shall be no discharge of floating solids, oil, scum, or visible foam other than trace amounts.

[2] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[3] The permittee shall sample and analyze the discharge from each external outfall.

[4] Discharges from this outfall shall consist of emergency overflows only. There shall be no discharge from the outfall except when an emergency presents, such as excessive rainfall that meets the 25 year, 24-hour storm water criteria, or several continuous or intermittent days of excessive rainfall that may adversely impact the stability of the impoundments or unforeseen catastrophic weather events.

[5] An inability to collect a sample because of adverse weather conditions during a monitoring period will not constitute failure to monitor the effluent as long as those conditions are immediately (within 24 hours) reported to the EPD Compliance Office. Documentation of an adverse event (with date, time, and written description) must be reported with the Discharge Monitoring Report.

[6] Flow shall be estimated using Manning's Formula to calculate flow rate. The calculation shall be documented and retained on site. An alternative method for determining flow-rate may be used upon approval.

A.9. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from internal outfall numbers 03H, 03J, and 03K – Units 6&7 Low Volume Waste (03H), Unit 8 Low Volume Waste (03J), Unit 9 Low Volume Waste (03K).

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[1]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Total Suspended Solids			30.0	100.0	2/Month	Grab	See Footnote[2]
Oil and Grease			15.0	20.0	2/Month	Grab	See Footnote[2]

[1] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[2] The permittee shall sample and analyze the discharge from each internal outfall prior to mixing with any other wastestream.

A.10. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from external outfall number 04[1] (33.417314, -85.028808) – Employee Car Wash Stormwater Pond.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[2]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Month	Estimation[3]	Final Effluent

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored monthly by grab sample.

[1] There shall be no discharge of floating solids, oil, scum or visible foam other than trace amounts.

[2] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[3] Flow shall be estimated using Manning's Formula to calculate flow rate. The calculation shall be documented and retained on site. An alternative method for determining flow-rate may be used upon approval.

A.11. Effluent Limitations and Monitoring Requirements

During the period specified on the first page of this permit, the permittee is authorized to discharge from external outfall numbers 05[1] (33.425569, -85.015981) and 06[1] (33.424247, -85.029236) – River Intake Structure Sump (05) and Service Water Pump Leakage and Backwash (06).

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics (Units)	Discharge Limitations				Monitoring Requirements[2]		
	Mass Based (lbs/day)		Concentration Based (mg/L)		Measurement Frequency	Sample Type	Sample Location
	Daily Avg.	Daily Max.	Daily Avg.	Daily Max.			
Flow (MGD)	Report	Report			1/Month	Estimation[3]	Final Effluent

[1] There shall be no discharge of floating solids, oil, scum or visible foam other than trace amounts.

[2] All the parameters must be monitored, at a minimum, at the measurement frequency stated above if there is any discharge. If there is no discharge, state such in the discharge monitoring report in accordance with the reporting requirements in Part 1.D of this permit.

[3] Flow shall be estimated for Outfall 05 using best engineering practices or pump capacity/run times and for Outfall 06 using Manning's Formula to calculate flow rate. The calculation shall be documented and retained on site. An alternative method for determining flow-rate may be used upon approval.

B. Monitoring

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. The permittee shall maintain a written sampling plan and schedule onsite.

2. Sampling Period

a. Unless otherwise specified in this permit, quarterly samples shall be taken during the periods January-March, April-June, July-September, and October-December.

b. Unless otherwise specified in this permit, semiannual samples shall be taken during the periods January-June and July-December.

c. Unless otherwise specified in this permit, annual samples shall be taken during the period of January-December.

3. Monitoring Procedures

Analytical methods, sample containers, sample preservation techniques, and sample holding times must be consistent with the techniques and methods listed in 40 CFR Part 136. The analytical method used shall be sufficiently sensitive. EPA-approved methods must be applicable to the concentration ranges of the NPDES permit samples.

4. Detection Limits

All parameters will be analyzed using the appropriate detection limits. If the results for a given sample are such that a parameter is not detected at or above the specified detection limit, a value of "NOT DETECTED" will be reported for that sample and the detection limit will also be reported.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling or measurements, and the person(s) performing the sampling or the measurements;

b. The dates and times the analyses were performed, and the person(s) performing the analyses;

c. The analytical techniques or methods used;

d. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased monitoring frequency shall also be indicated. EPD may require, by written notification, more frequent monitoring or the monitoring of other pollutants not required in this permit.

7. Records Retention

The permittee shall retain records of all monitoring information, including all records of analyses performed, calibration and maintenance of instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a minimum of three (3) years from the date of the sample, measurement, report or application, or longer if requested by EPD.

8. Penalties

The Federal Clean Water Act and the Georgia Water Quality Control Act provide that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine or by imprisonment, or by both. The Federal Clean Water Act and the Georgia Water Quality Control Act also provide procedures for imposing civil penalties which may be levied for violations of the Act, any permit condition or limitation established pursuant to the Act, or negligently or intentionally failing or refusing to comply with any final or emergency order of the Director of EPD

C. Definitions

1. The "daily average" mass means the total discharge by mass during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days sampled during the calendar month when the measurements were made.

2. The "daily maximum" mass means the total discharge by mass during any calendar day.

3. The "daily average" concentration means the arithmetic average of all the daily determinations of concentrations made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample.

4. The "daily maximum" concentration means the daily determination of concentration for any calendar day.

5. A “calendar day” is defined as any consecutive 24-hour period.

6. A “week” is defined as the calendar week and begins on Sunday at 12:00 a.m. and ends on Saturday at 11:59 p.m.

7. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

8. "Severe property damage" means substantial physical damage to property, damage to treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

9. “EPD” as used herein means the Environmental Protection Division of the Department of Natural Resources.

10. “State Act” as used herein means the Georgia Water Quality Control Act (Official Code of Georgia Annotated; Title 12, Chapter 5, Article 2).

11. “Rules” as used herein means the Georgia Rules and Regulations for Water Quality Control.

12. “Dewatering activity or dewatering activities” means prior to the closure process beginning, ash pond discharges will not cause water levels to drop beyond normal historical operations, hence once the dewatering activity has begun, the water levels may drop below historical operations.

13. "Adverse weather" means adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make sampling impractical.

14. "Cooling water intake structure" means the total physical structure and any associated constructed waterways used to withdraw cooling water from waters of the United States. The cooling water intake structure extends from the point at which water is first withdrawn from waters of the United States up to, and including the intake pumps.

D. Reporting Requirements

1. The permittee must electronically report the DMR, OMR and additional monitoring data using the web based electronic NetDMR reporting system, unless a waiver is granted by EPD.

a. The permittee must comply with the Federal National Pollutant Discharge Elimination System Electronic Reporting regulations in 40 CFR §127. The permittee must electronically report the DMR, OMR, and additional monitoring data using the web based electronic NetDMR reporting system online at: https://netdmr.epa.gov/netdmr/public/home.htm

b. Monitoring results obtained during the calendar month shall be summarized for each month and reported on the DMR. The results of each sampling event shall be reported on the OMR and submitted as an attachment to the DMR.

c. The permittee shall submit the DMR, OMR and additional monitoring data no later than 11:59 p.m. on the 15th day of the month following the sampling period.

d. All other reports required herein, unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.

2. No later than December 21, 2020, the permittee must electronically report the following compliance monitoring data and reports using the online web based electronic system approved by EPD, unless a waiver is granted by EPD:

a. CWA Section 316(b) Annual Reports;
b. Sewer Overflow/Bypass Event Reports;
c. Noncompliance Notification;
d. Other noncompliance; and
e. Bypass

3. Other Reports

All other reports required in this permit not listed above in Part I.D.2 or unless otherwise stated, shall be submitted to the EPD Office listed on the permit issuance letter signed by the Director of EPD.

4. Other Noncompliance

All instances of noncompliance not reported under Part I.B. and Part II. A. shall be reported to EPD at the time the monitoring report is submitted.

5. Signatory Requirements

All reports, certifications, data or information submitted in compliance with this permit or requested by EPD must be signed and certified as follows:

a. Any State or NPDES Permit Application form submitted to the EPD shall be signed as follows in accordance with the Federal Regulations, 40 C.F.R. 122.22:

1. For a corporation, by a responsible corporate officer. A responsible corporate officer means:

i a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision making functions for the corporation, or

ii. the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or

3. For a municipality, State, Federal, or other public facility, by either a principal executive officer or ranking elected official.

b. All other reports or requests for information required by the permit issuing authority shall be signed by a person designated in (a) above or a duly authorized representative of such person, if:

1. The representative so authorized is responsible for the overall operation of the facility from which the discharge originates, e.g., a plant manager, superintendent or person of equivalent responsibility;

2. The authorization is made in writing by the person designated under (a) above; and

3. The written authorization is submitted to the Director.

c. Any changes in written authorization submitted to the permitting authority under (b) above which occur after the issuance of a permit shall be reported to the permitting authority by submitting a copy of a new written authorization which meets the requirements of (b) and (b.1) and (b.2) above.

d. Any person signing any document under (a) or (b) above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

PART II

A. Management Requirements

1. Notification of Changes

a. The permittee shall provide EPD at least 90 days advance notice of any planned physical alterations or additions to the permitted facility that meet the following criteria:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b);

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1); or

3. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. The permittee shall give at least 90 days advance notice to EPD of any planned changes to the permitted facility or activity which may result in noncompliance with permit requirements.

c. Following the notice in paragraph a. or b. of this condition the permit may be modified. The permittee shall not make any changes, or conduct any activities, requiring notification in paragraph a. or b. of this condition without approval from EPD.

d. The permittee shall provide at least 30 days advance notice to EPD of:

1. any planned expansion or increase in production capacity; or

2. any planned installation of new equipment or modification of existing processes that could increase the quantity of pollutants discharged or result in the discharge of pollutants that were not being discharged prior to the planned change

if such change was not identified in the permit application(s) upon which this permit is based and for which notice was not submitted under paragraphs a. or b. of this condition.

e. All existing manufacturing, commercial, mining, and silvicultural dischargers shall notify EPD as soon as it is known or there is reason to believe that any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant not limited in the permit, if that discharge will exceed (i) 100 µg/L, (ii) five times the maximum concentration reported for that pollutant in the permit application, or (iii) 200 µg/L for acrolein and acrylonitrile, 500 µg/L for 2,4 dinitrophenol and for 2-methyl-4-6-dinitrophenol, or 1 mg/L antimony.

f. All existing manufacturing, commercial, mining, and silvicultural dischargers shall notify EPD as soon as it is known or there is reason to believe that any activity has occurred or will occur which would result in any discharge on a nonroutine or infrequent basis, of any toxic pollutant not limited in the permit, if that discharge will exceed (i) 500 µg/L, (ii) ten times the maximum concentration reported for that pollutant in the permit application, or (iii) 1 mg/L antimony.

g. Upon the effective date of this permit, the permittee shall submit to EPD an annual certification in June of each year certifying whether or not there has been any change in processes or wastewater characteristics as described in the submitted NPDES permit application that required notification in paragraph a., b., or d. of this condition. The permittee shall also certify annually in June whether the facility has received offsite wastes or wastewater and detail any such occurrences.

2. Noncompliance Notification

If, for any reason, the permittee does not comply with, or will be unable to comply with any effluent limitation specified in this permit, the permittee shall 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 (5) days of becoming aware of such condition. The written submission shall contain the following information:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

3. Facility Operation

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. Bypassing

a. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to EPD at least 10 days (if possible) before the date of the bypass. The permittee shall submit notice of any unanticipated bypass with an oral report within 24 hours from the time the permittee becomes aware of the circumstances followed by a written report within five (5) days of becoming aware of such condition. The written submission shall contain the following information:

1. A description of the discharge and cause of noncompliance; and

2. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

b. Any diversion or bypass of facilities covered by this permit is prohibited, except (i) where unavoidable to prevent loss of life, personal injury, or severe property damage; (ii) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (this condition is not satisfied if the permittee could have installed adequate back-up equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance); and (iii) the permittee submitted a notice as required above. The permittee shall operate the treatment works, including the treatment plant and total sewer system, to minimize discharge of the pollutants listed in Part I of this permit from combined sewer overflows or bypasses. Upon written notification by EPD, the permittee may be required to submit a plan and schedule for reducing bypasses, overflows, and infiltration in the system.

6. Sludge Disposal Requirements

Sludge shall be disposed of in accordance with the regulations and guidelines established by EPD, the Federal Clean Water Act, and the Resource Conservation and Recovery Act (RCRA). Prior to disposal of sludge by any method other than co-disposal in an appropriate and permitted sanitary landfill, the permittee shall submit a sludge management plan to the Watershed Protection Branch of EPD for written approval. For land application of nonhazardous sludge, the permittee shall comply with the applicable criteria outlined in the most current version of EPD's "Guidelines for Land Application of Sewage Sludge (Biosolids) at Agronomic Rates" and with the State Rules, Chapter 391-3-6-.17. EPD may require more stringent control of this activity. Prior to land applying nonhazardous sludge, the permittee shall submit a sludge management plan to EPD for review and approval. Upon approval, the plan for land application will become a part of the NPDES permit upon modification of the permit.

7. Sludge Monitoring Requirements

The permittee shall develop and implement procedures to ensure adequate year-round sludge disposal. The permittee shall monitor the volume and concentration of solids removed from the plant. Records shall be maintained which document the quantity of solids removed from the plant. The ultimate disposal of solids shall be reported (in the unit of lbs) as specified in Part I.D of this permit.

8. Power Failures

Upon the reduction, loss, or failure of the primary source of power to said water pollution control facilities, the permittee shall use an alternative source of power if available to reduce or otherwise control production and/or all discharges in order to maintain compliance with the effluent limitations and prohibitions of this permit.

If such alternative power source is not in existence, and no date for its implementation appears in Part I, the permittee shall halt, reduce or otherwise control production and/or all discharges from wastewater control facilities upon the reduction, loss, or failure of the primary source of power to said wastewater control facilities.

9. Operator Certification Requirements

The permittee shall ensure that, when required, a certified operator is in charge of the facility in accordance with Georgia State Board of Examiners for Certification of Water and Wastewater Treatment Plant operators And Laboratory Analysts Rule 43-51-6.(b)

10. Laboratory Analyst Certification Requirements

The permittee shall ensure that, when required, the person in responsible charge of the laboratory performing the analyses for determining permit compliance is certified in accordance with the Georgia Certification of Water and Wastewater Treatment Plant operators and Laboratory Analysts Act, as amended, and the Rules promulgated thereunder.

B. Responsibilities

1. Right of Entry

The permittee shall allow the Director of EPD, the Regional Administrator of EPA, and/or their authorized representatives, agents, or employees, upon the presentation of credentials:

a. To enter upon the permittee's premises where a discharge source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and to sample any substance or parameters in any location.

2. Transfer of Ownership or Control

A permit may be transferred to another person by a permittee if:

a. The permittee notifies the Director of EPD in writing of the proposed transfer at least thirty (30) days in advance of the proposed transfer;

b. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) is submitted to the Director at least thirty (30) days in advance of the proposed transfer; and

c. The Director, within thirty (30) days, does not notify the current permittee and the new permittee of EPD’s intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

3. Availability of Reports

Except for data deemed to be confidential under O.C.G.A. § 12-5-26 or by the Regional Administrator of the EPA under the Code of Federal Regulations, Title 40, Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at an office of EPD. Effluent data, permit applications, permittee's names and addresses, and permits shall not be considered confidential.

4. Permit Modification

This permit may be modified, suspended, revoked or reissued in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge; or

d. To comply with any applicable effluent limitation issued pursuant to the order of the United States District Court for the District of Columbia issued on June 8, 1976, in Natural Resources Defense Council, Inc. et.al. v. Russell E. Train, 8 ERC 2120(D.D.C. 1976), if the effluent limitation so issued:

1. is different in conditions or more stringent than any effluent limitation in the permit; or

2. controls any pollutant not limited in the permit.

5. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established pursuant to Section 307(a) of the Federal Clean Water Act for toxic pollutants, which are present in the discharge within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

6. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Federal Clean Water Act.

8. Water Quality Standards

Nothing in this permit shall be construed to preclude the modification of any condition of this permit when it is determined that the effluent limitations specified herein fail to achieve the applicable State water quality standards.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. Expiration of Permit

The permittee shall not discharge after the expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information, forms, and fees as are required by EPD at least 180 days prior to the expiration date.

11. Contested Hearings

Any person who is aggrieved or adversely affected by an action of the Director of EPD shall petition the Director for a hearing within thirty (30) days of notice of such action.

12. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

13. Best Management Practices

The permittee will implement best management practices to control the discharge of hazardous and/or toxic materials from ancillary manufacturing activities. Such activities include, but are not limited to, materials storage, in-plant transfer, process and material handling, loading and unloading operations, plant site runoff, and sludge and waste disposal.

14. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

15. Duty to Provide Information

a. The permittee shall furnish to the EPD Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish upon request copies of records required to be kept by this permit.

b. When the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts and information.

16. Duty to Comply

a. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Georgia Water Quality Control Act (O.C.G.A. § 12-5-20 et. seq.) and is grounds for enforcement action; for permit termination; revocation and reissuance, or modification; or for denial of a permit renewal application. Any instances of noncompliance must be reported to EPD as specified in Part I. D and Part II.A. of this permit.

b. Penalties for violations of permit conditions. The Federal Clean Water Act and the Georgia Water Quality Control Act (O.C.G.A. § 12-5-20 et. seq.) provide that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this permit, makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine or by imprisonment, or by both. The Georgia Water Quality Control Act (Act) also provides procedures for imposing civil penalties which may be levied for violations of the Act, any permit condition or limitation established pursuant to the Act, or negligently or intentionally failing or refusing to comply with any final or emergency order of the Director**.**

17. Upset Provisions

Provisions of 40 CFR 122.41(n)(1)-(4), regarding "Upset" shall be applicable to any civil, criminal, or administrative proceeding brought to enforce this permit.

PART III

A. Previous Permits

1. All previous State wastewater permits issued to this facility, whether for construction or operation, are hereby revoked by the issuance of this permit. This action is taken to assure compliance with the Georgia Water Quality Control Act, as amended, and the Federal Clean Water Act, as amended. Receipt of the permit constitutes notice of such action. The conditions, requirements, terms and provisions of this permit authorizing discharge under the National Pollutant Discharge Elimination System govern discharges from this facility.

B. Schedule of Compliance

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule: N/A

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

C. Special Conditions

1. Total Residual Chlorine/Free Available Chlorine

   a. Neither free available chlorine (FAC) nor total residual chlorine (TRC) may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge these materials at any one time unless the permittee can demonstrate to and get written authorization from the EPD Director that the units in a particular location cannot operate at or below this level of chlorination.

   b. The free available chlorine (FAC) average and total residual chlorine (TRC) average means the average over any individual chlorine or oxidant release period which does not exceed two hours per day per unit. The FAC and TRC maximum is the instantaneous maximum which may occur at any time. The results shall be reported in a suitably concise form beginning with the first scheduled Discharge Monitoring Report & Operation Monitoring Report (OMR) and continuing thereafter.

   c. If bromine or a combination of bromine and chlorine is utilized for control of biofouling, limitations for TRC and FAC shall be applicable to TRO (Total Residual Oxidants) and FAO (Free Available Oxidants). There is no difference in test methods between TRC/FAC and TRO/FAO.

d. The permittee has demonstrated the need for periodic continuous chlorination of the service water system in order to prevent biofouling caused by Asiatic Clams (*Corbicula fluminea)* and Zebra Mussels (*Dreissena polymorpha*). The permittee shall follow the macrofouling, biofouling, corrosion, and deposition control measures approved by EPD and outlined in the *Best Management Practices Plan – Plant Wansley (Revised March 2018)*, or any subsequent documents approved by the EPD. The special conditions outlined in Part III.C.1.a and enumerated as effluent limitations for FAC/TRC Discharge Time in Part I.A.2 are waived during periods of continuous chlorination of the service water system.

2. No Discharge of Polychlorinated Biphenyl Compounds

There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

3. § 316(b) of the Clean Water Act (CWA) & Cooling Water Intake Structures

a. Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act.

b. The permittee shall operate a closed-cycle recirculating system as their chosen BTA standard for impingement mortality and entrainment. The permittee must monitor the actual intake flows at a minimum frequency of daily. The monitoring must be representative of normal operating conditions, and must include measuring cooling water withdrawals, make-up water, and blow down volume. In lieu of daily intake flow monitoring the permittee may monitor the cycles of concentration at a minimum frequency of daily. Monitoring will be included in the OMR and submitted in accordance with Part I.D of the permit.

c. The permittee must either conduct visual inspections or employ remote monitoring devices on at least a quarterly basis during the period in which the cooling water intake structure is in operation. Such inspections must ensure that the cooling towers operated to comply with 40 CFR 125.94 (impingement mortality and entrainment requirements) are maintained and operated to function as designed. The permittee must prepare an inspection report documenting the inspections or monitoring and the inspection report shall be submitted as an attachment to the DMR in accordance with Part I.D of the permit. The inspection report shall contain the following minimum elements:

1. Date, time, and location of the inspection or remote monitoring;

2. Water withdrawal rate during the time of the inspection;

3. Equipment/Technology identified as needing maintenance, repair or replacement, if any; and

4. Name(s) and signature(s) of the inspector(s)

An inability to conduct visual inspections or employ remote monitoring devices because of adverse weather conditions during a monitoring period will not constitute failure to monitor as long as those conditions are documented in the inspection report. Documentation of an adverse event interfering with the visual inspections or remote monitoring (with date, time, and written description) must be submitted with the DMR.

d. The permittee shall submit an annual certification statement signed by the responsible corporate officer certifying either; no substantial operational changes have occurred at the facility that impact cooling water withdrawals or operation of the cooling water intake structures, or that substantial modifications have occurred. The certification statement should be submitted as an attachment to the DMR due June 15th.

1. If the information contained in the previous year's annual certification is still pertinent, the permittee may simply state as such in a letter to the Director and the letter shall constitute the annual certification.

2. If substantially modified operation of any unit has occurred at the facility that impacts cooling water withdrawals or operation of the cooling water intake structures, the permittee shall provide a summary of those changes in the report. In addition, revisions to the information required at 40 CFR 122.21(r) must be submitted with the next permit application.

e. The permittee shall retain records of all submissions related to the permit application and permit conditions outlined in Part III.C.3 of this permit until the subsequent permit has been issued.

f. The permittee may in subsequent permit applications, request to reduce the information required in the 40 CFR 122.21(r) permit application studies, if conditions at the facility and in the waterbody remain substantially unchanged since the previous application so long as the relevant previously submitted information remains representative of current source water, intake structure, cooling water system, and operating conditions. The permittee must submit its request for reduced cooling water intake structure and waterbody application information to the Director at least two years and six months prior to the expiration of its NPDES permit. The permittee's request must identify each element in this subsection that it determines has not substantially changed since the previous permit application and the basis for the determination.

4. Annual Certifications

The permittee shall certify annually that none of the 126 priority pollutants listed in Appendix A of 40 CFR 423 and contained in chemicals added for cooling tower maintenance, excluding chromium and zinc, are above detectable limits in internal outfall numbers 01A, 01B, 01H, 01I, 01J, and 01K. This certification may be based on manufacturers certifications or engineering calculations. Additionally, a certification that chromium and/or zinc are below detectable limits may be used in lieu of the monitoring required in Part I.A.2 of the permit. Such certifications shall be submitted as part of the June OMR in accordance with Part I.D of the permit.

5. 40 C.F.R. Part 423 Steam Electric Power Generating Point Source Category

The permittee is subject to the EPA's 40 CFR Part 423 regulation for existing facilities. The permittee must comply with the new federal regulations as described in 40 CFR 423 for the flue gas desulfurization water, 40 CFR 423.1(g), fly ash transport water, 40 CFR 423.13(h), and bottom ash transport water, 40 CFR 423.13(k) by December 31, 2023.

On April 25, 2017, EPA published a notice that it would reconsider the 40 CFR § 423 rule and announced a stay of the rule's pending implementation deadlines for the following wastestreams: fly ash transport water, bottom ash transport water, and flue gas desulfurization ("FGD") wastewater. See 82 Fed. Reg. 19005. On September 18, 2017, EPA withdrew the stay of compliance dates and simultaneously postponed the earliest compliance dates for bottom ash transport water and the FGD wastewater in the 2015 Rule for a period of two years, whereas the revised earliest compliance date has been changed from November 1, 2018 to November 1, 2020. See 82 Fed. Reg. 43494.

Additionally, in the September 18, 2017 rulemaking, EPA announced a decision to conduct a rulemaking to potentially revise the effluent limitations for existing sources in the 2015 rule that applies to bottom ash transport water and FGD wastewater. A proposed rule was published on November 22, 2019 and made available for public comment.

Upon the promulgation of the new 40 CFR § 423 rule, EPD may modify the permit to address the requirements of the revised sections of the rule.

6. Implementation Schedule for Flue Gas Desulfurization (FGD) Wastewater, Fly Ash Transport Water, and Bottom Ash Transport Water

Upon completion of the reconsideration process and promulgation of a new 40 C.F.R. Part 423 rule, EPD may modify the permit to address the requirements of the revised sections of the rule. Additionally, if the revised rule modifies the compliance dates past December 31, 2023, the implementation schedule and deadlines in Part I.A.3, Part I.A.6, and Part III.C.7 of the permit may no longer be applicable and EPD will reevaluate based on the new rule. Until the reconsideration and promulgation of a new 40 C.F.R. Part 423 rule is final, the permittee will comply with the following permit conditions:

a. Upon the effective date of the permit, there shall be no discharge of pollutants in fly ash transport water.

b. No later than December 31, 2023, there shall be no discharge of pollutants in bottom ash transport water, except where bottom ash transport water is used in the FGD scrubber. Bottom ash transport water used in the FGD scrubber after the December 31, 2023 implementation date shall achieve compliance with the effluent limitations in Part I.A.6 for arsenic, total; mercury, total; selenium, total; and nitrate/nitrite, as N.

c. No later than December 31, 2023, the permittee shall achieve compliance with the effluent limitations for FGD wastewater established in Part I.A.6 for arsenic, total; mercury, total; selenium, total; and nitrate/nitrite, as N.

7. Coal Ash Pond Dewatering Plan (Plan)

a. The permittee shall provide EPD at least 90 days written advance notice of any coal ash pond dewatering activities and a Coal Ash Pond Dewatering Plan for review and approval. The Plan must contain at a minimum the following components:

1. Detailed description of the dewatering activities, current volume of wastewater in the ponds to be dewatered, wastewater treatment system components, flow schematics, and appropriate maps of the site;

2. Detailed description of the process control being installed, measured and maintained, including the effluent quality targets for total suspended solids, pH (s.u.), total residual chlorine, and turbidity (NTU);

3. Detailed description of the monitoring devices, equipment and associated activities;

4. At a minimum, once a week representative effluent sampling and monitoring for the following pollutants of concern: pH (s.u.); total suspended solids; biochemical oxygen demand,5-day; oil and grease; turbidity (NTU); total residual chlorine; total dissolved solids; copper, total; selenium, total; arsenic, total; mercury, total; chromium, total; lead, total; cadmium, total; zinc, total; nickel, total; ammonia, as N; total Kjeldahl nitrogen; organic nitrogen; nitrate/nitrite; total phosphorus; orthophosphate, as P; and hardness;

5. At a minimum, twice a month upstream and downstream stream representative sampling for the pollutants of concern listed in Part III.C.7.a.4 (except total residual chlorine).

6. Description of the sufficiently sensitive analytical methods employed;

7. Description of data collection, record keeping and reporting to EPD;

8. Description of the draw down rates to ensure the integrity of the ponds; and

9. An immediate (within 24 hours) Notification Process and general Corrective Measures Plan if any of the following scenarios should occur during the dewatering activities:

The continuously monitored effluent quality targets for total suspended solids, pH (s.u.), total residual chlorine, or turbidity (NTU) are not achieved and the automatic return system fails resulting in a discharge of wastewater that did not meet the established effluent quality targets; or

EPD will evaluate the submitted data and determine if there is a reasonable potential for the discharge to cause or contribute to a violation of the instream water quality standards and if necessary, may open the permit to include applicable effluent limits to protect the receiving waterbody.

b. Additionally, upon submittal of the Plan, the permittee shall begin instream sampling to establish background conditions. The permittee shall perform representative sampling upstream and downstream of the permitted outfalls twice per month collected by a grab sample. The stream samples will be analyzed for the pollutants of concern listed in Part III.C.7.a.4 (except total residual chlorine) and meet the requirements in § 40 C.F.R. Part 136.

8. Mixing Zone

The approved thermal mixing zone is defined as the segment of the river extending 80 feet downstream from the point of discharge and extending 40 feet from the right river bank. The downstream sampling location for compliance with the maximum temperature and delta temperature limits outlined in Part I.A.1 of this permit is along the downstream edge of the defined mixing zone. The upstream temperature will be measured outside the influence of the discharge approximately 25 feet upstream.

9. No Detectable Level of Hydrazine

No detectable level of Hydrazine is allowed in Outfall 01. The permittee shall certify this through either sampling or review and certification of best management practices. This certification shall be submitted annually in accordance with the reporting requirements in Part I.D of this permit and when requested by EPD.

10. Inventory of Water Treatment Chemicals

The permittee shall submit to EPD annually a current inventory of all water treatment chemicals, other than chlorine, discharged to State waters during the previous 12 months. This includes, but is not limited to, microbiocides, corrosion inhibitors, and dispersants. These chemicals shall be used and disposed of in accordance with the manufacturer's instructions unless other requirements are imposed by EPD.

D. Biomonitoring and Toxicity Reduction Requirements

1. The permittee shall comply with effluent standards or prohibitions established by section 307(a) of the Federal Act and with chapter 391-3-6-.03(5)(e) of the State Rules and may not discharge toxic pollutants in concentrations or combinations that are harmful to humans, animals, or aquatic life.

   If toxicity is suspected in the effluent, EPD may require the permittee to perform any of the following actions:

   a. Acute biomonitoring tests;

   b. Chronic biomonitoring tests;

   c. Stream studies;

   d. Priority pollutant analyses;

   e. Toxicity reduction evaluations (TRE); or

   f. Any other appropriate study.

2. EPD will specify the requirements and methodologies for performing any of these tests or studies. Unless other concentrations are specified by EPD, the critical concentration used to determine toxicity in biomonitoring tests will be the effluent instream wastewater concentration (IWC) based on the representative plant flow of the facility and the critical low flow of the receiving stream (7Q10). The endpoints that will be reported are the effluent concentration that is lethal to 50% of the test organisms (LC50) if the test is for acute toxicity, and the no observed effect concentration (NOEC) of effluent if the test is for chronic toxicity.

   The permittee must eliminate effluent toxicity and supply EPD with data and evidence to confirm toxicity elimination.

E. Coal Ash Pond Impoundment Integrity

Imminent impoundment failure conditions shall be reported **immediately (within 24 hours)** to the designated local entity in the County with responsibility for emergency management and EPD's 24-hour Emergency Response contact.

1. Operation and Maintenance

   a. The following impoundments that are used to hold or treat wastewater and associated waste materials shall be operated and maintained to prevent the discharge of pollutants to waters of the United States, except as authorized under this permit, as follows:

      (i) Ash Pond

   b. When practicable, piezometers or other appropriate instrumentation shall be installed as a means of assessing impoundment integrity.

   c. Within 90 days of the effective date of this permit, the permittee shall submit a report that identifies and shows the location of all pipes, utilities or other penetrations through or beneath the impoundment(s). A Georgia-registered professional engineer must certify in the report what, if any, pipes, utilities, and penetrations exist and their condition. The report must address these penetrations and provide an inspection frequency and method of evaluation for them.

2. Inspections

   a. Inspections of dams, dikes and toe areas for erosion shall, at a minimum, include observations of:

      (i) Cracks or bulges;
      (ii) Subsidence;
      (iii) Wet or soft soil;
      (iv) Changes in geometry;
      (v) Elevation of the impounded water and freeboard, depth of sediment and slurry;
      (vi) Changes in vegetation such as being overly lush;
      (vii) Obstructive vegetation and trees;
      (viii) Animal burrows;
      (ix) Changes to liners (if applicable);
      (x) Spillway integrity; and
      (xi) Any other changes which may indicate a potential compromise to impoundment integrity.

   b. All impoundments shall be inspected at least **weekly** by qualified personnel with knowledge and training in impoundment integrity.

c. All impoundments shall be inspected annually by a State-registered professional engineer or professional geologist with knowledge and training in impoundment integrity.

d. The findings of each inspection shall be documented in a written inspection report and the personnel conducting the inspection will certify that the inspection occurred.

e. The certified inspection report shall be submitted to EPD annually by June 30th.

3. Corrective Measures

a. For Category I structures or structures regulated under the Safe Dams Act, the permittee shall coordinate with EPD (EPD's Safe Dams Unit, EPD assigned Compliance Office, and EPD's Emergency Response Contact) and the permittee's Engineer of Record **immediately (within 24 hours)** after discovering any changes that may be signs of an imminent impoundment failure, or potentially significant compromise to the structural integrity of the impoundment; such as, but not limited to, significant increases in seepage or seepage carrying sediment, or as the formation of large cracks, slumping, or new wet areas not related to recent precipitation.

b. For structures not regulated by the Safe Dams Act, the permittee shall retain a qualified professional and coordinate with EPD (EPD's Safe Dams Unit, EPD assigned Compliance Office, and EPD's Emergency Response Contact) **immediately (within 24 hours)** after discovering any changes that may be signs of an imminent impoundment failure, or potentially significant compromise to the structural integrity of the impoundment; such as, but not limited to, significant increases in seepage or seepage carrying sediment or the formation of large cracks, slumping, or new wet areas not related to recent precipitation.

c. The permittee shall begin the corrective measures agreed upon by EPD and the permittee **within 60 days** of first observing any other issues which may have long term impacts on the structural integrity of the impoundment, such as trees growing on the impoundment or vegetation blocking spillways, culverts or other drainage pathways.

4. Reporting and Recordkeeping Requirements

a. **Within 5 days** of discovering conditions that indicate a potentially significant compromise to the structural integrity of the impoundment, the permittee must notify EPD (EPD's Safe Dams Unit and EPD assigned Compliance Office) in writing, describing the findings of the inspection, corrective actions taken, and expected outcomes.

b. The permittee shall maintain records of all impoundment inspection and maintenance activities, including corrective actions made in response to inspections and all other activities undertaken to repair or maintain the impoundments

referenced in this permit. All records shall be retained, and made available to State or Federal inspectors upon request.

c. The permittee shall submit an **annual report** to EPD by June 30th, summarizing findings of all monitoring activities, inspections and corrective measures pertaining to the structural integrity, operation and maintenance of all impoundments referenced in this permit.

d. All pertinent impoundment permits, design, construction, operation, and maintenance information, including but not limited to: plans, geotechnical and structural integrity studies, copies of permits, associated documentation of certifications by all qualified personnel, State-registered professional engineers, professional geologists, and regulatory approvals, shall be retained and made available to State or Federal inspectors upon request.

e. The permittee shall maintain the applicable certification and training records of the personnel that conducted the inspections required under this Section.

5. Once the issuance of the Coal Combustion Residuals (CCR) permit is a final action of the Director and as required under Chapter 391-3-4 Rules for Solid Waste Management, the permittee shall no longer be subject to the requirements specified in Part III.E of this NPDES permit for that Ash Pond or, if collectively, for all the Ash Ponds.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

The Georgia Environmental Protection Division proposes to issue an NPDES permit to the applicant identified below. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters of the State.

Technical Contact: Ian McDowell (*ian.mcdowell@dnr.ga.gov)*
404-232-1567

Draft permit:

- ☐ First issuance
- ☐ Reissuance with no or minor modifications from previous permit
- ☒ Reissuance with substantial modifications from previous permit
- ☐ Modification of existing permit
- ☒ Requires EPA review
- ☐ Designated as a Major facility

1.0 FACILITY INFORMATION

1.1 NPDES Permit No.: GA0026778

1.2 Name and Address of Owner/Applicant

Georgia Power Company (Operator)
241 Ralph McGill Boulevard, N.E.
Atlanta, Georgia 30308
(Fulton County)

1.3 Name and Address of Facility

Plant Wansley
1371 Liberty Church Road
Carrollton, Georgia 30116
(Carroll County)

1.4 Location and Description of the discharge (as reported by applicant)

Outfall ID	Latitude	Longitude	Receiving Waterbody
01	33° 24' 13.61" N (33.403781)	85° 01' 51.86" W (-85.031072)	Chattahoochee River
01E	33° 24' 13.61" N (33.403781)	85° 01' 51.86" W (-85.031072)	Chattahoochee River
03A	33° 24' 18.12" N (33.405033)	85° 03' 40.75" W (-85.061319)	Unnamed Tributary of the Chattahoochee River
03B	33° 24' 23.08" N (33.406411)	85° 03' 49.06" W (-85.063628)	Unnamed Tributary of the Chattahoochee River
04	33° 25' 2.33" N (33.417314)	85° 01' 43.71" W (-85.028808)	Yellowdirt Creek
05	33° 25' 32.05" N (33.425569)	85° 00' 57.53" W (-85.015981)	Chattahoochee River
06	33° 25' 27.29" N (33.424247)	85° 01' 45.25" W (-85.029236)	Yellowdirt Creek

1.5 Production Capacity

Plant Wansley has two active coal-fired units (Units 1&2) and four natural gas fired units (Units 6-9). The coal-fired units have a combined nameplate generating capacity of 1,730 megawatts (MW). The natural gas fired units have a combined nameplate generating capacity of 2,319 megawatts (MW).

1.6 SIC Code & Description

4911 – Generation of electricity

1.7 Description of Industrial Processes

Plant Wansley is jointly owned by Georgia Power Company (Operator), Southern Power Company, Oglethorpe Power Corporation, Municipal Electric Authority of Georgia and the City of Dalton and provides generation of electricity through the combustion of fossil fuels.

1.8 Description of the Wastewater Treatment Facility

Outfall	Operation Description	Treatment Description
01 & 01E	Final Plant Discharge Commingled with Stormwater and Retention Pond Drain Commingled with Stormwater	Mixing, Discharge to Surface Water
03A	South Ash Pond Emergency Overflow	Sedimentation, Neutralization, Discharge to Surface Water

03B	North Ash Pond Emergency Overflow	Sedimentation, Neutralization, Discharge to Surface Water
04	Employee Car Wash Stormwater Pond	Sedimentation, Discharge to Surface Water
05	River Intake Structure Sump	Discharge to Surface Water
06	Service Water Pump Leakage and Backwash	Discharge to Surface Water
01A	Unit 1 Cooling Tower Blowdown / Overflow	Disinfection (Chlorine)
01B	Unit 2 Cooling Tower Blowdown / Overflow	Disinfection (Chlorine)
01C	Ash Pond Discharge and Low Volume Waste	Sedimentation, Neutralization
01D	Construction Sewage Treatment Plant	Activated Sludge, Disinfection (Chlorine)
01F	Stormwater Canal (Coldwell Overflow & Stormwater)	Mixing
01G	Service Water Sump Overflow	None
01H	Unit 6 Cooling Tower Blowdown	Disinfection (Chlorine)
01I	Unit 7 Cooling Tower Blowdown	Disinfection (Chlorine)
01J	Unit 8 Cooling Tower Blowdown	Disinfection (Chlorine)
01K	Unit 9 Cooling Tower Blowdown	Disinfection (Chlorine)
02	Ash Transport Water (Discontinued)	Reuse/Recycle of Treated Effluent
02A	Units 1&2 Wastewater Basin	Sedimentation, Flocculation, Coagulation, Neutralization
02B	East Coal Pile Runoff	Sedimentation
02C	West Coal Pile Runoff	Sedimentation
02D	Coal Handling Sewage Treatment Plant	Activated Sludge, Disinfection (Chlorine)
02E	Chemical Metal Cleaning Waste	Sedimentation, Neutralization, Chemical Precipitation
02F	Unit 1 Cooling Tower Basin Cleaning Waste	Sedimentation
02G	Unit 2 Cooling Tower Basin Cleaning Waste	Sedimentation
02H	Service Water Building Sewage Treatment Plant	Activated Sludge, Disinfection (Chlorine)
02L	FGD Gypsum Sluice Water	Reuse/Recycle of Treated Effluent
02M	FGD & Limestone Area Sumps	Reuse/Recycle of Treated Effluent
02P	FGD Blowdown	Sedimentation
02Q	Coal Pile Runoff (Combined)	Sedimentation
02T	Bottom Ash Transport Water Remote Dragchain Bleedoff	Screening, Sedimentation, Discharge to Surface Water

03H	Units 6&7 Low Volume Waste	Reuse/Recycle of Treated Effluent, Neutralization
03J	Unit 8 Low Volume Waste	Reuse/Recycle of Treated Effluent, Neutralization
03K	Unit 9 Low Volume Waste	Reuse/Recycle of Treated Effluent, Neutralization

1.9 Type of Wastewater Discharge

☒ process wastewater ☒ stormwater

☒ domestic wastewater ☒ combined

☒ other (non-process wastewater)

Process wastewater, sanitary wastewater, and stormwater commingle in a retention pond before discharging via External Outfall 01/01E. Additionally, non-process wastewater is discharged via External Outfalls 04, 05, 06. Finally, process wastewater commingled with stormwater is discharged via External Outfalls 03A and 03B during emergencies.

1.10 Characterization of Effluent Discharge as Reported by Applicant

(Please refer to the application for additional analysis)

1.10.a Outfall No. 01 – Final Plant Discharge Commingled with Stormwater

Effluent Characteristics (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	117.8	23.9
Biochemical Oxygen Demand,$_{5\text{-day}}$ (mg/L)	<2.0	N/A
Total Suspended Solids (mg/L)	16.2	N/A
Temperature, Winter (°F)	59.36	N/A
Temperature, Summer (°F)	71.78	N/A
Ammonia (mg/L)	0.57	N/A
Total Phosphorus (mg/L)	<0.05	N/A

1.10.b Outfall No. 01E – Retention Pond Drain Commingled with Stormwater

Effluent Characteristics[1] (as Reported by Applicant)	**Maximum Daily Value**	**Average Daily Value**
Flow (MGD)	117.8	23.9
Biochemical Oxygen Demand,$_{5\text{-day}}$ (mg/L)	<2.0	N/A
Total Suspended Solids (mg/L)	16.2	N/A
Temperature, Winter (°F)	59.36	N/A
Temperature, Summer (°F)	71.78	N/A
Ammonia (mg/L)	0.57	N/A
Total Phosphorus (mg/L)	<0.05	N/A

[1] Outfall 01E serves as an alternate outfall for the facility's main discharge in the event that Outfall 01 is undergoing maintenance. The effluent characteristics from the Outfall 001 discharge are representative of the effluent characteristics for Outfall 01E and have been included above.

1.10.c Outfall No. 03A – South Ash Pond Emergency Overflow

Effluent Characteristics[1] (as Reported by Applicant)	**Maximum Daily Value**	**Average Daily Value**
Flow (MGD)	7.56	N/A
Biochemical Oxygen Demand,$_{5\text{-day}}$ (mg/L)	<2.0	N/A
Total Suspended Solids (mg/L)	8.0	N/A
Temperature, Winter (°F)	59.36	N/A
Temperature, Summer (°F)	71.78	N/A
Ammonia (mg/L)	<0.1	N/A
Total Phosphorus (mg/L)	<0.05	N/A

[1] Effluent sampling data was unavailable from Outfall 03A's South Ash Pond Emergency Overflow. The effluent characteristics from the facility's routine ash pond discharges from Outfall 01C are representative of the effluent characteristics for Outfall 03A and have been included above.

1.10.d Outfall No. 03B – North Ash Pond Emergency Overflow

Effluent Characteristics[1] (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	7.56	N/A
Biochemical Oxygen Demand,$_{5\text{-day}}$ (mg/L)	<2.0	N/A
Total Suspended Solids (mg/L)	8.0	N/A
Temperature, Winter (°F)	59.36	N/A
Temperature, Summer (°F)	71.78	N/A
Ammonia (mg/L)	<0.1	N/A
Total Phosphorus (mg/L)	<0.05	N/A

[1] Effluent sampling data was unavailable from Outfall 03B's North Ash Pond Emergency Overflow. The effluent characteristics from the facility's routine ash pond discharges from Outfall 01C are representative of the effluent characteristics for Outfall 03B and have been included above.

1.10.e Outfall No. 04 – Employee Car Wash

Effluent Characteristics (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	0.0072	N/A
Biochemical Oxygen Demand,$_{5\text{-day}}$ (mg/L)	<2.0	N/A
Total Suspended Solids (mg/L)	<5	N/A
Temperature, Winter (°F)	59.36	N/A
Temperature, Summer (°F)	71.78	N/A
Ammonia (mg/L)	0.13	N/A
Total Phosphorus (mg/L)	<0.05	N/A

1.10.f Outfall No. 05 – River Intake Structure Sump

Effluent Characteristics[1] (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	0.22	N/A
Biochemical Oxygen Demand,5-day (mg/L)	2.0	N/A
Total Suspended Solids (mg/L)	5.0	N/A
Temperature, Winter (°F)	53.60	N/A
Temperature, Summer (°F)	75.74	N/A
Ammonia (mg/L)	<0.1	N/A
Total Phosphorus (mg/L)	<0.02	N/A

[1] Effluent data was obtained from the plant intake as the water is substantially identical and considered representative of the discharge from Outfall 05.

1.10.g Outfall No. 06 – Service Water Pump Leakage and Backwash

Effluent Characteristics[1] (as Reported by Applicant)	Maximum Daily Value	Average Daily Value
Flow (MGD)	2.16	0.00144
Biochemical Oxygen Demand,5-day (mg/L)	2.0	N/A
Total Suspended Solids (mg/L)	5.0	N/A
Temperature, Winter (°F)	53.60	N/A
Temperature, Summer (°F)	75.74	N/A
Ammonia (mg/L)	<0.1	N/A
Total Phosphorus (mg/L)	<0.02	N/A

[1] Effluent data was obtained from the plant intake as the water is substantially identical and considered representative of the discharge from Outfall 06.

2.0 APPLICABLE REGULATIONS

2.1 State Regulations

Chapter 391-3-6 of the Georgia Rules and Regulations for Water Quality Control

2.2 Federal Regulations

Source	Activity	Applicable Regulation
Industrial	Non-Process Water Discharges	40 CFR 122 40 CFR 125
Industrial	Process Water Discharges	40 CFR 122 40 CFR 125 40 CFR 423
Industrial	CWA 316(b) Cooling Water Intake Structures	40 CFR 122 40 CFR 125

2.3 Industrial Effluent Limit Guideline(s)

Code of Federal Regulations, 40 CFR Part 423 – Steam Electric Power Generating Point Source Category

See Appendix A of the Fact Sheet for a copy of the 40 CFR Part 423 regulations.

3.0 WATER QUALITY STANDARDS & RECEIVING WATERBODY INFORMATION

Section 301(b)(1)(C) of the Clean Water Act (CWA) requires the development of limitations in permits necessary to meet water quality standards. Federal Regulations 40 CFR 122.4(d) require that conditions in NPDES permits ensure compliance with the water quality standards which are composed of use classifications, numeric and or narrative water quality criteria and an anti-degradation policy. The use classification system designates the beneficial uses that each waterbody is expected to achieve, such as drinking water, fishing, or recreation. The numeric and narrative water quality criteria are deemed necessary to support the beneficial use classification for each water body. The antidegradation policy represents an approach to maintain and to protect various levels of water quality and uses.

3.1 Receiving Waterbody Classification and Information

Rules and Regulations of the State of Georgia 391-3-6-.03(6) – Drinking Water and Fishing

Drinking Water,

Those waters approved as a source for public drinking water systems permitted or to be permitted by the Environmental Protection Division. Waters classified for drinking water supplies will also support the fishing use and any other use requiring water of a lower quality.

(i) Bacteria: For the months of May through October, when water contact recreation activities are expected to occur, fecal coliform not to exceed a geometric mean of 200 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. Should water quality and sanitary studies show fecal coliform levels from non-human sources exceed 200/100 mL (geometric mean) occasionally, then the allowable geometric mean fecal coliform shall not exceed 300 per 100 mL in lakes and reservoirs and 500 per 100 mL in free flowing freshwater streams. For the months of November through April, fecal coliform not to exceed a geometric mean of 1,000 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours and not to exceed a maximum of 4,000 per 100 mL for any sample. The State does not encourage swimming in these surface waters since a number of factors which are beyond the control of any State regulatory agency contribute to elevated levels of bacteria.

(ii) Dissolved oxygen: A daily average of 6.0 mg/L and no less than 5.0 mg/L at all times for waters designated as trout streams by the Wildlife Resources Division. A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times for water supporting warm water species of fish.

(iii) pH: Within the range of 6.0 - 8.5.

(iv) No material or substance in such concentration that, after treatment by the public water treatment system, exceeds the maximum contaminant level established for that substance by the Environmental Protection Division pursuant to the Georgia Rules for Safe Drinking Water.

(v) Temperature: Not to exceed 90°F. At no time is the temperature of the receiving waters to be increased more than 5°F above intake temperature except that in estuarine waters the increase will not be more than 1.5°F. In streams designated as primary trout or small mouth bass waters by the Wildlife Resources Division, there shall be no elevation of natural stream temperatures. In streams designated as secondary trout waters, there shall be no elevation exceeding 2°F of natural stream temperatures.

Fishing,

Propagation of Fish, Shellfish, Game and Other Aquatic Life; secondary contact recreation in and on the water; or for any other use requiring water of a lower quality.

(i) Dissolved Oxygen: A daily average of 6.0 mg/L and no less than 5.0 mg/L at all times for water designated as trout streams by the Wildlife Resources Division. A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times for waters supporting warm water species of fish.

(ii) pH: Within the range of 6.0 – 8.5.

(iii) Bacteria:

1. For the months of May through October, when water contact recreation activities are expected to occur, fecal coliform not to exceed a geometric mean of 200 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours. Should water quality and sanitary studies show fecal coliform levels from non-human sources exceed 200/100 mL (geometric mean) occasionally, then the allowable geometric mean fecal coliform shall not exceed 300 per 100 mL in lakes and reservoirs and 500 per 100 mL in free flowing freshwater streams. For the months of November through April, fecal coliform not to exceed a geometric mean of 1,000 per 100 mL based on at least four samples collected from a given sampling site over a 30-day period at intervals not less than 24 hours and not to exceed a maximum of 4,000 per 100 mL for any sample. The State does not encourage swimming in these surface waters since a number of factors which are beyond the control of any State regulatory agency contribute to elevated levels of bacteria.

2. For waters designated as shellfish growing areas by the Georgia DNR Coastal Resources Division, the requirements will be consistent with those established by the State and Federal agencies responsible for the National Shellfish Sanitation Program. The requirements are found in National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish, 2007 Revision (or most recent version), Interstate Shellfish Sanitation Conference, U.S. Food and Drug Administration.

(iv) Temperature: Not to exceed 90°F. At no time is the temperature of the receiving waters to be increased more than 5°F above intake temperature except that in estuarine waters the increase will not be more than 1.5°F. In streams designated as primary trout or smallmouth bass waters by the Wildlife Resources Division, there shall be no elevation of natural stream temperature. In streams designated as secondary trout waters, there shall be no elevation exceeding 2°F natural stream temperatures.

3.2 Ambient Information

Outfall ID	7Q10 (cfs)	1Q10 (cfs)	Hardness (mg/L as $CaCO_3$)	Annual Average Flow (cfs)	Upstream Total Suspended Solids (mg/L)
01	1196	1070	53	3998	Data unavailable[1]
01E	1196	1070	53	3998	Data unavailable[1]
03A	0.011	0.008	53	0.803	Data unavailable[1]
03B	0.011	0.008	53	0.803	Data unavailable[1]
04	0.346	0.264	53	30.7	Data unavailable[1]
05	1196	1070	53	3998	Data unavailable[1]
06	0.346	0.264	53	30.7	Data unavailable[1]

[1] For the Reasonable Potential Analysis calculations, EPD used 10 mg/l as a conservative value.

3.3 Georgia 305(b)/303(d) List Documents

The Chattahoochee River (R031300020609) from Wahoo Creek to Franklin (West Point Lake) is listed as not supporting the designated use of fishing and drinking water.

Reach Name/ID	Reach Location/County	River Basin/ Use	Assessment/ Data Provider	Cause/ Source	Size/Unit	Category/ Priority	Notes
Chattahoochee River	Wahoo Creek to Franklin (West Point Lake)	Chattahoochee	Not Supporting	FC, FCG(PCBs)	21	4a	TMDLs completed FC 2003 (revised 2008) & FCG(PCBs) 2003.
GAR031300020609	Coweta, Carroll, Heard	Fishing, Drinking Water	1,10	UR, NP	Miles		

3.4 Total Maximum Daily Load (TMDL)

A TMDL for fecal coliform was developed in 2003 and further revised in 2008. The TMDL indicates that point source loads from wastewater treatment facilities do not significantly contribute to the impairment of the listed stream segments. Plant Wansley is not listed in the TMDL and the small volume of sanitary wastewater generated at the site is treated via activated sludge and chlorination. Plant Wansley is not expected to contribute additional loadings of fecal coliform beyond that already present in the source water. No monitoring or effluent limitations have been included in the permit for fecal coliform.

Additionally, a TMDL for polychlorinated biphenyls (PCBs) was developed in 2003. Georgia Power Company – Plant Wansley is not listed in this TMDL. The facility is restricted from discharging any PCBs as part of their federal effluent limitation guidelines.

3.5 Wasteload Allocation Date (08/06/2018)

See Appendix C of the Fact Sheet

4.0 EFFLUENT LIMITS AND PERMIT CONDITIONS

4.1 Reasonable Potential Analysis (RP)

Title 40 of the Federal Code of Regulations, 40 CFR 122.44(d) requires delegated States to develop procedures for determining whether a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above a narrative or numeric criteria within a State water. If such reasonable potential is determined to exist, the NPDES permit must contain pollutant effluent limits and/or effluent limits for whole effluent toxicity. Georgia's Reasonable Potential Procedures are based on Georgia's Rules and Regulations for Water Quality Control (Rules), Chapter 391-3-6-.06(4)(d)5. The chemical specific and biomonitoring data and other pertinent information in EPD's files will be considered in accordance with the review procedures specified in the Rules in the evaluation of a permit application and in the evaluation of the reasonable potential for an effluent to cause an exceedance in the numeric or narrative criteria.

A Reasonable Potential Analysis was performed on the data submitted with the application and the results of those analyses are stated below in the following sections.

EPD evaluated the data provided in the application and supporting documents. If a pollutant is listed below, EPD determined it was a pollutant of concern and there may be a reasonable potential to cause or contribute to an instream violation of the GA Water Quality Standards. If a pollutant is not listed below, EPD determined that the pollutant is not a pollutant of concern or has determined, based on the data provided in the application, there is no reasonable potential to cause or contribute to an instream violation of the GA Water Quality Standards. An example would be if the applicant reported "not detect," "below detection limit," or a value that was below the detection limit for a pollutant.

4.2 Whole Effluent Toxicity

Chronic WET test measures the effect of wastewater on indicator organisms' growth, reproduction and survival. Effluent toxicity is predicted when the No Observable Effect Concentrations for a test organism is less than the facility's Instream Wastewater Concentration.

Chronic WET testing for *Ceriodaphnia dubia* and *Pimephales promelas* was conducted in September 2018 on the effluent discharged from Outfall 01.

Results of the all aquatic biomonitoring tests indicated no statistically significant effect on survival for *C. dubia* at up to 68% and no statistically significant effect on reproduction at up to 17%. For *P. promelas* the NOEC for both survival and growth is 68%. The NOEC for all parameters was above the IWC; hence no toxic effects were detected.

EPD has made a Best Professional Judgement (BPJ) determination based on the facility characteristics that the facility will be required to conduct one WET test with the next permit application and conduct one additional WET test during the term of the permit.

4.3 Applicable Water Quality and Technology Based Effluent Limitations

Water Quality Based Effluent Limits (WQBELs)

When drafting a National Pollutant Discharge Elimination System (NPDES) permit, a permit writer must consider the impact of the proposed discharge on the quality of the receiving water. Water quality goals for a waterbody are defined by state water quality standards. By analyzing the effect of a discharge on the receiving water, a permit writer could find that technology-based effluent limitations (TBELs) alone will not achieve the applicable water quality standards. In such cases, the Clean Water Act (CWA) and its implementing regulations require development of water quality-based effluent limitations (WQBELs). WQBELs help meet the CWA objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters and the goal of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water (*fishable/swimmable*).

WQBELs are designed to protect water quality by ensuring that water quality standards are met in the receiving water and downstream uses are protected. On the basis of the requirements of Title 40 of the *Code of Federal Regulations* (CFR) 125.3(a), additional or more stringent effluent limitations and conditions, such as WQBELs, are imposed when TBELs are not sufficient to protect water quality.

The term *pollutant* is defined in CWA section 502(6) and § 122.2. Pollutants are grouped into three categories under the NPDES program: conventional, toxic, and nonconventional. Conventional pollutants are those defined in CWA section 304(a)(4) and § 401.16 (BOD_5, TSS, fecal coliform, pH, and oil and grease). Toxic (priority) pollutants are those defined in CWA section 307(a)(1) and include 126 metals and manmade organic compounds. Nonconventional pollutants are those that do not fall under either of the above categories (conventional or toxic pollutants) and include parameters such as chlorine, ammonia, nitrogen, phosphorus, chemical oxygen demand (COD), and whole effluent toxicity (WET).

Applicable Technology Based Effluent Limits (TBELs)

Technology-based effluent limitations aim to prevent pollution by requiring a minimum level of effluent quality that is attainable using demonstrated technologies for reducing discharges of pollutants or pollution into the waters of the United States. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and water quality-based effluent limitations. The NPDES regulations at Title 40 of the Code of Federal Regulations 125.3(a) require NPDES permit writers to develop technology-based treatment requirements, consistent with CWA section 301(b), that represent the minimum level of control that must be imposed in a permit. The regulation also indicates that permit writers must include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality.

For pollutants not specifically regulated by Federal Effluent Limit Guidelines, the permit writer must identify any needed technology-based effluent limitations and utilize best professional judgment to establish technology-based limits or determine other appropriate means to control its discharge if there is a reasonable potential to cause or contribute to a violation of the water quality standards.

4.4 Conventional Pollutants

Pollutants of Concern	Outfall Number	Basis
pH	01, 01E	WQBEL The instream waste concentration is 13.2%. When the instream waste concentration is below 50%, there is no reasonable potential to cause or contribute to a violation of the instream Georgia Water Quality Standard for pH; therefore a limit of 6.0 s.u. – 9.0 s.u has been added.
		TBEL A pH effluent limit of 6.0 – 9.0 s.u. is required in accordance with 40 CFR 423.12(b)(1) Best Practicable Control Technology Currently Available (BPT).
	03A, 03B	WQBEL The instream waste concentration is 99.9%. When the instream waste concentration is above 50%, it results in a reasonable potential to cause or contribute to a violation of the instream Georgia Water Quality Standard for pH; therefore, a limit of 6.0 s.u. – 8.5 s.u. has been added.
		TBEL A pH effluent limit of 6.0 – 9.0 s.u. is required in accordance with 40 CFR 423.12(b)(1) Best Practicable Control Technology Currently Available (BPT).
	04	WQBEL The instream waste concentration is 4.05%. When the instream waste concentration is below 50%, there is no reasonable potential to cause or contribute to a violation of the instream Georgia Water Quality Standard for pH; therefore a limit of 6.0 s.u. – 9.0 s.u has been added.
		TBEL There is no applicable federal technology based effluent limit.

	05, 06	WQBEL Given the nature of the discharge, there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for pH.
		TBEL There is no applicable federal technology based effluent limit.
5-Day Biochemical Oxygen Demand	01, 01E, 03A, 03B, 04, 05, 06	WQBEL The wasteload allocation received on August 06, 2018 indicated no BOD_5 monitoring or effluent limitations were necessary for the facility's discharge.
		TBEL There is no applicable federal technology based effluent limit.
Total Suspended Solids	01, 01E	WQBEL Georgia has a narrative Water Quality Standard for total suspended solids. A narrative permit condition stating, "there shall be no floating solids, oil, scum or visible foam other than in trace amounts" has been added.
		TBEL The final plant discharge consists of several different commingled wastestreams and when applicable, limits have been applied at internal outfalls for individual wastestreams prior to commingling.
	01C	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL Effluent limitations of 30.0 mg/L daily average and 100.0 mg/L daily maximum have been included in the permit at Internal Outfall 01C. See Section 5.2 for further discussion.
	02A	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL Flow-weighted effluent limitations of 30.0 mg/L daily average and 98.1 mg/L daily maximum have been included in the permit based on the applicable TBELs of the commingled wastestreams. See Section 4.8.a for further discussion.

02F, 02G, 03H, 03J, 03K	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
	TBEL A 30.0 mg/L daily average effluent limit and a 100.0 mg/L daily maximum effluent limit is required for low volume waste in accordance with 40 CFR 423.12(b)(3) Best Practicable Control Technology Currently Available (BPT). Effluent limitations for Units 1&2 Cooling Tower Basin Cleaning Waste (Internal Outfall Nos. 02F and 02G) are applied at the discharge from Internal Outfall No. 02A after commingling at the Units 1&2 Wastewater Basin.
02E	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
	TBEL A 30.0 mg/L daily average effluent limit and a 100.0 mg/L daily maximum effluent limit is required for metal cleaning wastes in accordance with 40 CFR 423.12(b)(5) Best Practicable Control Technology Currently Available (BPT).
02P	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
	TBEL A 30.0 mg/L daily average effluent limit and a 100.0 mg/L daily maximum effluent limit is required for FGD wastewater in accordance with 40 CFR 423.12(b)(11) Best Practicable Control Technology Currently Available (BPT).
02Q	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
	TBEL An instantaneous maximum of 50 mg/L is required for coal pile runoff in accordance with 40 CFR 423.12(b)(9) Best Practicable Control Technology Currently Available (BPT). TBELs have been applied at internal outfall 02A after commingling and cotreatment with other facility wastestreams. See Section 4.8.a for further discussion.

	03A, 03B	WQBEL Georgia has a narrative Water Quality Standard for total suspended solids. A narrative permit condition stating, "there shall be no floating solids, oil, scum or visible foam other than in trace amounts" has been added.
		TBEL Effluent limitations of 30.0 mg/L daily average and 100.0 mg/L daily maximum have been included in the permit at External Outfalls 03A and 03B. See Section 5.2 for further discussion.
	04, 05, 06	WQBEL Georgia has a narrative Water Quality Standard for total suspended solids. A narrative permit condition stating, "there shall be no floating solids, oil, scum or visible foam other than in trace amounts" has been added.
		TBEL There is no applicable federal technology based effluent limit.
Oil and Grease	01, 01E	WQBEL Georgia has a narrative Water Quality Standard for oil and grease. A narrative permit condition stating, "there shall be no floating solids, oil, scum or visible foam other than in trace amounts" has been added.
		TBEL The final plant discharge consists of several different commingled wastestreams and when applicable, limits have been applied at internal outfalls for individual wastestreams prior to commingling.
	01C	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL Effluent limitations of 15.0 mg/L daily average and 20.0 mg/L daily maximum have been included in the permit at Internal Outfall 01C. See Section 5.2 for further discussion.
	02A	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL Flow-weighted effluent limitations of 14.5 mg/L daily average and 19.3 mg/L daily maximum have been included in the permit

	based on the applicable TBELs of the commingled wastestreams. See Section 4.8.a for further discussion.
02F, 02G 3H, 03J, 03K	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
	TBEL A 15.0 mg/L daily average effluent limit and a 20.0 mg/L daily maximum effluent limit is required for low volume waste in accordance with 40 CFR 423.12(b)(3) Best Practicable Control Technology Currently Available (BPT). Effluent limitations for Units 1&2 Cooling Tower Basin Cleaning Waste (Internal Outfall Nos. 02F and 02G) are applied at the discharge from Internal Outfall No. 02A after commingling at the Units 1&2 Wastewater Basin.
02E	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
	TBEL A 15.0 mg/L daily average effluent limit and a 20.0 mg/L daily maximum effluent limit is required for metal cleaning wastes in accordance with 40 CFR 423.12(b)(5) Best Practicable Control Technology Currently Available (BPT).
02P	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
	TBEL A 15.0 mg/L daily average effluent limit and a 20.0 mg/L daily maximum effluent limit is required for FGD wastewater in accordance with 40 CFR 423.12(b)(11) Best Practicable Control Technology Currently Available (BPT).
03A, 03B	WQBEL Georgia has a narrative Water Quality Standard for oil and grease. A narrative permit condition stating, "there shall be no floating solids, oil, scum or visible foam other than in trace amounts" has been added.
	TBEL Effluent limitations of 15.0 mg/L daily average and 20.0 mg/L daily maximum have been included in the permit at External Outfalls 03A and 03B. See Section 5.2 for further discussion.

	04, 05, 06	WQBEL Georgia has a narrative Water Quality Standard for oil and grease. A narrative permit condition stating, "there shall be no floating solids, oil, scum or visible foam other than in trace amounts" has been added. TBEL There is no applicable federal technology based effluent limit.

4.5 Nonconventional Pollutants

Pollutants of Concern	Outfall Number	Basis
Temperature	01, 01E	WQBEL Georgia has a numeric Water Quality Standard of 90 °F for maximum temperature and a +Δ5 °F temperature differential (391-3-6-.03(6)(a)(v)). EPD has designated a mixing zone for temperature that is defined as the segment of river extending 80 feet downstream from the point of discharge with a width of 40 feet in accordance with 391-3-6-.03(10). See Section 5.5 for further discussion on the mixing zone. TBEL There is no applicable federal technology based effluent limit.
Total Phosphorus, Orthophosphate, as P	01, 01E, 03A, 03B, 04, 05, 06	WQBEL Per the *Strategy for Addressing Phosphorus in NPDES Permitting (2011)* (the Strategy is available to review on EPD's website) all routine permit reissuances for facilities with the reasonable potential for phosphorus in their discharge must include phosphorus monitoring. Based on the data submitted in the application, there is no reasonable potential for phosphorus to cause or contribute to a violation of Georgia Water Quality Standards. Furthermore, the wasteload allocation indicated that no limits were necessary to comply with the site-specific numeric phosphorus loading restrictions to West Point Lake. Neither monitoring nor an effluent limit for phosphorus or orthophosphate has been included in the permit. TBEL There is no applicable federal technology based effluent limit.

Nitrate/Nitrite, as N	02P	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL Upon completion of the implementation schedule discussed in Section 5.3, a 4.4 mg/L daily average effluent limit and a 17.0 mg/L daily maximum effluent limit is required for FGD wastewater in accordance with 40 CFR 423.13(g)(1)(i) Best Available Technology Economically Achievable (BAT).
Ammonia, Organic Nitrogen, Total Kjeldahl Nitrogen, Nitrate/Nitrite, as N	01, 01E	WQBEL The reasonable potential analysis shows a predicted instream ammonia concentration of 15% of the instream toxicity criteria. Per the *Ammonia Reasonable Potential Analysis Procedure for NPDES Permits (2017)*, if the calculated instream calculation is less than 50% of the applicable site-specific instream criteria, then ammonia will not be considered present at levels of concern and EPD will not include a numeric effluent limit or monitoring requirement for ammonia. In addition, no effluent limitation or monitoring has been included for the following nitrogen containing constituents: organic nitrogen, total Kjeldahl nitrogen, and nitrate-nitrite.
		TBEL There is no applicable federal technology based effluent limit.
Total Residual Chlorine	01A, 01B, 01H, 01I, 01J, 01K	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL Monitoring has been included in the permit for total residual chlorine in order to ensure compliance with the FAC/TRC discharge limitations in 40 CFR 423.13(d)(2) Best Available Technology Economically Achievable (BAT) for cooling tower blowdown.
	05, 06	WQBEL Chlorine is not utilized for intake screen cleaning/ maintenance; therefore, the recommended TRC limit included in the wasteload allocation is not applicable.
		TBEL There is no applicable federal technology based effluent limit.

Free Available Chlorine	01A, 01B, 01H, 01I, 01J, 01K	WQBEL Georgia does not have Water Quality Standards for internal outfalls. TBEL A daily average of 0.2 mg/L and a daily maximum of 0.5 mg/L has been included in the permit in accordance with 40 CFR 423.13(d)(1) Best Available Technology Economically Achievable (BAT) for cooling tower blowdown.
FAC/TRC Discharge Time	01A, 01B, 01H, 01I, 01J, 01K	WQBEL Georgia does not have Water Quality Standards for internal outfalls. TBEL In accordance with 40 CFR 423.13(d)(2) Best Available Technology Economically Achievable (BAT) for cooling tower blowdown, neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge these materials at any one time. The facility has demonstrated the need for periodic continuous chlorination of the service water system in order to prevent biofouling caused by Asiatic Clams (*Corbicula fluminea*) and Zebra Mussels (*Dreissena polymorpha*). EPD has approved a set of alternate macrofouling, biofouling, corrosion and deposition control measures outlined in the Best Management Practices Plan – Plant Wansley (*Revised March 2018*). Contingent upon the implementation of the BMP Plan, the FAC/TRC Discharge time requirements are waived during periods of continuous chlorination of the service water system.
Total Dissolved Solids	03A, 03B	WQBEL There is no Georgia Water Quality Standard for Total Dissolved Solids. EPD has included monitoring requirements when there is a discharge from this outfall in order to characterize the emergency discharge. TBEL There is no applicable federal technology based effluent limit.
Bromide	001	WQBEL Georgia does not have a numeric Water Quality Standard for bromide. Bromide has however been identified as a potential pollutant of concern when present at high concentrations in the source water of a drinking water treatment plant due to the potential formation of carcinogenic disinfection by-products (DBPs).

		While bromide, was not identified above the detection limit in the sampling conducted for the application, bromide has been identified as a common pollutant present in FGD wastewater discharges. Georgia EPD identified the LaGrange drinking water system (GA2850001) as the closest surface water intake downstream of Plant Wansley. The surface water intake is located on West Point Lake more than 25 miles downstream of Plant Wansley. Review of the past five (5) years of compliance monitoring indicated no violations of the MCLs established in the Stage 2 Disinfection Byproducts Rule; hence, EPD has not included bromide monitoring in the permit.
		TBEL There is no applicable federal technology based effluent limit.

4.6 Toxics & Manmade Organic Compounds (126 priority pollutants and metals)

Pollutants of Concern	Outfall Number	Basis
126 Priority Pollutants	01A, 01B, 01H, 01I, 01J, 01K	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL In accordance with 40 CFR 423.13(d)(1) Best Available Technology Economically Achievable (BAT) for cooling tower blowdown all 126 priority pollutants contained in chemicals added for cooling tower maintenance, except chromium, total and zinc, total shall be non-detectable.
Chromium, Total	01A, 01B, 01H, 01I, 01J, 01K	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL A daily average of 0.2 mg/L and a daily maximum of 0.2 mg/L has been included in the permit in accordance with 40 CFR 423.13(d)(1) Best Available Technology Economically Achievable (BAT) for cooling tower blowdown.
	03A, 03B	WQBEL The results of the reasonable potential analysis indicated there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for chromium.

		EPD has included monitoring requirements when there is a discharge from this outfall in order to characterize the emergency discharge.
		TBEL There is no applicable federal technology based effluent limit.
Zinc, Total	01A, 01B, 01H, 01I, 01J, 01K	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL A daily average of 1.0 mg/L and a daily maximum of 1.0 mg/L has been included in the permit in accordance with 40 CFR 423.13(d)(1) Best Available Technology Economically Achievable (BAT) for cooling tower blowdown.
	03A, 03B	WQBEL The results of the reasonable potential analysis indicated there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for zinc. EPD has included monitoring requirements when there is a discharge from this outfall in order to characterize the emergency discharge.
		TBEL There is no applicable federal technology based effluent limit.
Copper, Total	02E	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL A 1.0 mg/L daily average effluent limit and a 1.0 mg/L daily maximum effluent limit is required for metal cleaning wastes in accordance with 40 CFR 423.13(e) Best Available Technology Economically Achievable (BAT).
	03A, 03B	WQBEL The results of the reasonable potential analysis indicated there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for copper. EPD has included monitoring requirements when there is a discharge from this outfall in order to characterize the emergency discharge.
		TBEL There is no applicable federal technology based effluent limit.

Iron, Total	02E	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL A 1.0 mg/L daily average effluent limit and a 1.0 mg/L daily maximum effluent limit is required for metal cleaning wastes in accordance with 40 CFR 423.13(e) Best Available Technology Economically Achievable (BAT).
Selenium, Total	02P	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL Upon completion of the implementation schedule discussed in Section 5.3, a 12 µg/L daily average effluent limit and a 23 µg/L daily maximum effluent limit is required for FGD wastewater in accordance with 40 CFR 423.13(g)(1)(i) Best Available Technology Economically Achievable (BAT).
	03A, 03B	WQBEL A 5.0 µg/L daily average effluent limit and a 7.5 µg/L daily maximum effluent limit has been added to the permit based on the reasonable potential analysis. The daily maximum was calculated by multiplying the daily average concentration by 1.5. Equivalent mass-based effluent limits of 0.316 lbs/day daily average and 0.473 lbs/day daily maximum have been included as well.
		TBEL There is no applicable federal technology based effluent limit.
Arsenic, Total	02P	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL Upon completion of the implementation schedule discussed in Section 5.3, a 8 µg/L daily average effluent limit and a 11 µg/L daily maximum effluent limit is required for FGD wastewater in accordance with 40 CFR 423.13(g)(1)(i) Best Available Technology Economically Achievable (BAT).
	03A, 03B	WQBEL The results of the reasonable potential analysis indicated there is no reasonable potential to cause or contribute to an instream

		violation of the Georgia Water Quality Standard for arsenic. EPD has included monitoring requirements when there is a discharge from this outfall in order to characterize the emergency discharge.
		TBEL There is no applicable federal technology based effluent limit.
Mercury, Total	02P	WQBEL Georgia does not have Water Quality Standards for internal outfalls.
		TBEL Upon completion of the implementation schedule discussed in Section 5.3, a 356 ng/L daily average effluent limit and a 788 ng/L daily maximum effluent limit is required for FGD wastewater in accordance with 40 CFR 423.13(g)(1)(i) Best Available Technology Economically Achievable (BAT).
	03A, 03B	WQBEL A 0.012 µg/L daily average effluent limit and a 0.018 µg/L daily maximum effluent limit has been added to the permit based on the reasonable potential analysis. The daily maximum was calculated by multiplying the daily average concentration by 1.5. Equivalent mass-based effluent limits of 0.001 lbs/day daily average and 0.001 lbs/day daily maximum have been included as well.
		TBEL There is no applicable federal technology based effluent limit.
Lead, Total	03A, 03B	WQBEL The results of the reasonable potential analysis indicated there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for lead. EPD has included monitoring requirements when there is a discharge from this outfall in order to characterize the emergency discharge.
		TBEL There is no applicable federal technology based effluent limit.

Cadmium, Total	03A, 03B	WQBEL The results of the reasonable potential analysis indicated there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for cadmium. EPD has included monitoring requirements when there is a discharge from this outfall in order to characterize the emergency discharge.
		TBEL There is no applicable federal technology based effluent limit.
Nickel, Total	03A, 03B	WQBEL The results of the reasonable potential analysis indicated there is no reasonable potential to cause or contribute to an instream violation of the Georgia Water Quality Standard for nickel. EPD has included monitoring requirements when there is a discharge from this outfall in order to characterize the emergency discharge.
		TBEL There is no applicable federal technology based effluent limit.

4.7 Calculations for Water Quality Based Effluent Limits

4.7.a Instream Waste Concentration (IWC)

Outfall Nos. 01 & 01E

$$IWC = \frac{\text{Effluent Flow (gal/day)}}{\text{Effluent Flow (gal/day)} + 7Q10\text{ (gal/day)}}$$

$$IWC = \frac{117{,}839{,}520\text{ (gal/day)}}{(117{,}839{,}520\text{ (gal/day)} + 772{,}941{,}312\text{ (gal/day)})}$$

IWC = 0.132 or 13.2%

Outfall Nos. 03A & 03B

$$IWC = \frac{\text{Effluent Flow (gal/day)}}{\text{Effluent Flow (gal/day)} + 7Q10\text{ (gal/day)}}$$

$$IWC = \frac{7{,}560{,}000\text{ (gal/day)}}{(7{,}560{,}000\text{ (gal/day)} + 7{,}109\text{ (gal/day)})}$$

IWC = 0.999 or 99.9%

Outfall No. 04

$$IWC = \frac{\text{Effluent Flow (gal/day)}}{\text{Effluent Flow (gal/day)} + 7Q10\text{ (gal/day)}}$$

$$IWC = \frac{7{,}200\text{ (gal/day)}}{(7{,}200\text{ (gal/day)} + 170{,}616\text{ (gal/day)})}$$

IWC = 0.0405 or 4.05%

Outfall No. 05

$$IWC = \frac{\text{Effluent Flow (gal/day)}}{\text{Effluent Flow (gal/day)} + 7Q10\text{ (gal/day)}}$$

$$IWC = \frac{220{,}000\text{ (gal/day)}}{(220{,}000\text{ (gal/day)} + 772{,}941{,}312\text{ (gal/day)})}$$

IWC = 0.00028 or 0.028%

Outfall No. 06

$$IWC = \frac{\text{Effluent Flow (gal/day)}}{\text{Effluent Flow (gal/day)} + 7Q10\text{ (gal/day)}}$$

$$IWC = \frac{2{,}160{,}000\text{ (gal/day)}}{(2{,}160{,}000\text{ (gal/day)} + 170{,}616\text{ (gal/day)})}$$

IWC = 0.927 or 92.7%

4.8 Technology Based Effluent Limitation Calculations

There are several ways to calculate TBELs when developing case-by-case limitations. EPD can use an approach consistent with the statistical approach EPA has used to develop effluent guidelines or they can utilize several other mathematically and statistically accepted approaches depending on characteristics of the data. In general, EPD utilizes EPA's "NPDES Permit Writer Manual," September 2010, Section 5.2.3, "Case-by-Case TBELs for Industrial Dischargers" and EPA's "Technical Support Document for Water Quality Based Toxic Control," March 1991, Section 5.2, "Basis Principles of Effluent Variability," as guidance to develop limits.

If applicable, when there is no federal technology based effluent limit EPD evaluates the effluent data, operating records and discharge monitoring reports to calculate the long term average for the parameter. The long term average is then used to derive the effluent limits.

EPD recognizes there are several ways to calculate technology based limits and, when applicable, may deviate from the general practice.

4.8.a TBEL Calculations for Commingled Wastestreams

The commingling of several regulated and unregulated wastestreams prior to treatment necessitates the use of flow-weighted concentration based effluent limits at internal outfall 02A. The contributing wastestreams and their associated average flow values are shown below along with their respective effluent limitations. Please refer to Appendix F of the fact sheet for the flow-weighted calculations.

Total Suspended Solids

Outfall ID	Contributing Wastestream	Average Flow (MGD)	Daily Average (mg/L)	Daily Maximum (mg/L)
02Q	Coal Pile Runoff (combined)[2]	0.0432	30	50
02D	Coal Handling STP[1]	0.00432	30	45
02E	Chemical Metal Cleaning Waste[3]	N/A	30.0	100.0
02F	CT Basin Waste[3]	N/A	30.0	100.0
02G	CT Basin Waste[3]	N/A	30.0	100.0
02H	Service Bldg STP[1]	0.010	30	45
--	Low Volume Waste	1.532	30.0	100.0

[1] There are no applicable technology based effluent limitations for sanitary wastewater; however, TSS is expected to be present in the wastestream. Credit for the sanitary wastewater has been set equivalent to the secondary treatment standards for sanitary wastewater established in 40 CFR 133 based on EPD's best professional judgement.

[2] The effluent guidelines for coal pile runoff do not establish a daily average or daily maximum effluent limitation but rather an instantaneous maximum of 50 mg/L. EPD has made the conservative decision to set the instantaneous maximum equivalent to the daily maximum for the flow-weighted calculations. Additionally, a daily average credit of 30 mg/L has been applied based on EPD's best professional judgement.

[3] Due to the intermittent and infrequent nature of the discharges from Outfalls 02E, 02F, and 02G, EPD has made the conservative decision to not include the discharge in the flow-weighted calculations.

Oil and Grease

Outfall ID	Contributing Wastestream	Average Flow (MGD)	Daily Average (mg/L)	Daily Maximum (mg/L)
02Q	Coal Pile Runoff (combined)	0.0432	0	0
02D	Coal Handling STP[1]	0.00432	0	0
02E	Chemical Metal Cleaning Waste[2]	N/A	15.0	20.0
02F	CT Basin Waste[2]	N/A	15.0	20.0
02G	CT Basin Waste[2]	N/A	15.0	20.0
02H	Service Bldg STP[1]	0.010	0	0
--	Low Volume Waste	1.532	15.0	20.0

[1] There are no applicable technology based effluent limitations for sanitary wastewater and significant contributions of oil and grease are not expected. Sanitary wastewater will be considered a dilute wastestream for oil and grease based on EPD's best professional judgement.

[2] Due to the intermittent and infrequent nature of the discharge from Outfall 03F, EPD has made the conservative decision to not include the discharge in the flow-weighted calculations.

4.9 Comparison & Summary of Water Quality vs. Technology Based Effluent Limits

After preparing and evaluating applicable technology-based effluent limitations and water quality-based effluent limitations, the most stringent limits are applied in the permit. Pollutants of concern with an effluent limit of monitor and report are not included in the below table.

4.9.a External Outfalls 01 and 01E

Parameter	WQBELs	TBELs	Explanation
Downstream Temperature (°F)	90	None	WQBEL – WQS
Delta Temperature (°F)	+Δ5	None	WQBEL – WQS
pH (s.u.)	6.0 – 9.0	6.0 – 9.0	WQBEL/TBEL

4.9.b Internal Outfalls 01A, 01B, 01H, 01I, 01J, 01K

Parameter	WQBELs	TBELs	Explanation
Free Available Chlorine (mg/L)	N/A	0.2/0.5	TBEL – ELG
FAC/TRC Discharge Time (minutes/day/unit)	N/A	120	TBEL – ELG
Chromium, Total (mg/L)	N/A	0.2/0.2	TBEL – ELG
Zinc, Total (mg/L)	N/A	1.0/1.0	TBEL – ELG
126 Priority Pollutants (mg/L)	N/A	Non-Detect	TBEL – ELG

4.9.c Internal Outfall 01C

Parameter	WQBELs	TBELs	Explanation
Total Suspended Solids (mg/L)	N/A	30.0/100.0	TBEL – ELG
Oil and Grease (mg/L)	N/A	15.0/20.0	TBEL – ELG

4.9.d Internal Outfall 02A

Parameter	WQBELs	TBELs	Explanation
Total Suspended Solids (mg/L)	N/A	30.0/98.1	TBEL – ELG
Oil and Grease (mg/L)	N/A	14.5/19.3	TBEL – ELG

4.9.e Internal Outfall 02E

Parameter	WQBELs	TBELs	Explanation
Total Suspended Solids (mg/L)	N/A	30.0/100.0	TBEL – ELG
Oil and Grease (mg/L)	N/A	15.0/20.0	TBEL – ELG
Copper, Total (mg/L)	N/A	1.0/1.0	TBEL – ELG
Iron, Total (mg/L)	N/A	1.0/1.0	TBEL – ELG

4.9.f Internal Outfall 02P

Parameter	WQBELs	TBELs	Explanation
Total Suspended Solids (mg/L)	N/A	30.0/100.0	TBEL – ELG
Oil and Grease (mg/L)	N/A	15.0/20.0	TBEL – ELG
Arsenic, Total (µg/L)	N/A	8/11	TBEL – ELG
Mercury, Total (ng/L)	N/A	356/788	TBEL – ELG
Selenium, Total (µg/L)	N/A	12/23	TBEL – ELG
Nitrate/Nitrite, as N (mg/L)	N/A	4.4/17.0	TBEL – ELG

4.9.g External Outfalls 03A and 03B

Parameter	WQBELs	TBELs	Explanation
Total Suspended Solids (mg/L)	Narrative	30.0/100.0	WQBEL & TBEL
Oil and Grease (mg/L)	Narrative	15.0/20.0	WQBEL & TBEL
Selenium, Total (µg/L)	5.0/7.5	None	WQBEL – WQS
Selenium, Total (lbs/day)	0.316/0.473	None	WQBEL – WQS
Mercury, Total (µg/L)	0.012/0.018	None	WQBEL – WQS
Mercury, Total (lbs/day)	0.001/0.001	None	WQBEL – WQS
pH (s.u.)	6.0 – 8.5	6.0 – 9.0	WQBEL – WQS

4.9.h Internal Outfall 03H, 03J, 03K

Parameter	WQBELs	TBELs	Explanation
Total Suspended Solids (mg/L)	N/A	30.0/100.0	TBEL – ELG
Oil and Grease (mg/L)	N/A	15.0/20.0	TBEL – ELG

4.9.i External Outfall 04

Parameter	WQBELs	TBELs	Explanation
pH (s.u.)	6.0 – 9.0	None	WQBEL – WQS

5.0 OTHER PERMIT REQUIREMENTS AND CONSIDERATIONS

5.1 Special Conditions

a. Total Residual Chlorine/Free Available Chorine

i. Neither free available chlorine (FAC) nor total residual chlorine (TRC) may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge these materials at any one time unless the permittee can demonstrate to and get written authorization from the EPD Director that the units in a particular location cannot operate at or below this level of chlorination.

ii. The free available chlorine (FAC) average and total residual chlorine (TRC) average means the average over any individual chlorine or oxidant release period which does not exceed two hours per day per unit. The FAC and TRC maximum is the instantaneous maximum which may occur at any time. The results shall be reported in a suitably concise form beginning with the first scheduled Discharge Monitoring Report & Operation Monitoring Report (OMR) and continuing thereafter.

iii. If bromine or a combination of bromine and chlorine is utilized for control of biofouling, limitations for TRC and FAC shall be applicable to TRO (Total Residual Oxidants) and FAO (Free Available Oxidants). There is no difference in test methods between TRC/FAC and TRO/FAO.

iv. The permittee has demonstrated the need for periodic continuous chlorination of the service water system in order to prevent biofouling caused by Asiatic Clams (*Corbicula fluminea)* and Zebra Mussels (*Dreissena polymorpha*). The permittee shall follow the macrofouling, biofouling, corrosion, and deposition control measures approved by EPD and outlined in the *Best Management Practices Plan – Plant Wansley (Revised March 2018)*, or any subsequent documents approved by the EPD. The special conditions outlined in Part III.C.1.a and enumerated as effluent limitations for FAC/TRC Discharge Time in Part I.A.2 are waived during periods of continuous chlorination of the service water system.

b. No Discharge of Polychlorinated Biphenyl Compounds

There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

c. §316(b) of the Clean Water Act (CWA) & Cooling Water Intake Structures

i. Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act.

ii. The permittee shall operate a closed-cycle recirculating system as their chosen BTA standard for impingement mortality and entrainment. The permittee must monitor the actual intake flows at a minimum frequency of daily. The monitoring must be representative of normal operating conditions, and must include measuring cooling water withdrawals, make-up water, and blow down volume. In lieu of daily intake flow monitoring the permittee may monitor the cycles of concentration at a minimum frequency of daily. Monitoring will be included in the OMR and submitted in accordance with Part I.D of the permit.

iii. The permittee must either conduct visual inspections or employ remote monitoring devices on at least a quarterly basis during the period in which the cooling water intake structure is in operation. Such inspections must ensure that the cooling towers operated to comply with 40 CFR 125.94 (impingement mortality and entrainment requirements) are maintained and operated to function as designed. The permittee must prepare an inspection report documenting the inspections or monitoring and the inspection report shall be submitted as an attachment to the DMR in accordance with Part I.D of the permit. The inspection report shall contain the following minimum elements:

1. Date, time, and location of the inspection or remote monitoring;

2. Water withdrawal rate during the time of the inspection;

3. Equipment/Technology identified as needing maintenance, repair or replacement, if any; and

4. Name(s) and signature(s) of the inspector(s)

An inability to conduct visual inspections or employ remote monitoring devices because of adverse weather conditions during a monitoring period will not constitute failure to monitor as long as those conditions are documented in the inspection report. Documentation of an adverse event interfering with the visual inspections or remote monitoring (with date, time, and written description) must be submitted with the DMR.

iv. The permittee shall submit an annual certification statement signed by the responsible corporate officer certifying either; no substantial operational changes have occurred at the facility that impact cooling water withdrawals or operation of the cooling water intake structures, or that substantial modifications have occurred. The certification statement should be submitted as an attachment to the DMR due June 15th.

1. If the information contained in the previous year's annual certification is still pertinent, the permittee may simply state as such in a letter to the Director and the letter shall constitute the annual certification.

2. If substantially modified operation of any unit has occurred at the facility that impacts cooling water withdrawals or operation of the cooling water intake structures, the permittee shall provide a summary of those changes in the report. In addition, revisions to the information required at 40 CFR 122.21(r) must be submitted with the next permit application.

v. The permittee shall retain records of all submissions related to the permit application and permit conditions outlined in Part III.C.3 of this permit until the subsequent permit has been issued.

vi. The permittee may in subsequent permit applications, request to reduce the information required in the 40 CFR 122.21(r) permit application studies, if conditions at the facility and in the waterbody remain substantially unchanged since the previous application so long as the relevant previously submitted information remains representative of current source water, intake structure, cooling water system, and operating conditions. The permittee must submit its request for reduced cooling water intake structure and waterbody application information to the Director at least two years and six months prior to the expiration of its NPDES permit. The permittee's request must identify each element in this subsection that it determines has not substantially changed since the previous permit application and the basis for the determination.

d. Annual Certifications

The permittee shall certify annually that none of the 126 priority pollutants listed in Appendix A of 40 CFR 423 and contained in chemicals added for cooling tower maintenance, excluding chromium and zinc, are above detectable limits in internal outfall numbers 01A, 01B, 01H, 01I, 01J, and 01K. This certification may be based on manufacturers certifications or engineering calculations. Additionally, a certification that chromium and/or zinc are below detectable limits may be used in lieu of the monitoring required in Part I.A.2 of the permit. Such certifications shall be submitted as part of the June OMR in accordance with Part I.D of the permit.

e. 40 C.F.R. Part 423 Steam Electric Power Generating Point Source Category

The permittee is subject to the EPA's 40 CFR Part 423 regulation for existing facilities. The permittee must comply with the new federal regulations as described in 40 CFR 423 for the flue gas desulfurization water, 40 CFR 423.1(g), fly ash transport water, 40 CFR 423.13(h), and bottom ash transport water, 40 CFR 423.13(k) by December 31, 2023.

On April 25, 2017, EPA published a notice that it would reconsider the 40 CFR § 423 rule and announced a stay of the rule's pending implementation deadlines for the following wastestreams: fly ash transport water, bottom ash transport water, and flue gas desulfurization ("FGD") wastewater. See 82 Fed. Reg. 19005. On September 18, 2017, EPA withdrew the stay of compliance dates and simultaneously postponed the earliest compliance dates for bottom ash transport water and the FGD wastewater in the 2015 Rule for a period of two years, whereas

the revised earliest compliance date has been changed from November 1, 2018 to November 1, 2020. See 82 Fed. Reg. 43494.

Additionally, in the September 18, 2017 rulemaking, EPA announced a decision to conduct a rulemaking to potentially revise the effluent limitations for existing sources in the 2015 rule that applies to bottom ash transport water and FGD wastewater. A proposed rule was published on November 22, 2019 and made available for public comment.

Upon the promulgation of the new 40 CFR § 423 rule, EPD may modify the permit to address the requirements of the revised sections of the rule.

f. Implementation Schedule for Flue Gas Desulfurization (FGD) Wastewater, Fly Ash Transport Water, and Bottom Ash Transport Water

Upon completion of the reconsideration process and promulgation of a new 40 C.F.R. Part 423 rule, EPD may modify the permit to address the requirements of the revised sections of the rule. Additionally, if the revised rule modifies the compliance dates past December 31, 2023, the implementation schedule and deadlines in Part I.A.3, Part I.A.6, and Part III.C.7 of the permit may no longer be applicable and EPD will reevaluate based on the new rule. Until the reconsideration and promulgation of a new 40 C.F.R. Part 423 rule is final, the permittee will comply with the following permit conditions:

i. Upon the effective date of the permit, there shall be no discharge of pollutants in fly ash transport water.

ii. No later than December 31, 2023, there shall be no discharge of pollutants in bottom ash transport water, except where bottom ash transport water is used in the FGD scrubber. Bottom ash transport water used in the FGD scrubber after the December 31, 2023 implementation date shall achieve compliance with the effluent limitations in Part I.A.6 for arsenic, total; mercury, total; selenium, total; and nitrate/nitrite, as N.

iii. No later than December 31, 2023, the permittee shall achieve compliance with the effluent limitations for FGD wastewater established in Part I.A.6 for arsenic, total; mercury, total; selenium, total; and nitrate/nitrite, as N.

g. Coal Ash Pond Dewatering Plan (Plan)

This facility is not currently undergoing any activities associated with the dewatering of the coal ash ponds. However, there is a potential for dewatering activities to initiate prior to the end of the permit term. EPD is requiring the permittee to submit a Coal Ash Pond Dewatering Plan (Plan) for review and approval at least 90 days prior to starting any coal ash pond dewatering activities. The timeframe will allow EPD the necessary time to review the Plan, conduct a site visit, if necessary, and address any concerns.

Additionally, the Plan must contain at a minimum the following components:

i. Detailed description of the dewatering activities, current volume of wastewater in the ponds to be dewatered, wastewater treatment system components, flow schematics, and appropriate maps of the site;

ii. Detailed description of the process control being installed, measured and maintained, including the effluent quality targets for total suspended solids, pH (s.u.), total residual chlorine, and turbidity (NTU);

iii. Detailed description of the monitoring devices, equipment and associated activities;

iv. At a minimum, once a week representative effluent sampling and monitoring for the following pollutants of concern: pH (s.u.); total suspended solids; biochemical oxygen demand,$_{5\text{-day}}$; oil and grease; turbidity (NTU); total residual chlorine; total dissolved solids; copper, total; selenium, total; arsenic, total; mercury, total; chromium, total; lead, total; cadmium, total; zinc, total; nickel, total; ammonia, as N; total Kjeldahl nitrogen; organic nitrogen; nitrate/nitrite; total phosphorus; orthophosphate, as P; and hardness;

v. At a minimum, twice a month upstream and downstream stream representative sampling for the pollutants of concern listed in Part III.C.7.a.4 (except total residual chlorine).

vi. Description of the sufficiently sensitive analytical methods employed;

vii. Description of data collection, record keeping and reporting to EPD;

viii. Description of the draw down rates to ensure the integrity of the ponds; and

ix. An immediate (within 24 hours) Notification Process and general Corrective Measures Plan if any of the following scenarios should occur during the dewatering activities:

The continuously monitored effluent quality targets for total suspended solids, pH (s.u.), total residual chlorine, or turbidity (NTU) are not achieved and the automatic return system fails resulting in a discharge of wastewater that did not meet the established effluent quality targets; or

EPD will evaluate the submitted data and determine if there is a reasonable potential for the discharge to cause or contribute to a violation of the instream water quality standards and if necessary, may open the permit to include applicable effluent limits to protect the receiving waterbody.

Additionally, upon submittal of the Plan, the permittee shall begin instream sampling to establish background conditions. The permittee shall perform representative sampling upstream and downstream of the permitted outfalls twice per month collected by a grab sample. The stream samples will be analyzed for the pollutants of concern listed in Part III.C.7.a.4 (except total residual chlorine) and meet the requirements in § 40 C.F.R. Part 136.

h. Mixing Zone

The approved thermal mixing zone is defined as the segment of the river extending 80 feet downstream from the point of discharge and extending 40 feet from the right river bank. The downstream sampling location for compliance with the maximum temperature and delta temperature limits outlined in Part I.A.1 of this permit is along the downstream edge of the defined mixing zone. The upstream temperature will be measured outside the influence of the discharge approximately 25 feet upstream.

i. No Detectable Level of Hydrazine

No detectable level of Hydrazine is allowed in Outfall 01. The permittee shall certify this through either sampling or review and certification of best management practices. This certification shall be submitted annually in accordance with the reporting requirements in Part I.D of this permit and when requested by EPD.

j. Inventory of Water Chemicals

The permittee shall submit to EPD annually a current inventory of all water treatment chemicals, other than chlorine, discharged to State waters during the previous 12 months. This includes, but is not limited to, microbiocides, corrosion inhibitors, and dispersants. These chemicals shall be used and disposed of in accordance with the manufacturer's instructions unless other requirements are imposed by EPD.

5.2 Regulatory Status During Permit Reissuance

On January 4, 2016, the final rule, 40 CFR Part 423 became effective. As described in EPA's Fact Sheet, "the final rule phases in the new, more stringent requirements in the form of effluent limits for arsenic, mercury, selenium, and nitrate-nitrite for wastewater discharged from wet scrubber systems (flue gas desulfurization wastestream) and zero discharge of pollutants in ash transport water that must be incorporated into the plants' NPDES permits."

On September 18, 2017, EPA announced its intent to conduct a rulemaking to potentially revise certain best available technology economically achievable ("BAT") effluent limitations and pretreatment standards for existing sources ("PSES") for the steam electric power generating point source category. EPA has accordingly postponed the earliest compliance dates for the new, more stringent, BAT effluent limitations and PSES for flue gas desulfurization ("FGD") wastewater and bottom ash transport water in the 2015 Rule for a period of two years.

For existing direct discharge sources, the final rule establishes effluent limitations based on Best Available Technology Economically Achievable (BAT). BAT is based on technological availability, economic achievability, and other statutory factors and is intended to reflect the highest performance in the industry. For this facility, the final rule establishes BAT limitations as follows:

- For fly ash transport water, and bottom ash transport water, there are two sets of BAT limitations. The first set of BAT limitations is a numeric effluent limitation on Total Suspended Solids (TSS) in the discharge of these wastewaters (these limitations are equal to the TSS limitations in the previously established Best Practicable Control Technology Currently Available (BPT) regulations). The second set of BAT limitations is a zero discharge limitation for all pollutants in these wastewaters.

- For FGD wastewater, there are two sets of BAT limitations. The first set of limitations is a numeric effluent limitation on TSS and O&G in the discharge of FGD wastewater (these limitations are equal to the TSS limitations in the previously established BPT regulations for low volume waste). The second set of BAT limitations is numeric effluent limitations on mercury, arsenic, selenium, and nitrate/nitrite as N in the discharge of FGD wastewater.

- The direct discharge limitations in this rule apply only when implemented in an NPDES permit issued to a discharger after the effective date of this rule. Under the CWA, the permitting authority must incorporate these ELGs into NPDES permits as a floor or a minimum level of control. While the rule is effective on its effective date," January 4, 2016, "the rule allows a permitting authority to determine a date when the new effluent limitations for FGD wastewater, fly ash transport water and bottom ash transport water." "The permitting authority must make these final effluent limitations applicable on or after November 1, 2018 for fly ash transport water and on or after November 1, 2020 for bottom ash transport water and FGD wastewater. For any final effluent limitation that is specified to become applicable after November 1, 2018 or November 1, 2020, the specified date must be as soon as possible, but in no case later than December 31, 2023."

In cases where a plant's final NPDES permit will be issued after the effective date of the final ELGs, but before the earliest compliance dates, the permitting authority should apply limitations based on the previously promulgated BPT limitations or the plant's other applicable permit limitations until at least November 1, 2018 for fly ash transport water and November 1, 2020 for bottom ash transport water and FGD wastewater. For permits that are issued on or after November 1, 2018, the permitting authority should determine the earliest possible date that the plant can meet the limitations in this rule (but in no case later than December 31, 2023), and apply the final limitations as of that date (BPT limitations or the plant's other applicable permit limitations would apply until such date).

As specified by the rule, the "as soon as possible" date determined by the permitting authority is November 1, 2018 for fly ash transport water and November 1, 2020 for bottom ash transport water and FGD wastewater, unless the permitting authority determines another date after receiving information submitted by the discharger. Assuming that the permitting authority receives relevant information from the discharger, in order to determine what date is "as soon as possible" within the implementation period, the permitting authority must then consider the following factors:

(a) Time to expeditiously plan (including to raise capital), design, procure, and install equipment to comply with the requirements of the final rule;

(b) Changes being made or planned at the plant in response to greenhouse gas regulations for new or existing fossil fuel-fired power plants under the Clean Air Act, as well as regulations for the disposal of coal combustion residuals under subtitle D of the Resource Conservation and Recovery Act;

(c) For FGD wastewater requirements only, an initial commissioning period to optimize the installed equipment; and

(d) Other factors as appropriate.

On November 22, 2019, EPA published a proposed rule for the revision of BAT limitations for FGD wastewater and bottom ash transport water. This proposed permit does not include elements of the proposed rule, however; upon the promulgation of the new 40 C.F.R. § 423 rule, EPD may modify the permit to address the requirements of the revised sections of the rule. The following language has been included in the proposed permit pending the outcome of the reconsideration process and potential new rule:

"Upon completion of the reconsideration process and promulgation of a new 40 CFR §423 rule, EPD may modify the permit to address the requirements of the revised sections of the rule. Additionally, if the revised rule modifies the compliance dates past December 31, 2023, the implementation schedule and deadlines in Part I.A.3, Part I.A.6 and Part III.C.6 may no longer be applicable and EPD will reevaluate based on the new rule."

A summary of the currently proposed rule changes, as described in the Preamble of the proposed rule have been included below for reference:

For existing sources that discharge directly to surface water, with the exception of the subcategories discussed below, the proposed rule would establish the following effluent limitations based on Best Available Technology Economically Achievable (BAT).

- For flue gas desulfurization wastewater, there are two sets of proposed BAT limitations. The first set of limitations is a numeric effluent limitation on Total Suspended Solids (TSS) in the discharge of FGD wastewater. The second set of BAT limitations comprises numeric effluent limitations on mercury, arsenic, selenium, and nitrate/nitrite as nitrogen in the discharge of FGD wastewater.

- For bottom ash transport water, there are two sets of proposed BAT limitations. The first set of BAT limitations is a numeric effluent limitation on TSS in the discharge of these wastewaters. The second set of BAT limitations is a not-too-exceed 10 percent volumetric purge limitation.

The proposed rule includes separate requirements for the following subcategories: High flow facilities, low utilization boilers, and boilers retiring by 2028. The proposed rule does not seek to change the existing subcategories for oil-fired boilers and small generating units (50 MW or less) from the 2015 rule. For high flow facilities (FGD wastewater flows over

four million gallons per day after accounting for that facility's ability to recycle the wastewater to the maximum limits for the FGD system materials of construction) or low utilization boilers (876,000 MWh per year or less), the proposed rule would establish the second set of BAT limitations in the discharge of FGD wastewater as numeric effluent limitations only on mercury and arsenic (and not on selenium and nitrate/nitrite as nitrogen). For low utilization boilers, the proposed rule would establish BAT limitations for BA transport water for TSS and would also include standards for implementation of a best management practices (BMP) plan. For oil-fired boilers, small boilers (50 MW or less), and boilers retiring by 2028, the proposed rule would establish BAT limitations for TSS in FGD wastewater and bottom ash transport water.

The proposed rule would establish a voluntary incentives program that provides the certainty of more time (until December 31, 2028) for facilities to implement new standards and limitations, if they adopt additional process changes and controls that achieve more stringent limitations on mercury, arsenic, selenium, nitrate/ nitrite, bromide, and total dissolved solids in FGD wastewater. The optional program offers environmental protections beyond those achieved by the proposed BAT limitations, while providing facilities that opt into the program more flexibility (such as additional time) than the current voluntary incentives program.

Where BAT limitations in this rule are more stringent than previously established BPT limitations, the EPA proposes that those limitations do not apply until a date determined by the permitting authority that is as soon as possible on or after November 1, 2020, but that is no later than December 31, 2023 (for BA transport water) or December 31, 2025 (for FGD wastewater).

Regardless of when a facility's NPDES permit is ready for renewal, the EPA recommends that each facility immediately begin evaluating how it intends to comply with the requirements of any final rule. In cases where significant changes in operation are appropriate, the EPA recommends that the facility discuss such changes with its permitting authority and evaluate appropriate steps and a timeline for the changes as soon as a final rule is issued, even prior to the permit renewal process.

In cases where a facility's final NPDES permit is issued before these ELGs are finalized and includes limitations for BA transport water and/ or FGD wastewater from the 2015 rule, EPA recommends such a permit be reopened as soon as practicable and modified consistent with any new rule provisions.

Finally, the preamble of the proposed rule states that EPA plans to address in subsequent rule making action the Fifth Circuit Court's decision in *Southwestern Electric Power Company v. EPA*, 920 F.3.d 999 (5th Cir. April 2019), to vacate and remand for further consideration portions of the final 2015 ELG regulating legacy wastewater and residual combustion leachate.

Given the narrative provided in *Southwestern Electric*, it appears EPA already has the data necessary to propose a revised BAT determination for legacy wastewater and residual combustion leachate, but what that BAT determination will entail is unclear given the considerable flexibility EPA is afforded in weighting each factor that must be considered as part of any BAT determination. It is therefore appropriate to await EPA's response to

the Fifth Circuit's remand and vacatur before imposing any requirements in this permit that could be inconsistent with the forthcoming national standards.

5.3 Best Available Technology Economically Achievable (BAT) Applicability Dates

As specified by the rule, the "as soon as possible" date determined by the permitting authority for the implementation of BAT limitations is November 1, 2018 for fly ash transport water and November 1, 2020 for bottom ash transport water and FGD wastewater, unless the permitting authority determines another date after receiving information submitted by the discharger. Assuming that the permitting authority receives relevant information from the discharger, in order to determine what date is "as soon as possible" within the implementation period, the permitting authority must then consider the following factors:

(a) Time to expeditiously plan (including to raise capital), design, procure, and install equipment to comply with the requirements of the final rule;

(b) Changes being made or planned at the plant in response to greenhouse gas regulations for new or existing fossil fuel-fired power plants under the Clean Air Act, as well as regulations for the disposal of coal combustion residuals under subtitle D of the Resource Conservation and Recovery Act;

(c) For FGD wastewater requirements only, an initial commissioning period to optimize the installed equipment; and

(d) Other factors as appropriate.

Additionally, GA. Comp. R. & Regs. 391-3-6-.06(10)(a) requires the Director to determine the shortest reasonable period of time necessary to achieve such compliance, but in no case later than an applicable statutory deadline. The current federal statutory deadline for the applicable wastestreams is December 31, 2023. The permittee submitted relevant information in a document, entitled "Plant Wansley Effluent Limitation Guidelines Rule Applicability Timing NPDES Permit Application 2018" with the NPDES application.

Plant Wansley has demonstrated that they can comply with the new federal regulations for fly ash transport water upon the effective date of the permit but has requested that the applicable statutory deadline of December 31, 2023 be applied to bottom ash transport water and FGD wastewater based on the factors outlined above. The first three factors are fairly self-explanatory, but the fourth factor serves as a less precise general catch-all for other factors that may be relevant to this determination. EPA has however provided examples of factors that may be appropriate to consider through their statements in the preamble of their final rule postponing the compliance dates for certain effluent limitation guidelines. *(See bullets below)*

- "…the CWA directs EPA to consider several factors, including 'other factors as the Administrator deems appropriate,' and the Agency is afforded considerable discretion in deciding how much weight to give each factor. See, e.g., Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1045 (D.C. Cir. 1978). In this case, where EPA has decided to undertake a new rulemaking,

which may result in substantive changes to the 2015 Rule, that is an appropriate factor to consider and one that warrants the postponement of compliance dates for the new, more stringent BAT and PSES requirements for two wastestreams in the 2015 Rule, until such a rulemaking is complete (i.e., EPA issues any final rule that substantively revises the 2015 Rule or EPA decides not to issue such a final rule). This will prevent the potentially needless expenditure of resources during a rulemaking that may ultimately change the 2015 Rule in these respects."

- "In light of the compliance date postponements being finalized today, in determining the 'as soon as possible date,' EPA believes it would be reasonable for permitting authorities to consider the need for a facility to make integrated planning decisions regarding compliance with the requirements for all of the wastestreams currently subject to new, more stringent requirements in the 2015 Rule, as well as the other rules identified in § 423.11(t) to the extent that a facility demonstrates such a need. This could include harmonizing schedules to the extent provided for under the 2015 Rule for meeting the 2015 Rule requirements for fly ash transport water and FGMC wastewater to allow time for a facility to have certainty regarding what their ultimate requirements will be under the steam electric ELGs, as well as the requirements under the other rules listed in § 423.11(t)."

It is clear that EPA intends to preserve that regulatory status quo and prevent industries from incurring needless costs preparing to comply with the 2015 Rule which is under reconsideration. It is thus appropriate to delay capital and design determinations until the promulgation of a revised rule (expected to be finalized in Fall 2020). Following promulgation of a revised rule, Plant Wansley will require time to expeditiously plan (including to raise capital), design, procure, and install equipment to comply with the rule requirements. In addition, an initial commissioning period to optimize the installed FGD wastewater equipment is required. Finally, the facility will need to evaluate the changes being made or planned at the plant in response to greenhouse gas regulations under the Clean Air Act, as well as regulations for the disposal of coal combustion residuals under Subtitle D of the Resource Conservation and Recovery Act to ensure retrofit or closure decisions do not result in stranded assets. It is thus appropriate to establish a December 31, 2023 applicability date for FGD wastewater after consideration of the factors listed in 40 C.F.R. § 423.11(t).

Georgia Power Company has installed a remote mechanical drag chain (RMDC) system at Plant Wansley for the handling of bottom ash transport water (BATW). EPA in its technical development document for the 2015 rule recognized RMDC systems as Best Available Technology Economically Achievable (BAT) for bottom ash transport water because of potential space constraints at some plants' boilers. The resulting installation will result in an approximately 96-98% reduction of BATW discharge but may blowdown 2-4% to the FGD scrubber system. Such blowdowns may be necessary to accommodate an excess water balance in the closed-loop system due to stormwater events, maintenance activities, or to address water quality challenges that may affect system operation. Due to such challenges, the facility may be unable to comply with the zero discharge of pollutants requirement for BATW at all times. While these infrequent blowdown events may be addressed in the rule reconsideration, an avenue exists in the 2015 rule that allows for bottom ash transport water

to be used in the FGD scrubber. This avenue however is dependent on BAT compliance for FGD wastewater and thus the applicability date for BATW is intimately tied to the applicability date for FGD wastewater. As EPD cannot speculate as to how the finalized revised rule will address the possibility of RMDC blowdown, it is appropriate to establish a December 31, 2023 applicability date for BATW due to the inherent ties with the FGD wastewater applicability date.

EPD has reviewed the submitted information and determined the permittee has demonstrated good faith efforts to comply with the new rules, and will need an extended timeframe, past November 1, 2020 for bottom ash transport water, to implement the necessary changes to comply with the rules. As stated in the EPA document, *Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category: EPA's Response to Public Comments*, "The time provided for in the rule allows the permitting authority to account for time the facility needs to coordinate all the requirements of this rule, along with other regulatory requirements, to make the correct planning and financing decisions, and to implement the new requirements in an orderly and feasible way….given the extent of the capital expenditure and the complexity of these facilities, it is reasonable (referring to the deadline year 2023)."

The permittee must comply with the new federal regulations as described in 40 CFR 423 for fly ash transport water, 40 CFR 423.13(h) upon the effective date of the permit, for bottom ash transport water, 40 CFR 423.13(k) by December 31, 2023, and for FGD wastewater, 40 CFR 423.13(g) by December 31, 2023.

Upon completion of the reconsideration process and promulgation of a new 40 CFR §423 rule, EPD may modify the permit to address the requirements of the revised sections of the rule. Additionally, if the revised rule modifies the compliance dates past December 31, 2023, the implementation schedule and deadlines in Part I.A.3, Part I.A.6 and Part III.C.6 may no longer be applicable and EPD will reevaluate based on the new rule.

5.4 316(b) of Clean Water Act (CWA) Determination

The Director must provide a written explanation of the proposed entrainment determination in the fact sheet or statement of basis for the proposed permit under 40 CFR 124.7 or 124.8. 316(b) Regulations require the Director to make a site-specific entrainment BTA determination. Entrainment BTA decisions are to be based on 5 factors that must be taken into account. Additionally, the Director may consider 6 other factors when making a BTA determination. Plant Wansley currently operates a closed-cycle recirculating system which upon review, EPD has determined represents BTA for impingement mortality and entrainment. This determination is based on the 5 factors outlined in 125.98(f)(2) and implements the best performing entrainment control technology without negative impacts to the remaining useful plant life and land availability and negligible effects on social costs and particulate emissions.

Furthermore, if applicable; a written explanation must describe why the Director has rejected any entrainment control technologies or measures that perform better than the selected technologies or measures, and must reflect consideration of all reasonable attempts to mitigate any adverse impacts of otherwise available better performing entrainment technologies. This is not applicable to Plant Wansley as the facility operates a closed-recirculating system which represents the best performing entrainment control technology.

The following conditions have been implemented in the permit as part of EPD's BTA determination for impingement mortality and entrainment:

In accordance with 40 CFR 125.94(c)(1), the permittee must monitor the actual intake flows or cycles of concentration of their closed-cycle recirculating system at a minimum frequency of daily to achieve compliance with the BTA Standards for Impingement Mortality. Furthermore, 40 CFR 125.96(e) requires the permittee to conduct visual inspections or employ remote monitoring devices at least weekly to ensure that any technologies operated to comply with 40 CFR 125.94 are maintained and operated to function as designed. As the reduction of impingement mortality and entrainment is considered proportionate to the reduction of flow achieved by a closed-cycle recirculating system, daily monitoring of actual intake flows required in 40 CFR 125.94(c)(1) also fulfills the weekly monitoring requirements in 40 CFR 125.96(e) that demonstrate proper operation and maintenance. In addition to the daily monitoring of intake flow, EPD is requiring the permittee to conduct quarterly inspections of their cooling towers in order to ensure proper maintenance and to maximize flow reductions.

5.5 Mixing Zone

As part of the NPDES reissuance application for Plant Wansley, Georgia Power Company conducted a thermal modeling study for the facility's discharge using CORMIX software (version 11.0). The study, *CORMIX Modeling of Georgia Power Company's Plant Wansley's Thermal Plume* was submitted to EPD on October 10, 2018 for review and approval. EPD reviewed the modeling report, provided minor revisions to the CORMIX modeling, and has established an approved mixing zone in accordance with the Rules and Regulations of the State of Georgia 391-3-6-.03(10). The mixing zone is defined in Part III.C.8. A copy of the thermal modeling study and EPD's thermal plume analysis memo can be found in Appendix E of the fact sheet.

5.6 Compliance Schedules

The permittee shall attain compliance with all limits on the effective date of the permit.

5.7 Anti-Backsliding

The limits in this permit are in compliance with the 40 C.F.R. 122.44(l), which requires a reissued permit to be as stringent as the previous permit.

6.0 REPORTING

The facility has been assigned to the following EPD office for reporting, compliance and enforcement.

Georgia Environmental Protection Division
Watershed Compliance Program
2 Martin Luther King Jr. Drive
Suite 1152 East
Atlanta, Georgia 30334

6.1 E-Reporting

The permittee is required to electronically submit documents in accordance with 40 CFR Part 127.

7.0 REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

Not applicable

8.0 PERMIT EXPIRATION

The permit will expire five years from the effective date.

9.0 PROCEDURES FOR THE FORMULATION OF FINAL DETERMINATIONS

9.1 Comment Period

The Georgia Environmental Protection Division (EPD) proposes to issue a permit to this applicant subject to the effluent limitations and special conditions outlined above. These determinations are tentative.

Georgia Environmental Protection Division
Wastewater Regulatory Program
2 Martin Luther King Jr. Drive
Suite 1152 East
Atlanta, Georgia 30334

The permit application, draft permit, and other information are available for review at 2 Martin Luther King Jr. Drive, Suite 1152 East, Atlanta, Georgia 30334, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday. For additional information, you can contact 404-463-1511.

9.2 Public Comments

Persons wishing to comment upon or object to the proposed determinations are invited to submit same in writing to the EPD address above, or via e-mail at *EPDcomments@dnr.ga.gov* within 30 days of the initiation of the public comment period. All comments received prior to that date will be considered in the formulation of final determinations regarding the application. The permit number should be placed on the top of the first page of comments to ensure that your comments will be forwarded to the appropriate staff.

9.3 Public Hearing

Any applicant, affected state or interstate agency, the Regional Administrator of the U.S. Environmental Protection Agency (EPA) or any other interested agency, person or group of persons may request a public hearing with respect to an NPDES permit application if such request is filed within thirty (30) days following the date of the public notice for such application. Such request must indicate the interest of the party filing the request, the reasons why a hearing is requested, and those specific portions of the application or other NPDES form or information to be considered at the public hearing.

The Director shall hold a hearing if he determines that there is sufficient public interest in holding such a hearing. If a public hearing is held, notice of same shall be provided at least thirty (30) days in advance of the hearing date.

In the event that a public hearing is held, both oral and written comments will be accepted; however, for the accuracy of the record, written comments are encouraged. The Director or a designee reserves the right to fix reasonable limits on the time allowed for oral statements and such other procedural requirements, as deemed appropriate.

Following a public hearing, the Director, unless it is decided to deny the permit, may make such modifications in the terms and conditions of the proposed permit as may be appropriate and shall issue the permit.

If no public hearing is held, and, after review of the written comments received, the Director determines that a permit should be issued and that the determinations as set forth in the proposed permit are substantially unchanged, the permit will be issued and will become final in the absence of a request for a contested hearing. Notice of issuance or denial will be made available to all interested persons and those persons that submitted written comments to the Director on the proposed permit.

If no public hearing is held, but the Director determines, after a review of the written comments received, that a permit should be issued but that substantial changes in the proposed permit are warranted, public notice of the revised determinations will be given and written comments accepted in the same manner as the initial notice of application was given and written comments accepted pursuant to EPD Rules, Water Quality Control, subparagraph 391-3-6-.06(7)(b). The Director shall provide an opportunity for public hearing on the revised determinations. Such opportunity for public hearing and the issuance or denial of a permit thereafter shall be in accordance with the procedures as are set forth above.

9.4 Final Determination

At the time that any final permit decision is made, the Director shall issue a response to comments. The issued permit and responses to comments can be found at the following address:

http://epd.georgia.gov/watershed-protection-branch-permit-and-public-comments-clearinghouse-0

9.5 Contested Hearings

Any person who is aggrieved or adversely affected by the issuance or denial of a permit by the Director of EPD may petition the Director for a hearing if such petition is filed in the office of the Director within thirty (30) days from the date of notice of such permit issuance or denial. Such hearing shall be held in accordance with the EPD Rules, Water Quality Control, subparagraph 391-3-6-.01.

Petitions for a contested hearing must include the following:

1. The name and address of the petitioner;
2. The grounds under which petitioner alleges to be aggrieved or adversely affected by the issuance or denial of a permit;
3. The reason or reasons why petitioner takes issue with the action of the Director;
4. All other matters asserted by petitioner which are relevant to the action in question.

Appendix A – 40 CFR 423 - Stream Electric Power Generating Regulations

§423.10 Applicability.

The provisions of this part apply to discharges resulting from the operation of a generating unit by an establishment whose generation of electricity is the predominant source of revenue or principal reason for operation, and whose generation of electricity results primarily from a process utilizing fossil-type fuel (coal, oil, or gas), fuel derived from fossil fuel (*e.g.,* petroleum coke, synthesis gas), or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium. This part applies to discharges associated with both the combustion turbine and steam turbine portions of a combined cycle generating unit.

§423.11 Specialized definitions.

In addition to the definitions set forth in 40 CFR part 401, the following definitions apply to this part:

(a) The term *total residual chlorine* (or total residual oxidants for intake water with bromides) means the value obtained using any of the "chlorine—total residual" methods in Table IB in 40 CFR 136.3(a), or other methods approved by the permitting authority.

(b) The term *low volume waste sources* means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations or standards are otherwise established in this part. Low volume waste sources include, but are not limited to, the following: Wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, recirculating house service water systems, and wet scrubber air pollution control systems whose primary purpose is particulate removal. Sanitary wastes, air conditioning wastes, and wastewater from carbon capture or sequestration systems are not included in this definition.

(c) The term *chemical metal cleaning waste* means any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.

(d) The term *metal cleaning waste* means any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

(e) The term *fly ash* means the ash that is carried out of the furnace by a gas stream and collected by a capture device such as a mechanical precipitator, electrostatic precipitator, or fabric filter. Economizer ash is included in this definition when it is collected with fly ash. Ash is not included in this definition when it is collected in wet scrubber air pollution control systems whose primary purpose is particulate removal.

(f) The term *bottom ash* means the ash, including boiler slag, which settles in the furnace or is dislodged from furnace walls. Economizer ash is included in this definition when it is collected with bottom ash.

(g) The term *once through cooling water* means water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat.

(h) The term *recirculated cooling water* means water which is passed through the main condensers for the purpose of removing waste heat, passed through a cooling device for the purpose of removing such heat from the water and then passed again, except for blowdown, through the main condenser.

(i) The term *10 year, 24/hour rainfall event* means a rainfall event with a probable recurrence interval of once in ten years as defined by the National Weather Service in Technical Paper No. 40. *Rainfall Frequency Atlas of the United States,* May 1961 or equivalent regional rainfall probability information developed therefrom.

(j) The term *blowdown* means the minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices.

(k) The term *average concentration* as it relates to chlorine discharge means the average of analyses made over a single period of chlorine release which does not exceed two hours.

(l) The term *free available chlorine* means the value obtained using any of the "chlorine—free available" methods in Table IB in 40 CFR 136.3(a) where the method has the capability of measuring free available chlorine, or other methods approved by the permitting authority.

(m) The term *coal pile runoff* means the rainfall runoff from or through any coal storage pile.

(n) The term flue gas desulfurization (FGD) wastewater means any wastewater generated specifically from the wet flue gas desulfurization scrubber system that comes into contact with the flue gas or the FGD solids, including but not limited to, the blowdown from the FGD scrubber system, overflow or underflow from the solids separation process, FGD solids wash water, and the filtrate from the solids dewatering process. Wastewater generated from cleaning the FGD scrubber, cleaning FGD solids separation equipment, cleaning FGD solids dewatering equipment, or that is collected in floor drains in the FGD process area is not considered FGD wastewater.

(o) The term flue gas mercury control wastewater means any wastewater generated from an air pollution control system installed or operated for the purpose of removing mercury from flue gas. This includes fly ash collection systems when the particulate control system follows sorbent injection or other controls to remove mercury from flue gas. FGD wastewater generated at plants using oxidizing agents to remove mercury in the FGD system and not in a separate FGMC system is not included in this definition.

(p) The term transport water means any wastewater that is used to convey fly ash, bottom ash, or economizer ash from the ash collection or storage equipment, or boiler, and has direct contact with the ash. Transport water does not include low volume, short duration discharges of wastewater from minor leaks (*e.g.,* leaks from valve packing, pipe flanges, or piping) or minor maintenance events (*e.g.,* replacement of valves or pipe sections).

(q) The term gasification wastewater means any wastewater generated at an integrated gasification combined cycle operation from the gasifier or the syngas cleaning, combustion, and cooling processes. Gasification wastewater includes, but is not limited to the following: Sour/grey water;

CO_2/steam stripper wastewater; sulfur recovery unit blowdown, and wastewater resulting from slag handling or fly ash handling, particulate removal, halogen removal, or trace organic removal. Air separation unit blowdown, noncontact cooling water, and runoff from fuel and/or byproduct piles are not considered gasification wastewater. Wastewater that is collected intermittently in floor drains in the gasification process area from leaks, spills, and cleaning occurring during normal operation of the gasification operation is not considered gasification wastewater.

(r) The term combustion residual leachate means leachate from landfills or surface impoundments containing combustion residuals. Leachate is composed of liquid, including any suspended or dissolved constituents in the liquid, that has percolated through waste or other materials emplaced in a landfill, or that passes through the surface impoundment's containment structure (*e.g.,* bottom, dikes, berms). Combustion residual leachate includes seepage and/or leakage from a combustion residual landfill or impoundment unit. Combustion residual leachate includes wastewater from landfills and surface impoundments located on non-adjoining property when under the operational control of the permitted facility.

(s) The term oil-fired unit means a generating unit that uses oil as the primary or secondary fuel source and does not use a gasification process or any coal or petroleum coke as a fuel source. This definition does not include units that use oil only for start up or flame-stabilization purposes.

(t) The phrase "as soon as possible" means November 1, 2018, unless the permitting authority establishes a later date, after receiving information from the discharger, which reflects a consideration of the following factors:

(1) Time to expeditiously plan (including to raise capital), design, procure, and install equipment to comply with the requirements of this part.

(2) Changes being made or planned at the plant in response to:

(i) New source performance standards for greenhouse gases from new fossil fuel-fired electric generating units, under sections 111, 301, 302, and 307(d)(1)(C) of the Clean Air Act, as amended, 42 U.S.C. 7411, 7601, 7602, 7607(d)(1)(C);

(ii) Emission guidelines for greenhouse gases from existing fossil fuel-fired electric generating units, under sections 111, 301, 302, and 307(d) of the Clean Air Act, as amended, 42 U.S.C. 7411, 7601, 7602, 7607(d); or

(iii) Regulations that address the disposal of coal combustion residuals as solid waste, under sections 1006(b), 1008(a), 2002(a), 3001, 4004, and 4005(a) of the Solid Waste Disposal Act of 1970, as amended by the Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. 6906(b), 6907(a), 6912(a), 6944, and 6945(a).

(3) For FGD wastewater requirements only, an initial commissioning period for the treatment system to optimize the installed equipment.

(4) Other factors as appropriate.

§423.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

(a) In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, utilization of facilities, raw materials, manufacturing processes, non-water quality environmental impacts, control and treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or the State) will make a written finding that such factors are or are not fundamentally different for that facility compared to those specified in the Development Document. If such fundamentally different factors are found to exist, the Regional Administrator or the State shall establish for the discharger effluent limitations in the NPDES Permit either more or less stringent than the limitations established herein, to the extent dictated by such fundamentally different factors. Such limitations must be approved by the Administrator of the Environmental Protection Agency. The Administrator may approve or disapprove such limitations, specify other limitations, or initiate proceedings to revise these regulations. The phrase "other such factors" appearing above may include significant cost differentials. In no event may a discharger's impact on receiving water quality be considered as a factor under this paragraph.

(b) Any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction by the application of the best practicable control technology currently available (BPT):

(1) The pH of all discharges, except once through cooling water, shall be within the range of 6.0-9.0.

(2) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

(3) The quantity of pollutants discharged from low volume waste sources shall not exceed the quantity determined by multiplying the flow of low volume waste sources times the concentration lised in the following table:

	BPT effluent limitations	
Pollutant or pollutant property	**Maximum for any 1 day (mg/l)**	**Average of daily values for 30 consecutive days shall not exceed (mg/l)**
TSS	100.0	30.0
Oil and grease	20.0	15.0

(4) The quantity of pollutants discharged in fly ash and bottom ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash and bottom ash transport water times the concentration listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS	100.0	30.0
Oil and grease	20.0	15.0

(5) The quantity of pollutants discharged in metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of metal cleaning wastes times the concentration listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS	100.0	30.0
Oil and grease	20.0	15.0
Copper, total	1.0	1.0
Iron, total	1.0	1.0

(6) The quantity of pollutants discharged in once through cooling water shall not exceed the quantity determined by multiplying the flow of once through cooling water sources times the concentration listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum concentration (mg/l)	Average concentration (mg/l)
Free available chlorine	0.5	0.2

(7) The quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown sources times the concentration listed in the following table:

Pollutant or pollutant property	BPT effluent limitations	
	Maximum concentration (mg/l)	Average concentration (mg/l)
Free available chlorine	0.5	0.2

(8) Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Regional Administrator or State, if the State has NPDES permit issuing authority, that the units in a particular location cannot operate at or below this level or chlorination.

(9) Subject to the provisions of paragraph (b)(10) of this section, the following effluent limitations shall apply to the point source discharges of coal pile runoff:

Pollutant or pollutant property	BPT effluent limitations
	Maximum concentration for any time (mg/l)
TSS	50

(10) Any untreated overflow from facilities designed, constructed, and operated to treat the volume of coal pile runoff which is associated with a 10 year, 24 hour rainfall event shall not be subject to the limitations in paragraph (b)(9) of this section.

(11) The quantity of pollutants discharged in FGD wastewater, flue gas mercury control wastewater, combustion residual leachate, or gasification wastewater shall not exceed the quantity determined by multiplying the flow of the applicable wastewater times the concentration listed in the following table:

Pollutant or pollutant property	BPT Effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed (mg/l)
TSS	100.0	30.0
Oil and grease	20.0	15.0

(12) At the permitting authority's discretion, the quantity of pollutant allowed to be discharged may be expressed as a concentration limitation instead of the mass-based limitations specified in paragraphs (b)(3) through (b)(7), and (b)(11), of this section. Concentration limitations shall be those concentrations specified in this section.

(13) In the event that wastestreams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property controlled in paragraphs (b)(1) through (b)(12) of this section attributable to each controlled waste source shall not exceed the specified limitations for that waste source.

§423.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this part must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

(a) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

(b)(1) For any plant with a total rated electric generating capacity of 25 or more megawatts, the quantity of pollutants discharged in once through cooling water from each discharge point shall not exceed the quantity determined by multiplying the flow of once through cooling water from each discharge point times the concentration listed in the following table:

	BAT Effluent Limitations
Pollutant or pollutant property	**Maximum concentration (mg/l)**
Total residual chlorine	0.20

(2) Total residual chlorine may not be discharged from any single generating unit for more than two hours per day unless the discharger demonstrates to the permitting authority that discharge for more than two hours is required for macroinvertebrate control. Simultaneous multi-unit chlorination is permitted.

(c)(1) For any plant with a total rated generating capacity of less than 25 megawatts, the quantity of pollutants discharged in once through cooling water shall not exceed the quantity determined by multiplying the flow of once through cooling water sources times the concentration listed in the following table:

	BAT effluent limitations	
Pollutant or pollutant property	**Maximum concentration (mg/l)**	**Average concentration (mg/l)**
Free available chlorine	0.5	0.2

(2) Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Regional Administrator or State, if the State has NPDES permit issuing authority, that the units in a particular location cannot operate at or below this level of chlorination.

(d)(1) The quantity of pollutants discharged in cooling tower blowdown shall not exceed the quantity determined by multiplying the flow of cooling tower blowdown times the concentration listed below:

	BAT effluent limitations	
Pollutant or pollutant property	**Maximum concentration (mg/l)**	**Average concentration (mg/l)**
Free available chlorine	0.5	0.2
Pollutant or pollutant property	**Maximum for any 1 day −(mg/l)**	**Average of daily values for 30 consecutive days shall not exceed = (mg/l)**
The 126 priority pollutants (Appendix A) contained in chemicals added for cooling tower maintenance, except:	([1])	([1])
Chromium, total	0.2	0.2
Zinc, total	1.0	1.0

[1]No detectable amount.

(2) Neither free available chlorine nor total residual chlorine may be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available or total residual chlorine at any one time unless the utility can demonstrate to the Regional Administrator or State, if the State has NPDES permit issuing authority, that the units in a particular location cannot operate at or below this level of chlorination.

(3) At the permitting authority's discretion, instead of the monitoring specified in 40 CFR 122.11(b) compliance with the limitations for the 126 priority pollutants in paragraph (d)(1) of this section may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR part 136.

(e) The quantity of pollutants discharged in chemical metal cleaning wastes shall not exceed the quantity determined by multiplying the flow of chemical metal cleaning wastes times the concentration listed in the following table:

Pollutant or pollutant property	BAT effluent limitations	
	Maximum for any 1 day (mg/l)	Average of daily values for 30 consecutive days shall not exceed −(mg/l)
Copper, total	1.0	1.0
Iron, total	1.0	1.0

(f) [Reserved—Nonchemical Metal Cleaning Wastes].

(g)(1)(i) *FGD wastewater.* Except for those discharges to which paragraph (g)(2) or (g)(3) of this section applies, the quantity of pollutants in FGD wastewater shall not exceed the quantity determined by multiplying the flow of FGD wastewater times the concentration listed in the table following this paragraph (g)(1)(i). Dischargers must meet the effluent limitations for FGD wastewater in this paragraph by a date determined by the permitting authority that is as soon as possible beginning November 1, 2020, but no later than December 31, 2023. These effluent limitations apply to the discharge of FGD wastewater generated on and after the date determined by the permitting authority for meeting the effluent limitations, as specified in this paragraph.

Pollutant or pollutant property	BAT Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Arsenic, total (ug/L)	11	8
Mercury, total (ng/L)	788	356
Selenium, total (ug/L)	23	12
Nitrate/nitrite as N (mg/L)	17.0	4.4

(ii) For FGD wastewater generated before the date determined by the permitting authority, as specified in paragraph (g)(1)(i), the quantity of pollutants discharged in FGD wastewater shall not exceed the quantity determined by multiplying the flow of FGD wastewater times the concentration listed for TSS in §423.12(b)(11).

(2) For any electric generating unit with a total nameplate capacity of less than or equal to 50 megawatts or that is an oil-fired unit, the quantity of pollutants discharged in FGD wastewater shall not exceed the quantity determined by multiplying the flow of FGD wastewater times the concentration listed for TSS in §423.12(b)(11).

(3)(i) For dischargers who voluntarily choose to meet the effluent limitations for FGD wastewater in this paragraph, the quantity of pollutants in FGD wastewater shall not exceed the quantity determined by multiplying the flow of FGD wastewater times the concentration listed in the table following this paragraph (g)(3)(i). Dischargers who choose to meet the effluent limitations for FGD wastewater in this paragraph must meet such limitations by December 31, 2023. These effluent limitations apply to the discharge of FGD wastewater generated on and after December 31, 2023.

	BAT Effluent limitations	
Pollutant or pollutant property	**Maximum for any 1 day**	**Average of daily values for 30 consecutive days shall not exceed**
Arsenic, total (ug/L)	4	
Mercury, total (ng/L)	39	24
Selenium, total (ug/L)	5	
TDS (mg/L)	50	24

(ii) For discharges of FGD wastewater generated before December 31, 2023, the quantity of pollutants discharged in FGD wastewater shall not exceed the quantity determined by multiplying the flow of FGD wastewater times the concentration listed for TSS in §423.12(b)(11).

(h)(1)(i) *Fly ash transport water.* Except for those discharges to which paragraph (h)(2) of this section applies, or when the fly ash transport water is used in the FGD scrubber, there shall be no discharge of pollutants in fly ash transport water. Dischargers must meet the discharge limitation in this paragraph by a date determined by the permitting authority that is as soon as possible beginning November 1, 2018, but no later than December 31, 2023. This limitation applies to the discharge of fly ash transport water generated on and after the date determined by the permitting authority for meeting the discharge limitation, as specified in this paragraph. Whenever fly ash transport water is used in any other plant process or is sent to a treatment system at the plant (except when it is used in the FGD scrubber), the resulting effluent must comply with the discharge limitation in this paragraph. When the fly ash transport water is used in the FGD scrubber, the quantity of pollutants in fly ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash transport water times the concentration listed in the table in paragraph (g)(1)(i) of this section.

(ii) For discharges of fly ash transport water generated before the date determined by the permitting authority, as specified in paragraph (h)(1)(i) of this section, the quantity of pollutants discharged in fly ash transport water shall not exceed the quantity determined by multiplying the flow of fly ash transport water times the concentration listed for TSS in §423.12(b)(4).

(2) For any electric generating unit with a total nameplate generating capacity of less than or equal to 50 megawatts or that is an oil-fired unit, the quantity of pollutants discharged in fly ash transport

water shall not exceed the quantity determined by multiplying the flow of fly ash transport water times the concentration listed for TSS in §423.12(b)(4).

(i)(1)(i) *Flue gas mercury control wastewater.* Except for those discharges to which paragraph (i)(2) of this section applies, there shall be no discharge of pollutants in flue gas mercury control wastewater. Dischargers must meet the discharge limitation in this paragraph by a date determined by the permitting authority that is as soon as possible beginning November 1, 2018, but no later than December 31, 2023. This limitation applies to the discharge of flue gas mercury control wastewater generated on and after the date determined by the permitting authority for meeting the discharge limitation, as specified in this paragraph. Whenever flue gas mercury control wastewater is used in any other plant process or is sent to a treatment system at the plant, the resulting effluent must comply with the discharge limitation in this paragraph.

(ii) For discharges of flue gas mercury control wastewater generated before the date determined by the permitting authority, as specified in paragraph (i)(1)(i) of this section, the quantity of pollutants discharged in flue gas mercury control wastewater shall not exceed the quantity determined by multiplying the flow of flue gas mercury control wastewater times the concentration for TSS listed in §423.12(b)(11).

(2) For any electric generating unit with a total nameplate generating capacity of less than or equal to 50 megawatts or that is an oil-fired unit, the quantity of pollutants discharged in flue gas mercury control wastewater shall not exceed the quantity determined by multiplying the flow of flue gas mercury control wastewater times the concentration for TSS listed in §423.12(b)(11).

(j)(1)(i) *Gasification wastewater.* Except for those discharges to which paragraph (j)(2) of this section applies, the quantity of pollutants in gasification wastewater shall not exceed the quantity determined by multiplying the flow of gasification wastewater times the concentration listed in the table following this paragraph (j)(1)(i). Dischargers must meet the effluent limitations in this paragraph by a date determined by the permitting authority that is as soon as possible beginning November 1, 2018, but no later than December 31, 2023. These effluent limitations apply to the discharge of gasification wastewater generated on and after the date determined by the permitting authority for meeting the effluent limitations, as specified in this paragraph.

	BAT Effluent limitations	
Pollutant or pollutant property	**Maximum for any 1 day**	**Average of daily values for 30 consecutive days shall not exceed**
Arsenic, total (ug/L)	4	
Mercury, total (ng/L)	1.8	1.3
Selenium, total (ug/L)	453	227
Total dissolved solids (mg/L)	38	22

(ii) For discharges of gasification wastewater generated before the date determined by the permitting authority, as specified in paragraph (j)(1)(i) of this section, the quantity of pollutants

discharged in gasification wastewater shall not exceed the quantity determined by multiplying the flow of gasification wastewater times the concentration for TSS listed in §423.12(b)(11).

(2) For any electric generating unit with a total nameplate generating capacity of less than or equal to 50 megawatts or that is an oil-fired unit, the quantity of pollutants discharged in gasification wastewater shall not exceed the quantity determined by multiplying the flow of gasification wastewater times the concentration listed for TSS in §423.12(b)(11).

(k)(1)(i) *Bottom ash transport water.* Except for those discharges to which paragraph (k)(2) of this section applies, or when the bottom ash transport water is used in the FGD scrubber, there shall be no discharge of pollutants in bottom ash transport water. Dischargers must meet the discharge limitation in this paragraph by a date determined by the permitting authority that is as soon as possible beginning November 1, 2020, but no later than December 31, 2023. This limitation applies to the discharge of bottom ash transport water generated on and after the date determined by the permitting authority for meeting the discharge limitation, as specified in this paragraph. Whenever bottom ash transport water is used in any other plant process or is sent to a treatment system at the plant (except when it is used in the FGD scrubber), the resulting effluent must comply with the discharge limitation in this paragraph. When the bottom ash transport water is used in the FGD scrubber, the quantity of pollutants in bottom ash transport water shall not exceed the quantity determined by multiplying the flow of bottom ash transport water times the concentration listed in the table in paragraph (g)(1)(i) of this section.

(ii) For discharges of bottom ash transport water generated before the date determined by the permitting authority, as specified in paragraph (k)(1)(i) of this section, the quantity of pollutants discharged in bottom ash transport water shall not exceed the quantity determined by multiplying the flow of bottom ash transport water times the concentration for TSS listed in §423.12(b)(4).

(2) For any electric generating unit with a total nameplate generating capacity of less than or equal to 50 megawatts or that is an oil-fired unit, the quantity of pollutants discharged in bottom ash transport water shall not exceed the quantity determined by multiplying the flow of the applicable wastewater times the concentration for TSS listed in §423.12(b)(4).

(l) *Combustion residual leachate.* The quantity of pollutants discharged in combustion residual leachate shall not exceed the quantity determined by multiplying the flow of combustion residual leachate times the concentration for TSS listed in §423.12(b)(11).

(m) At the permitting authority's discretion, the quantity of pollutant allowed to be discharged may be expressed as a concentration limitation instead of any mass based limitations specified in paragraphs (b) through (l) of this section. Concentration limitations shall be those concentrations specified in this section.

(n) In the event that wastestreams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property controlled in paragraphs (a) through (m) of this section attributable to each controlled waste source shall not exceed the specified limitation for that waste source.

Appendix B – 40 CFR 125 Subpart J – Cooling Water Intake Structure Regulations

§125.90 Purpose of this subpart.

(a) This subpart establishes the section 316(b) requirements that apply to cooling water intake structures at existing facilities that are subject to this subpart. These requirements include a number of components. These include standards for minimizing adverse environmental impact associated with the use of cooling water intake structures and required procedures (e.g., permit application requirements, information submission requirements) for establishing the appropriate technology requirements at certain specified facilities as well as monitoring, reporting, and recordkeeping requirements to demonstrate compliance. In combination, these components represent the best technology available for minimizing adverse environmental impact associated with the use of cooling water intake structures at existing facilities. These requirements are to be established and implemented in National Pollutant Discharge Elimination System (NPDES) permits issued under the Clean Water Act (CWA).

(b) Cooling water intake structures not subject to requirements under §§125.94 through 125.99 or subparts I or N of this part must meet requirements under section 316(b) of the CWA established by the Director on a case-by-case, best professional judgment (BPJ) basis.

(c) Nothing in this subpart shall be construed to preclude or deny the right under section 510 of the CWA of any State or political subdivision of a State or any interstate agency to adopt or enforce any requirement with respect to control or abatement of pollution that is more stringent than required by Federal law.

Note to §125.90. This regulation does not authorize take, as defined by the Endangered Species Act, 16 U.S.C. 1532(19). The U.S. Fish and Wildlife Service and National Marine Fisheries Service have determined that any impingement (including entrapment) or entrainment of Federally-listed species constitutes take. Such take may be authorized pursuant to the conditions of a permit issued under 16 U.S.C. 1539(a) or where consistent with an Incidental Take Statement contained in a Biological Opinion pursuant to 16 U.S.C. 1536(o).

§125.91 Applicability.

(a) The owner or operator of an existing facility, as defined in §125.92(k), is subject to the requirements at §§125.94 through 125.99 if:

(1) The facility is a point source;

(2) The facility uses or proposes to use one or more cooling water intake structures with a cumulative design intake flow (DIF) of greater than 2 million gallons per day (mgd) to withdraw water from waters of the United States; and

(3) Twenty-five percent or more of the water the facility withdraws on an actual intake flow basis is used exclusively for cooling purposes.

(b) Use of a cooling water intake structure includes obtaining cooling water by any sort of contract or arrangement with one or more independent suppliers of cooling water if the independent

supplier withdraws water from waters of the United States but is not itself a new or existing facility as defined in subparts I or J of this part, except as provided in paragraphs (c) and (d) of this section. An owner or operator of an existing facility may not circumvent these requirements by creating arrangements to receive cooling water from an entity that is not itself a facility subject to subparts I or J of this part.

(c) Obtaining cooling water from a public water system, using reclaimed water from wastewater treatment facilities or desalination plants, or recycling treated process wastewater effluent as cooling water does not constitute use of a cooling water intake structure for purposes of this subpart.

(d) This subpart does not apply to offshore seafood processing facilities, offshore liquefied natural gas terminals, and offshore oil and gas extraction facilities that are existing facilities as defined in §125.92(k). The owners and operators of such facilities must meet requirements established by the Director on a case-by-case, best professional judgment (BPJ) basis.

§125.92 Special definitions.

In addition to the definitions provided in 40 CFR 122.2, the following special definitions apply to this subpart:

(a) Actual Intake Flow (AIF) means the average volume of water withdrawn on an annual basis by the cooling water intake structures over the past three years. After October 14, 2019, Actual Intake Flow means the average volume of water withdrawn on an annual basis by the cooling water intake structures over the previous five years. Actual intake flow is measured at a location within the cooling water intake structure that the Director deems appropriate. The calculation of actual intake flow includes days of zero flow. AIF does not include flows associated with emergency and fire suppression capacity.

(b) All life stages of fish and shellfish means eggs, larvae, juveniles, and adults. It does not include members of the infraclass Cirripedia in the subphylum Crustacea (barnacles), green mussels (Perna viridis), or zebra mussels (Dreissena polymorpha). The Director may determine that all life stages of fish and shellfish does not include other specified nuisance species.

(c) Closed-cycle recirculating system means a system designed and properly operated using minimized make-up and blowdown flows withdrawn from a water of the United States to support contact or non-contact cooling uses within a facility, or a system designed to include certain impoundments. A closed-cycle recirculating system passes cooling water through the condenser and other components of the cooling system and reuses the water for cooling multiple times.

(1) Closed-cycle recirculating system includes a facility with wet, dry, or hybrid cooling towers, a system of impoundments that are not waters of the United States, or any combination thereof. A properly operated and maintained closed-cycle recirculating system withdraws new source water (make-up water) only to replenish losses that have occurred due to blowdown, drift, and evaporation. If waters of the United States are withdrawn for purposes of replenishing losses to a closed-cycle recirculating system other than those due to blowdown, drift, and evaporation from the cooling system, the Director may determine a cooling system is a closed-cycle recirculating system if the facility demonstrates to the satisfaction of the Director that make-up water withdrawals attributed specifically to the cooling portion of the cooling system have been minimized.

(2) Closed-cycle recirculating system also includes a system with impoundments of waters of the U.S. where the impoundment was constructed prior to October 14, 2014 and created for the purpose of serving as part of the cooling water system as documented in the project purpose statement for any required Clean Water Act section 404 permit obtained to construct the impoundment. In the case of an impoundment whose construction pre-dated the CWA requirement to obtain a section 404 permit, documentation of the project's purpose must be demonstrated to the satisfaction of the Director. This documentation could be some other license or permit obtained to lawfully construct the impoundment for the purposes of a cooling water system, or other such evidence as the Director finds necessary. For impoundments constructed in uplands or not in waters of the United States, no documentation of a section 404 or other permit is required. If waters of the United States are withdrawn for purposes of replenishing losses to a closed-cycle recirculating system other than those due to blowdown, drift, and evaporation from the cooling system, the Director may determine a cooling system is a closed-cycle recirculating system if the facility demonstrates to the satisfaction of the Director that make-up water withdrawals attributed specifically to the cooling portion of the cooling system have been minimized.

(d) Contact cooling water means water used for cooling which comes into direct contact with any raw material, product, or byproduct. Examples of contact cooling water may include but are not limited to quench water at facilities, cooling water in a cracking unit, and cooling water directly added to food and agricultural products processing.

(e) Cooling water means water used for contact or non-contact cooling, including water used for equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content. The intended use of the cooling water is to absorb waste heat rejected from the process or processes used, or from auxiliary operations on the facility's premises. Cooling water obtained from a public water system, reclaimed water from wastewater treatment facilities or desalination plants, treated effluent from a manufacturing facility, or cooling water that is used in a manufacturing process either before or after it is used for cooling as process water, is not considered cooling water for the purposes of calculating the percentage of a facility's intake flow that is used for cooling purposes in §125.91(a)(3).

(f) Cooling water intake structure means the total physical structure and any associated constructed waterways used to withdraw cooling water from waters of the United States. The cooling water intake structure extends from the point at which water is first withdrawn from waters of the United States up to, and including the intake pumps.

(g) Design intake flow (DIF) means the value assigned during the cooling water intake structure design to the maximum instantaneous rate of flow of water the cooling water intake system is capable of withdrawing from a source waterbody. The facility's DIF may be adjusted to reflect permanent changes to the maximum capabilities of the cooling water intake system to withdraw cooling water, including pumps permanently removed from service, flow limit devices, and physical limitations of the piping. DIF does not include values associated with emergency and fire suppression capacity or redundant pumps (i.e., back-up pumps).

(h) Entrainment means any life stages of fish and shellfish in the intake water flow entering and passing through a cooling water intake structure and into a cooling water system, including the condenser or heat exchanger. Entrainable organisms include any organisms potentially subject to entrainment. For purposes of this subpart, entrainment excludes those organisms that are collected or retained by a sieve with maximum opening dimension of 0.56 inches. Examples of sieves meeting this definition include but are not limited to a 3⁄8 inch square mesh, or a 1⁄2 by 1⁄4 inch

mesh. A facility must use the same mesh size when counting entrainment as is used when counting impingement.

(i) Entrainment mortality means death as a result of entrainment through the cooling water intake structure, or death as a result of exclusion from the cooling water intake structure by fine mesh screens or other protective devices intended to prevent the passage of entrainable organisms through the cooling water intake structure.

(j) Entrapment means the condition where impingeable fish and shellfish lack the means to escape the cooling water intake. Entrapment includes but is not limited to: Organisms caught in the bucket of a traveling screen and unable to reach a fish return; organisms caught in the forebay of a cooling water intake system without any means of being returned to the source waterbody without experiencing mortality; or cooling water intake systems where the velocities in the intake pipes or in any channels leading to the forebay prevent organisms from being able to return to the source waterbody through the intake pipe or channel.

(k) Existing facility means any facility that commenced construction as described in 40 CFR 122.29(b)(4) on or before January 17, 2002 (or July 17, 2006 for an offshore oil and gas extraction facility) and any modification of, or any addition of a unit at such a facility. A facility built adjacent to another facility would be a new facility while the original facility would remain as an exiting facility for purposes of this subpart. A facility cannot both be an existing facility and a new facility as defined at §125.83.

(l) Flow reduction means any modification to a cooling water intake structure or its operation that serves to reduce the volume of cooling water withdrawn. Examples include, but are not limited to, variable speed pumps, seasonal flow reductions, wet cooling towers, dry cooling towers, hybrid cooling towers, unit closures, or substitution for withdrawals by reuse of effluent from a nearby facility.

(m) Fragile species means those species of fish and shellfish that are least likely to survive any form of impingement. For purposes of this subpart, fragile species are defined as those with an impingement survival rate of less than 30 percent, including but not limited to alewife, American shad, Atlantic herring, Atlantic long-finned squid, Atlantic menhaden, bay anchovy, blueback herring, bluefish, butterfish, gizzard shad, grey snapper, hickory shad, menhaden, rainbow smelt, round herring, and silver anchovy.

(n) Impingement means the entrapment of any life stages of fish and shellfish on the outer part of an intake structure or against a screening device during periods of intake water withdrawal. For purposes of this subpart, impingement includes those organisms collected or retained on a sieve with maximum distance in the opening of 0.56 inches, and excludes those organisms that pass through the sieve. Examples of sieves meeting this definition include but are not limited to a 3⁄8 inch square mesh, or a 1⁄2 by 1⁄4 inch mesh. This definition is intended to prevent the conversion of entrainable organisms to counts of impingement or impingement mortality. The owner or operator of a facility must use a sieve with the same mesh size when counting entrainment as is used when counting impingement.

(o) Impingement mortality (IM) means death as a result of impingement. Impingement mortality also includes organisms removed from their natural ecosystem and lacking the ability to escape the cooling water intake system, and thus subject to inevitable mortality.
(p) Independent supplier means an entity, other than the regulated facility, that owns and operates

its own cooling water intake structure and directly withdraws water from waters of the United States. The supplier provides the cooling water to other facilities for their use, but may itself also use a portion of the water. An entity that provides potable water to residential populations (e.g., public water system) is not a supplier for purposes of this subpart.

(q) Latent mortality means the delayed mortality of organisms that were initially alive upon being impinged or entrained but that do not survive the delayed effects of impingement and entrainment during an extended holding period. Delayed effects of impingement and entrainment include but are not limited to temperature change, physical stresses, and chemical stresses.

(r) Minimize means to reduce to the smallest amount, extent, or degree reasonably possible.

(s) Modified traveling screen means a traveling water screen that incorporates measures protective of fish and shellfish, including but not limited to: Screens with collection buckets or equivalent mechanisms designed to minimize turbulence to aquatic life; addition of a guard rail or barrier to prevent loss of fish from the collection system; replacement of screen panel materials with smooth woven mesh, drilled mesh, molded mesh, or similar materials that protect fish from descaling and other abrasive injury; continuous or near-continuous rotation of screens and operation of fish collection equipment to ensure any impinged organisms are recovered as soon as practical; a low pressure wash or gentle vacuum to remove fish prior to any high pressure spray to remove debris from the screens; and a fish handling and return system with sufficient water flow to return the fish directly to the source water in a manner that does not promote predation or re-impingement of the fish, or require a large vertical drop. The Director may approve of fish being returned to water sources other than the original source water, taking into account any recommendations from the Services with respect to endangered or threatened species. Examples of modified traveling screens include, but are not limited to: Modified Ristroph screens with a fish handling and return system, dual flow screens with smooth mesh, and rotary screens with fish returns or vacuum returns.

(t) Moribund means dying; close to death.

(u) New unit means a new "stand-alone" unit at an existing facility where construction of the new unit begins after October 14, 2014 and that does not otherwise meet the definition of a new facility at §125.83 or is not otherwise already subject to subpart I of this part. A stand-alone unit is a separate unit that is added to a facility for either the same general industrial operation or another purpose. A new unit may have its own dedicated cooling water intake structure, or the new unit may use an existing or modified cooling water intake structure.

(v) Offshore velocity cap means a velocity cap located a minimum of 800 feet from the shoreline. A velocity cap is an open intake designed to change the direction of water withdrawal from vertical to horizontal, thereby creating horizontal velocity patterns that result in avoidance of the intake by fish and other aquatic organisms. For purposes of this subpart, the velocity cap must use bar screens or otherwise exclude marine mammals, sea turtles, and other large aquatic organisms.

(w) Operational measure means a modification to any operation that serves to minimize impact to all life stages of fish and shellfish from the cooling water intake structure. Examples of operational measures include, but are not limited to, more frequent rotation of traveling screens, use of a low pressure wash to remove fish prior to any high pressure spray to remove debris, maintaining adequate volume of water in a fish return, and debris minimization measures such as air sparging of intake screens and/or other measures taken to maintain the design intake velocity.

(x) Social benefits means the increase in social welfare that results from taking an action. Social benefits include private benefits and those benefits not taken into consideration by private decision makers in the actions they choose to take, including effects occurring in the future. Benefits valuation involves measuring the physical and biological effects on the environment from the actions taken. Benefits are generally treated one or more of three ways: A narrative containing a qualitative discussion of environmental effects, a quantified analysis expressed in physical or biological units, and a monetized benefits analysis in which dollar values are applied to quantified physical or biological units. The dollar values in a social benefits analysis are based on the principle of willingness-to-pay (WTP), which captures monetary benefits by measuring what individuals are willing to forgo in order to enjoy a particular benefit. Willingness-to-pay for nonuse values can be measured using benefits transfer or a stated preference survey.

(y) Social costs means costs estimated from the viewpoint of society, rather than individual stakeholders. Social cost represents the total burden imposed on the economy; it is the sum of all opportunity costs incurred associated with taking actions. These opportunity costs consist of the value lost to society of all the goods and services that will not be produced and consumed as a facility complies with permit requirements, and society reallocates resources away from other production activities and towards minimizing adverse environmental impacts.

§125.93 [Reserved]

§125.94 As an owner or operator of an existing facility, what must I do to comply with this subpart?

(a) Applicable Best Technology Available for Minimizing Adverse Environmental Impact (BTA) standards. (1) On or after October 14, 2014, the owner or operator of an existing facility with a cumulative design intake flow (DIF) greater than 2 mgd is subject to the BTA (best technology available) standards for impingement mortality under paragraph (c) of this section, and entrainment under paragraph (d) of this section including any measures to protect Federally-listed threatened and endangered species and designated critical habitat established under paragraph (g) of this section.

(2) Prior to October 14, 2014, the owner or operator of an existing facility with a cumulative design intake flow (DIF) greater than 2 mgd is subject to site-specific impingement mortality and entrainment requirements as determined by the Director on a case-by-case Best Professional Judgment basis. The Director's BTA determination may be based on consideration of some or all of the factors at §125.98(f)(2) and (3) and the requirements of §125.94(c). If the Director requires additional information to make the decision on what BTA requirements to include in the applicant's permit for impingement mortality and entrainment, the Director should consider whether to require any of the information at 40 CFR 122.21(r).

(3) The owner or operator of a new unit is subject to the impingement mortality and entrainment standards under paragraph (e) of this section for all cooling water intake flows used by the new unit. The remainder of the existing facility is subject to the impingement mortality standard under paragraph (c) of this section, and the entrainment standard under paragraph (d) of this section. The entire existing facility including any new units is subject to any measures to protect Federally-listed threatened and endangered species and designated critical habitat established under paragraph (g) of this section.

(b) Compliance with BTA standards. (1) Aligning compliance deadlines for impingement

mortality and entrainment requirements. After issuance of a final permit that establishes the entrainment requirements under §125.94(d), the owner or operator of an existing facility must comply with the impingement mortality standard in §125.94(c) as soon as practicable. The Director may establish interim compliance milestones in the permit.

(2) After issuance of a final permit establishing the entrainment requirements under §125.94(d), the owner or operator of an existing facility must comply with the entrainment standard as soon as practicable, based on a schedule of requirements established by the Director. The Director may establish interim compliance milestones in the permit.

(3) The owner or operator of a new unit at an existing facility must comply with the BTA standards at §125.94(e) with respect to the new unit upon commencement of the new unit's operation.

(c) BTA Standards for Impingement Mortality. The owner or operator of an existing facility must comply with one of the alternatives in paragraphs (c)(1) through (7) of this section, except as provided in paragraphs (c)(11) or (12) of this section, when approved by the Director. In addition, a facility may also be subject to the requirements of paragraphs (c)(8), (c)(9), or (g) of this section if the Director requires such additional measures.

(1) Closed-cycle recirculating system. A facility must operate a closed-cycle recirculating system as defined at §125.92(c). In addition, you must monitor the actual intake flows at a minimum frequency of daily. The monitoring must be representative of normal operating conditions, and must include measuring cooling water withdrawals, make-up water, and blow down volume. In lieu of daily intake flow monitoring, you may monitor your cycles of concentration at a minimum frequency of daily; or

(2) 0.5 Feet Per Second Through-Screen Design Velocity. A facility must operate a cooling water intake structure that has a maximum design through-screen intake velocity of 0.5 feet per second. The owner or operator of the facility must submit information to the Director that demonstrates that the maximum design intake velocity as water passes through the structural components of a screen measured perpendicular to the screen mesh does not exceed 0.5 feet per second. The maximum velocity must be achieved under all conditions, including during minimum ambient source water surface elevations (based on BPJ using hydrological data) and during periods of maximum head loss across the screens or other devices during normal operation of the intake structure; or

(3) 0.5 Feet Per Second Through-Screen Actual Velocity. A facility must operate a cooling water intake structure that has a maximum through-screen intake velocity of 0.5 feet per second. The owner or operator of the facility must submit information to the Director that demonstrates that the maximum intake velocity as water passes through the structural components of a screen measured perpendicular to the screen mesh does not exceed 0.5 feet per second. The maximum velocity must be achieved under all conditions, including during minimum ambient source water surface elevations (based on best professional judgment using hydrological data) and during periods of maximum head loss across the screens or other devices during normal operation of the intake structure. The Director may authorize the owner or operator of the facility to exceed the 0.5 fps velocity at an intake for brief periods for the purpose of maintaining the cooling water intake system, such as backwashing the screen face. If the intake does not have a screen, the maximum intake velocity perpendicular to the opening of the intake must not exceed 0.5 feet per second during minimum ambient source water surface elevations. In addition, you must monitor the velocity at the screen at a minimum frequency of daily. In lieu of velocity monitoring at the screen

face, you may calculate the through-screen velocity using water flow, water depth, and the screen open areas; or

(4) Existing offshore velocity cap. A facility must operate an existing offshore velocity cap as defined at §125.92(v) that was installed on or before October 14, 2014. Offshore velocity caps installed after October 14, 2014 must make either a demonstration under paragraph (c)(6) of this section or meet the performance standard under paragraph (c)(7) of this section. In addition, you must monitor your intake flow at a minimum frequency of daily; or

(5) Modified traveling screens. A facility must operate a modified traveling screen that the Director determines meets the definition at §125.92(s) and that, after review of the information required in the impingement technology performance optimization study at 40 CFR 122.21(r)(6)(i), the Director determines is the best technology available for impingement reduction at the site. As the basis for the Director's determination, the owner or operator of the facility must demonstrate the technology is or will be optimized to minimize impingement mortality of all non-fragile species. The Director must include verifiable and enforceable permit conditions that ensure the technology will perform as demonstrated; or

(6) Systems of technologies as the BTA for impingement mortality. A facility must operate a system of technologies, management practices, and operational measures, that, after review of the information required in the impingement technology performance optimization study at 40 CFR 122.21(r)(6)(ii), the Director determines is the best technology available for impingement reduction at your cooling water intake structures. As the basis for the Director's determination, the owner or operator of the facility must demonstrate the system of technology has been optimized to minimize impingement mortality of all non-fragile species. In addition, the Director's decision will be informed by comparing the impingement mortality performance data under 40 CFR 122.21(r)(6)(ii)(D) to the impingement mortality performance standard that would otherwise apply under paragraph (c)(7) of this section. The Director must include verifiable and enforceable permit conditions that ensure the system of technologies will perform as demonstrated; or

(7) Impingement mortality performance standard. A facility must achieve a 12-month impingement mortality performance standard of all life stages of fish and shellfish of no more than 24 percent mortality, including latent mortality, for all non-fragile species together that are collected or retained in a sieve with maximum opening dimension of 0.56 inches and kept for a holding period of 18 to 96 hours. The Director may, however, prescribe an alternative holding period. You must conduct biological monitoring at a minimum frequency of monthly to demonstrate your impingement mortality performance. Each month, you must use all of the monitoring data collected during the previous 12 months to calculate the 12-month survival percentage. The 12-month impingement mortality performance standard is the total number of fish killed divided by the total number of fish impinged over the course of the entire 12 months. The owner or operator of the facility must choose whether to demonstrate compliance with this requirement for the entire facility, or for each individual cooling water intake structure for which this paragraph (c)(7) is the selected impingement mortality requirement.

(8) Additional measures for shellfish. The owner or operator must comply with any additional measures, such as seasonal deployment of barrier nets, established by the Director to protect shellfish.

(9) Additional measures for other species. The owner or operator must comply with any additional

measures, established by the Director, to protect fragile species.

(10) Reuse of other water for cooling purposes. This impingement mortality standard does not apply to that portion of cooling water that is process water, gray water, waste water, reclaimed water, or other waters reused as cooling water in lieu of water obtained by marine, estuarine, or freshwater intakes.

(11) De minimis rate of impingement. In limited circumstances, rates of impingement may be so low at a facility that additional impingement controls may not be justified. The Director, based on review of site-specific data submitted under 40 CFR 122.21(r), may conclude that the documented rate of impingement at the cooling water intake is so low that no additional controls are warranted. For threatened or endangered species, all unauthorized take is prohibited by the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.). Notice of a determination that no additional impingement controls are warranted must be included in the draft or proposed permit and the Director's response to all comments on this determination must be included in the record for the final permit.

(12) Low capacity utilization power generating units. If an existing facility has a cooling water intake structure used for one or more existing electric generating units, each with an annual average capacity utilization rate of less than 8 percent averaged over a 24-month block contiguous period, the owner or operator may request the Director consider less stringent requirements for impingement mortality for that cooling water intake structure. The Director may, based on review of site-specific data concerning cooling water system data under 40 CFR 122.21(r)(5), establish the BTA standards for impingement mortality for that cooling water intake structure that are less stringent than paragraphs (c)(1) through (7) of this section.

(d) BTA standards for entrainment for existing facilities. The Director must establish BTA standards for entrainment for each intake on a site-specific basis. These standards must reflect the Director's determination of the maximum reduction in entrainment warranted after consideration of the relevant factors as specified in §125.98. The Director may also require periodic reporting on your progress towards installation and operation of site-specific entrainment controls. These reports may include updates on planning, design, and construction or other appropriate topics as required by the Director. If the Director determines that the site-specific BTA standard for entrainment under this paragraph requires performance equivalent to a closed-cycle recirculating system as defined at §125.92(c), then under §125.94(c)(1) your facility will comply with the impingement mortality standard for that intake.

(e) BTA standards for impingement mortality and entrainment for new units at existing facilities. The owner or operator of a new unit at an existing facility must achieve the impingement mortality and entrainment standards provided in either paragraph (e)(1) or (2) of this section, except as provided in paragraph (e)(4) of this section, for each cooling water intake structure used to provide cooling water to the new unit.

(1) Requirements for new units. The owner or operator of the facility must reduce the design intake flow for the new unit, at a minimum, to a level commensurate with that which can be attained by the use of a closed-cycle recirculating system for the same level of cooling for the new unit.

(2) Alternative requirements for new units. The owner or operator of a new unit at an existing

facility must demonstrate to the Director that the technologies and operational measures employed will reduce the level of adverse environmental impact from any cooling water intake structure used to supply cooling water to the new unit to a comparable level to that which would be achieved under §125.94(e)(1). This demonstration must include a showing that the entrainment reduction is equivalent to 90 percent or greater of the reduction that could be achieved through compliance with §125.94(e)(1). In addition this demonstration must include a showing that the impacts to fish and shellfish, including important forage and predator species, within the watershed will be comparable to those which would result under the requirements of §125.94(e)(1).

(3) This standard does not apply to:

(i) Process water, gray water, waste water, reclaimed water, or other waters reused as cooling water in lieu of water obtained by marine, estuarine, or freshwater intakes;

(ii) Cooling water used by manufacturing facilities for contact cooling purposes;

(iii) Portions of those water withdrawals for auxiliary plant cooling uses comprising less than two mgd of the facility's flow; and

(iv) Any quantity of emergency back-up water flows.

(4) The owner or operator of a facility must comply with any alternative requirements established by the Director pursuant to §125.98(b)(7).

(5) For cooling water flows excluded by paragraph (e)(3) of this section, the Director may establish additional BTA standards for impingement mortality and entrainment on a site-specific basis.

(f) Nuclear facilities. If the owner or operator of a nuclear facility demonstrates to the Director, upon the Director's consultation with the Nuclear Regulatory Commission, the Department of Energy, or the Naval Nuclear Propulsion Program, that compliance with this subpart would result in a conflict with a safety requirement established by the Commission, the Department, or the Program, the Director must make a site-specific determination of best technology available for minimizing adverse environmental impact that would not result in a conflict with the Commission's, the Department's, or the Program's safety requirement.

(g) Additional measures to protect Federally-listed threatened and endangered species and designated critical habitat. The Director may establish in the permit additional control measures, monitoring requirements, and reporting requirements that are designed to minimize incidental take, reduce or remove more than minor detrimental effects to Federally-listed species and designated critical habitat, or avoid jeopardizing Federally-listed species or destroying or adversely modifying designated critical habitat (e.g., prey base). Such control measures, monitoring requirements, and reporting requirements may include measures or requirements identified by an appropriate Field Office of the U.S. Fish and Wildlife Service and/or Regional Office of the National Marine Fisheries Service during the 60 day review period pursuant to §125.98(h) or the public notice and comment period pursuant to 40 CFR 124.10. Where established in the permit by the Director, the owner or operator must implement any such requirements.

(h) Interim BTA requirements. An owner or operator of a facility may be subject to interim BTA requirements established by the Director in the permit on a site-specific basis.

(i) More stringent standards. The Director must establish more stringent requirements as best technology available for minimizing adverse environmental impact if the Director determines that compliance with the applicable requirements of this section would not meet the requirements of applicable State or Tribal law, including compliance with applicable water quality standards (including designated uses, criteria, and antidegradation requirements).

(j) The owner or operator of a facility subject to this subpart must:

(1) Submit and retain permit application and supporting information as specified in §125.95;

(2) Conduct compliance monitoring as specified in §125.96; and

(3) Report information and data and keep records as specified in §125.97.

§125.95 Permit application and supporting information requirements.

(a) Permit application submittal timeframe for existing facilities. (1) The owner or operator of a facility subject to this subpart whose currently effective permit expires after July 14, 2018, must submit to the Director the information required in the applicable provisions of 40 CFR 122.21(r) when applying for a subsequent permit (consistent with the owner or operator's duty to reapply pursuant to 40 CFR 122.21(d)).

(2) The owner or operator of a facility subject to this subpart whose currently effective permit expires prior to or on July 14, 2018, may request the Director to establish an alternate schedule for the submission of the information required in 40 CFR 122.21(r) when applying for a subsequent permit (consistent with the owner or operator's duty to reapply pursuant to 40 CFR 122.21(d)). If the owner or operator of the facility demonstrates that it could not develop the required information by the applicable date for submission, the Director must establish an alternate schedule for submission of the required information.

(3) The Director may waive some or all of the information requirements of 40 CFR 122.21(r) if the intake is located in a manmade lake or reservoir and the fisheries are stocked and managed by a State or Federal natural resources agency or the equivalent. If the manmade lake or reservoir contains Federally-listed threatened and endangered species, or is designated critical habitat, such a waiver shall not be granted.

(b) Permit application submittal timeframe for new units. For the owner or operator of any new unit at an existing facility subject to this subpart:

(1) You must submit the information required in 40 CFR 122.21(r) for the new unit to the Director no later than 180 days before the planned commencement of cooling water withdrawals for the operation of the new unit. If you have already submitted the required information in your previous permit application, you may choose to submit an update to the required information.

(2) The owner or operator is encouraged to submit their permit applications well in advance of the 180 day requirement to avoid delay.

(c) Permit applications. After the initial submission of the 40 CFR 122.21(r) permit application

studies after October 14, 2014, the owner or operator of a facility may, in subsequent permit applications, request to reduce the information required, if conditions at the facility and in the waterbody remain substantially unchanged since the previous application so long as the relevant previously submitted information remains representative of current source water, intake structure, cooling water system, and operating conditions. Any habitat designated as critical or species listed as threatened or endangered after issuance of the current permit whose range of habitat or designated critical habit includes waters where a facility intake is located constitutes potential for a substantial change that must be addressed by the owner/operator in subsequent permit applications, unless the facility received an exemption pursuant to 16 U.S.C. 1536(o) or a permit pursuant to 16 U.S.C. 1539(a) or there is no reasonable expectation of take. The owner or operator of a facility must submit its request for reduced cooling water intake structure and waterbody application information to the Director at least two years and six months prior to the expiration of its NPDES permit. The owner or operator's request must identify each element in this subsection that it determines has not substantially changed since the previous permit application and the basis for the determination. The Director has the discretion to accept or reject any part of the request.

(d) The Director has the discretion to request additional information to supplement the permit application, including a request to inspect a facility.

(e) Permit application records. The owner or operator of a facility must keep records of all submissions that are part of its permit application until the subsequent permit is issued to document compliance with the requirements of this section. If the Director approves a request for reduced permit application studies under §125.95(a) or (c) or §125.98(g), the owner or operator of a facility must keep records of all submissions that are part of the previous permit application until the subsequent permit is issued.

(f) In addition, in developing its permit application, the owner or operator of an existing facility or new unit at an existing facility must, based on readily available information at the time of the permit application, instead of the information required at §122.21(r)(4)(vi) of this chapter identify all Federally-listed threatened and endangered species and/or designated critical habitat that are or may be present in the action area.

(g) Certification. The owner or operator of a facility must certify that its permit application is true, accurate and complete pursuant to §122.22(d) of this chapter.

§125.96 Monitoring requirements.

(a) Monitoring requirements for impingement mortality for existing facilities. The Director may establish monitoring requirements in addition to those specified at §125.94(c), including, for example, biological monitoring, intake velocity and flow measurements. If the Director establishes such monitoring, the specific protocols will be determined by the Director.

(b) Monitoring requirements for entrainment for existing facilities. Monitoring requirements for entrainment will be determined by the Director on a site-specific basis, as appropriate, to meet requirements under §125.94(d).

(c) Additional monitoring requirements for existing facilities. The Director may require additional monitoring for impingement or entrainment including, but not limited to, the following:

(1) The Director may require additional monitoring if there are changes in operating conditions at the facility or in the source waterbody that warrant a re-examination of the operational conditions identified at 40 CFR 122.21(r).

(2) The Director may require additional monitoring for species not subject to the BTA requirements for impingement mortality at §125.95(c). Such monitoring requirements will be determined by the Director on a site-specific basis.

(d) Monitoring requirements for new units at existing facilities. Monitoring is required to demonstrate compliance with the requirements of §125.94(e).

(1) The Director may establish monitoring requirements for impingement, impingement mortality, and entrainment of the commercial, recreational, and forage base fish and shellfish species identified in the Source Water Baseline Biological Characterization data required by 40 CFR 122.21(r)(4). Monitoring methods used must be consistent with those used for the Source Water Baseline Biological Characterization at 40 CFR 122.21(r)(4). If the Director establishes such monitoring requirements, the frequency of monitoring and specific protocols will be determined by the Director.

(2) If your facility is subject to the requirements of §125.94(e)(1) or (2), the frequency of flow monitoring and velocity monitoring must be daily and must be representative of normal operating conditions. Flow monitoring must include measuring cooling water withdrawals, make-up water, and blowdown volume. The Director may require additional monitoring necessary to demonstrate compliance with §125.94(e).

(3) If your facility is subject to the requirements of §125.94(e)(2), you must monitor to demonstrate achievement of reductions commensurate with a closed-cycle recirculating system. You must monitor entrainable organisms at a proximity to the intake that is representative of the entrainable organisms in the absence of the intake structure. You must also monitor the latent entrainment mortality in front of the intake structure. Mortality after passing the cooling water intake structure must be counted as 100 percent mortality unless you have demonstrated to the approval of the Director that the mortality for each species is less than 100 percent. Monitoring must be representative of the cooling water intake when the structure is in operation. In addition, sufficient samples must be collected to allow for calculation of annual average entrainment levels of all life stages of fish and shellfish. Specific monitoring protocols and frequency of monitoring will be determined by the Director. You must follow the monitoring frequencies identified by the Director for at least two years after the initial permit issuance. After that time, the Director may approve a request for less frequent monitoring in the remaining years of the permit term and when a subsequent permit is reissued. The monitoring must measure the total count of entrainable organisms or density of organisms, unless the Director approves of a different metric for such measurements. In addition, you must monitor the AIF for each intake. The AIF must be measured at the same time as the samples of entrainable organisms are collected. The Director may require additional monitoring necessary to demonstrate compliance with §125.94(e).

(4) The Director may require additional monitoring for impingement or entrainment at the cooling water intake structure used by a new unit including, but not limited to, the following:

(i) The Director may require additional monitoring if there are changes in operating conditions at the facility or in the source waterbody that warrant a re-examination of the operational conditions identified at 40 CFR 122.21(r).

(ii) The Director may require additional monitoring for species not subject to the BTA requirements for impingement mortality at §125.95(c). Such monitoring requirements will be determined by the Director on a site-specific basis.

(e) Visual or remote inspections. You must either conduct visual inspections or employ remote monitoring devices during the period the cooling water intake structure is in operation. You must conduct such inspections at least weekly to ensure that any technologies operated to comply with §125.94 are maintained and operated to function as designed including those installed to protect Federally-listed threatened or endangered species or designated critical habitat. The Director may establish alternative procedures if this requirement is not feasible (e.g., an offshore intake, velocity cap, or during periods of inclement weather).

(f) Request for reduced monitoring. For facilities that are subject to §125.94(c)(7) and where the facility's cooling water intake structure does not directly or indirectly affect Federally-listed threatened and endangered species, or designated critical habitat, the owner or operator of the facility may request the Director to reduce monitoring requirements after the first full permit term in which these monitoring requirements are implemented, on the condition that the results of the monitoring to date demonstrate that the owner or operator of the facility has consistently operated the intake as designed and is meeting the requirements of §125.94(c).

(g) Additional monitoring related to Federally-listed threatened and endangered species and designated critical habitat at existing facilities. Where the Director requires additional measures to protect Federally-listed threatened or endangered species or designated critical habitat pursuant to §125.94(g), the Director shall require monitoring associated with those measures.

§125.97 Other permit reporting and recordkeeping requirements.

The owner or operator of an existing facility subject to this subpart is required to submit to the Director the following information:

(a) Monitoring reports. Discharge Monitoring Reports (DMRs) (or equivalent State reports) and results of all monitoring, demonstrations, and other information required by the permit sufficient to determine compliance with the permit conditions and requirements established under §125.94.
(b) Status reports. Any reports required by the Director under §125.94.

(c) Annual certification statement and report. An annual certification statement signed by the responsible corporate officer as defined in §122.22 of this chapter subject to the following:

(1) If the information contained in the previous year's annual certification is still pertinent, you may simply state as such in a letter to the Director and the letter, along with any applicable data submission requirements specified in this section shall constitute the annual certification.

(2) If you have substantially modified operation of any unit at your facility that impacts cooling water withdrawals or operation of your cooling water intake structures, you must provide a summary of those changes in the report. In addition, you must submit revisions to the information

required at §122.21(r) of this chapter in your next permit application.

(d) Permit reporting records retention. Records of all submissions that are part of the permit reporting requirements of this section must be retained until the subsequent permit is issued. In addition, the Director may require supplemental recordkeeping such as compliance monitoring under §125.96, supplemental data collection under 40 CFR 122.21, additional monitoring or data collection under §125.95.

(e) Reporting. The Director has the discretion to require additional reporting when necessary to establish permit compliance and may provide for periodic inspection of the facility. The Director may require additional reporting including but not limited to the records required under §125.97(d).

(f) Records of Director's Determination of BTA for Entrainment. All records supporting the Director's Determination of BTA for Entrainment under §125.98(f) or (g) must be retained until such time as the Director revises the Determination of BTA for Entrainment in the permit.

(g) Additional reporting requirements related to Federally-listed threatened and endangered species or designated critical habitat. Where the Director requires additional measures to protect Federally-listed threatened or endangered species or critical habitat pursuant to §125.94(g), the Director shall require reporting associated with those measures.

§125.98 Director requirements.

(a) Permit application. The Director must review the materials submitted by the applicant under 40 CFR 122.21(r) for completeness pursuant to 40 CFR 122.21(e) at the time of initial permit application and any application for a subsequent permit.

(b) Permitting requirements. Section 316(b) requirements are implemented through an NPDES permit. Based on the information submitted in the permit application, the Director must determine the requirements and conditions to include in the permit.

(1) Such permits, including permits with alternative requirements under paragraph (b)(7) of this section, must include the following language as a permit condition: “Nothing in this permit authorizes take for the purposes of a facility's compliance with the Endangered Species Act.”

(2) In the case of any permit issued after July 14, 2018, at a minimum, the permit must include conditions to implement and ensure compliance with the impingement mortality standard at §125.94(c) and the entrainment standard at §125.94(d), including any measures to protect Federally-listed threatened and endangered species and designated critical habitat required by the Director. In addition, the permit must include conditions, management practices and operational measures necessary to ensure proper operation of any technology used to comply with the impingement mortality standard at §125.94(c) and the entrainment standard at §125.94(d). Pursuant to §125.94(g), the permit may include additional control measures, monitoring requirements, and reporting requirements that are designed to minimize incidental take, reduce or remove more than minor detrimental effects to Federally-listed species and designated critical habitat, or avoid jeopardizing Federally-listed species or destroying or adversely modifying designated critical habitat (e.g. prey base). Such control measures, monitoring requirements, and

reporting requirements may include measures or requirements identified by the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service during the 60 day review period pursuant to §125.98(h) or the public notice and comment period pursuant to 40 CFR 124.10. The Director may include additional permit requirements if:

(i) Based on information submitted to the Director by any fishery management agency or other relevant information, there are migratory or sport or commercial species subject to entrainment that may be directly or indirectly affected by the cooling water intake structure; or

(ii) It is determined by the Director, based on information submitted by any fishery management agencies or other relevant information, that operation of the facility, after meeting the entrainment standard of this section, would still result in undesirable cumulative stressors to Federally-listed and proposed, threatened and endangered species, and designated and proposed critical habitat.

(3) At a minimum, the permit must require the permittee to monitor as required at §§125.94 and 125.96.

(4) At a minimum, the permit must require the permittee to report and keep the records specified at §125.97.

(5) After October 14, 2014, in the case of any permit issued before July 14, 2018 for which the Director, pursuant to §125.95(a)(2), has established an alternate schedule for submission of the information required by 40 CFR 122.21(r), the Director may include permit conditions to ensure that, for any subsequent permit, the Director will have all the information required by 40 CFR 122.21(r) necessary to establish impingement mortality and entrainment BTA requirements under §125.94(c) and (d). In addition, the Director must establish interim BTA requirements in the permit based on the Director's best professional judgment on a site-specific basis in accordance with §125.90(b) and 40 CFR 401.14.

(6) In the case of any permit issued after October 14, 2014, and applied for before October 14, 2014, the Director may include permit conditions to ensure that the Director will have all the information under 40 CFR 122.21(r) necessary to establish impingement mortality and entrainment BTA requirements under §125.94(c) and (d) for the subsequent permit. The Director must establish interim BTA requirements in the permit on a site-specific basis based on the Director's best professional judgment in accordance with §125.90(b) and 40 CFR 401.14.

(7) For new units at existing facilities, the Director may establish alternative requirements if the data specific to the facility indicate that compliance with the requirements of §125.94(e)(1) or (2) for each new unit would result in compliance costs wholly out of proportion to the costs EPA considered in establishing the requirements at issue, or would result in significant adverse impacts on local air quality, significant adverse impacts on local water resources other than impingement or entrainment, or significant adverse impacts on local energy markets:

(i) The alternative requirements must achieve a level of performance as close as practicable to the requirements of §125.94(e)(1);

(ii) The alternative requirements must ensure compliance with these regulations, other provisions of the Clean Water Act, and State and Tribal law;

(iii) The burden is on the owner or operator of the facility requesting the alternative requirement to demonstrate that alternative requirements should be authorized for the new unit.

(8) The Director may require additional measures such as seasonal deployment of barrier nets, to protect shellfish.

(c) Compliance schedule. When the Director establishes a schedule of requirements under §125.94(b), the schedule must provide for compliance with §125.94(c) and (d) as soon as practicable. When establishing a schedule for electric power generating facilities, the Director should consider measures to maintain adequate energy reliability and necessary grid reserve capacity during any facility outage. These may include establishing a staggered schedule for multiple facilities serving the same localities. The Director may confer with independent system operators and state public utility regulatory agencies when establishing a schedule for electric power generating facilities. The Director may determine that extenuating circumstances (e.g., lengthy scheduled outages, future production schedules) warrant establishing a different compliance date for any manufacturing facility.

(d) Supplemental Technologies and Monitoring. The Director may require additional technologies for protection of fragile species, and may require additional monitoring of species of fish and shellfish not already required under §125.95(c). The Director may consider data submitted by other interested parties. The Director may also require additional study and monitoring if a threatened or endangered species has been identified in the vicinity of the intake.

(e) Impingement technology performance optimization study. The owner or operator of a facility that chooses to comply with §125.94(c)(5) or (6) must demonstrate in its impingement technology performance optimization study that the operation of its impingement reduction technology has been optimized to minimize impingement mortality of non-fragile species. The Director may request further data collection and information as part of the impingement technology performance optimization study, including extending the study period beyond two years. The Director may also consider previously collected biological data and performance reviews as part of the study. The Director must include in the permit verifiable and enforceable permit conditions that ensure the modified traveling screens or other systems of technologies will perform as demonstrated. The Director may waive all or part of the impingement technology performance optimization study at 40 CFR122.21(r)(6) after the first permit cycle wherein the permittee is deemed in compliance with §125.94(c).

(f) Site-specific entrainment requirements. The Director must establish site-specific requirements for entrainment after reviewing the information submitted under 40 CFR 122.21(r) and §125.95. These entrainment requirements must reflect the Director's determination of the maximum reduction in entrainment warranted after consideration of factors relevant for determining the best technology available for minimizing adverse environmental impact at each facility. These entrainment requirements may also reflect any control measures to reduce entrainment of Federally-listed threatened and endangered species and designated critical habitat (e.g. prey base). The Director may reject an otherwise available technology as a basis for entrainment requirements if the Director determines there are unacceptable adverse impacts including impingement, entrainment, or other adverse effects to Federally-listed threatened or endangered species or designated critical habitat. Prior to any permit reissuance after July 14, 2018, the Director must review the performance of the facility's installed entrainment technology to determine whether it continues to meet the requirements of §125.94(d).

(1) The Director must provide a written explanation of the proposed entrainment determination in the fact sheet or statement of basis for the proposed permit under 40 CFR 124.7 or 124.8. The written explanation must describe why the Director has rejected any entrainment control technologies or measures that perform better than the selected technologies or measures, and must reflect consideration of all reasonable attempts to mitigate any adverse impacts of otherwise available better performing entrainment technologies.

(2) The proposed determination in the fact sheet or statement of basis must be based on consideration of any additional information required by the Director at §125.98(i) and the following factors listed below. The weight given to each factor is within the Director's discretion based upon the circumstances of each facility.

(i) Numbers and types of organisms entrained, including, specifically, the numbers and species (or lowest taxonomic classification possible) of Federally-listed, threatened and endangered species, and designated critical habitat (e.g., prey base);

(ii) Impact of changes in particulate emissions or other pollutants associated with entrainment technologies;

(iii) Land availability inasmuch as it relates to the feasibility of entrainment technology;

(iv) Remaining useful plant life; and

(v) Quantified and qualitative social benefits and costs of available entrainment technologies when such information on both benefits and costs is of sufficient rigor to make a decision.

(3) The proposed determination in the fact sheet or statement of basis may be based on consideration of the following factors to the extent the applicant submitted information under 40 CFR 122.21(r) on these factors:

(i) Entrainment impacts on the waterbody;

(ii) Thermal discharge impacts;

(iii) Credit for reductions in flow associated with the retirement of units occurring within the ten years preceding October 14, 2014;
(iv) Impacts on the reliability of energy delivery within the immediate area;

(v) Impacts on water consumption; and

(vi) Availability of process water, gray water, waste water, reclaimed water, or other waters of appropriate quantity and quality for reuse as cooling water.

(4) If all technologies considered have social costs not justified by the social benefits, or have unacceptable adverse impacts that cannot be mitigated, the Director may determine that no additional control requirements are necessary beyond what the facility is already doing. The Director may reject an otherwise available technology as a BTA standard for entrainment if the social costs are not justified by the social benefits.

(g) Ongoing permitting proceedings. In the case of permit proceedings begun prior to October 14, 2014 whenever the Director has determined that the information already submitted by the owner or operator of the facility is sufficient, the Director may proceed with a determination of BTA standards for impingement mortality and entrainment without requiring the owner or operator of the facility to submit the information required in 40 CFR 122.21(r). The Director's BTA determination may be based on some or all of the factors in paragraphs (f)(2) and (3) of this section and the BTA standards for impingement mortality at §125.95(c). In making the decision on whether to require additional information from the applicant, and what BTA requirements to include in the applicant's permit for impingement mortality and site-specific entrainment, the Director should consider whether any of the information at 40 CFR 122.21(r) is necessary.

(h) The Director must transmit all permit applications for facilities subject to this subpart to the appropriate Field Office of the U.S. Fish and Wildlife Service and/or Regional Office of the National Marine Fisheries Service upon receipt for a 60 day review prior to public notice of the draft or proposed permit. The Director shall provide the public notice and an opportunity to comment as required under 40 CFR 124.10 and must submit a copy of the fact sheet or statement of basis (for EPA-issued permits), the permit application (if any) and the draft permit (if any) to the appropriate Field Office of the. Fish and Wildlife Service and/or Regional Office of the National Marine Fisheries Service. This includes notice of specific cooling water intake structure requirements at §124.10(d)(1)(ix) of this chapter, notice of the draft permit, and any specific information the Director has about threatened or endangered species and critical habitat that are or may be present in the action area, including any proposed control measures and monitoring and reporting requirements for such species and habitat.

(i) Additional information. In implementing the Director's responsibilities under the provisions of this subpart, the Director is authorized to inspect the facility and to request additional information needed by the Director for determining permit conditions and requirements, including any additional information from the facility recommended by the Services upon review of the permit application under paragraph (h) of this section.

(j) Nothing in this subpart authorizes the take, as defined at 16 U.S.C. 1532(19), of threatened or endangered species of fish or wildlife. Such take is prohibited under the Endangered Species Act unless it is exempted pursuant to 16 U.S.C. 1536(o) or permitted pursuant to 16 U.S.C. 1539(a). Absent such exemption or permit, any facility operating under the authority of this regulation must not take threatened or endangered wildlife.

(k) The Director must submit at least annually to the appropriate EPA Regional Office facilities' annual reports submitted pursuant to §125.97(g), for compilation and transmittal to the Services.

§125.99 [Reserved]

Appendix C – Wasteload Allocation

National Pollutant Discharge Elimination System
Wasteload Allocation Form

Part I: Background Information

WLA Request Type: Reissuance ☒ Modification ☐ Relocation ☐ New Discharge ☐ New Discharge ☐

Facility Name: Georgia Power – Plant Wansley County: Heard WQMU: 1292

NPDES Permit No.: GA0026778 Expiration Date: Extended Outfall Number:

Receiving Water: Chattahoochee River River Basin: Chattahoochee 10-Digit HUC: 0313000204

Discharge Type: Domestic ☐ Industrial ☒ Both ☐ Proportion (D:I): Flow(s) Requested (MGD):

Industrial Contributions Type(s): Cooling Water, Ash Pond, Low Volume Waste Stream(s)

Treatment Process Description: Closed Cycle Cooling, Settling Basins

Additional Information: (history, special conditions, other facilities):

Requested by: Kerby Wood Title: EE Program: WRP

Telephone: Date: 22.Jun.18

Part II: Receiving Water Information

Receiving Water: Chattahoochee River Designated Use Classification: Fishing/Drinking Water

Integrated 305(b)/303(d) List: Yes ☒ No ☐ Support: ☐ Not Support: ☒ Criteria: Fecal Coliform, FCG

Total Maximum Daily Load: Yes ☒ No ☐ Parameter(s) FC, PCBs WLA Complies with TMDL Yes ☒ No ☐

TMDLs did not identify this facility as a source of fecal coliform or PCBs.

Part III: Water Quality Model Review Information

Model Type: Uncalibrated ☐ Calibrated ☐ Verified ☐ Cannot be Modeled ☐ Model Length (mi):

Field Data: None ☐ Fair ☐ Good ☐ Excellent ☐

Model and Field Data Description:

Critical Water Temperature:(°C): 26 Drainage Area (mi²): Mean annual streamflow at discharge (cfs): 3998

7Q10 Yield (cfs/mi²): Velocity (range fps): 30Q3 streamflow at discharge (cfs): 1741

Effluent Flow Rate (cfs): IWC (%): 7Q10 streamflow at discharge (cfs): 1196

Slope (range - fpm): K1: K3: K2 : 1Q10 streamflow at discharge (cfs): 1070

SOD: Escape Coef. (ft^{-1}): f-Ratio BOD_u/BOD_5): Background Hardness (as $CaCO_3$)(mg/L): 53

Hardness is based on average of 2017 data from RV_12_16774 Chattahoochee River at Hollingsworth Ferry Road.

Part IV: Recommended Permit Limitations and Conditions (mg/L as a monthly average except as noted)

Rationale: Same as current ☐ Revised ☒ New ☐

Location: Chattahoochee River

Outfall Designation	TRC (daily max.)	pH (std. units)	NH_3-N
01	—	6.0 – 9.0	11
05, 06	0.5*	—	—

Additional Comments:

- Priority pollutants permit limits, aquatic toxicity testing requirements, and other parameters required by categorical effluent guidelines or identified during review of permit application are to be determined by WRP.
- *TRC limit would be recommended only if chlorine is utilized for cleaning/maintenance.

Prepared by: Josh Welte JW Date: 2.Aug.18 Reviewed by: Date:

Part V: Program Manager Comments

Elizabeth A. Booth

Booth Date: 8/6/18

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.on Division

Appendix D – Reasonable Potential Analysis

Reasonable Potential Analysis for Freshwater

Permit Name: Georgia Power Company - Plant Wansley

NPDES Permit No.: GA0026778

Outfall No. 01

Stream Data:

Receiving stream Hardness:	53	mg/L
Upstream TSS:	10	mg/L
7Q10:	1,196.00	ft^3/s
	772,941,312	gal/day
1Q10:	1,070.00	ft^3/s
	691,511,040	gal/day

Effluent Data:

Flow	117,839,520	gal/day
TSS	16.20	mg/L
Instream TSS:	10.82	mg/L
Acute Dilution factor:	6.87	
Chronic Dilution factor:	7.56	

Water Quality Criteria:

Mean annual streamflow at discharge:	3,998.00	ft^3/s
	2,583,795,456	gal/day
Dilution factor:	22.926	
IWC	13.22878937	

$$IWC = \frac{Flow\ (^{gal}/_{day})}{Flow\ (^{gal}/_{day}) + 7Q10(^{gal}/_{day})}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K_{PO}	α	f_D	Maximum effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0.00	0.00	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	1.09	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	338.75	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	16.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	7.39	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	32.15	no
Mercury	NA	NA	NA	0.0027	0.0004	1.40	no
Nickel	4.90.E+05	-0.572	0.00	0.00	0.00	273.65	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.43	no

$$\text{Acute Dilution Factor} = \frac{1Q10\ \left(^{gal}/_{day}\right) + Flow\ \left(^{gal}/_{day}\right)}{Flow\ \left(^{gal}/_{day}\right)}$$

Chronic Water Quality Criteria ($WQC_{Chronic}$)

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0.00	0.00	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	0.16	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	44.06	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	11.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	5.21	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	1.25	no
Mercury	NA	NA	NA	0.0027	0.0004	0.012	no
Nickel	4.90.E+05	-0.572	0.00	0.00	0.00	30.39	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.99	no
Selenium	NA	NA	NA	9.00	1.19	5.00	no

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

$$\text{Chronic Dilution Factor} = \frac{7Q10\ \left(^{gal}/_{day}\right) + Flow\ \left(^{gal}/_{day}\right)}{Flow\ \left(^{gal}/_{day}\right)}$$

Total Recoverable Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L) 30-Day Avg	Chronic C_T (lbs/day) 30-Day Avg	Acute C_T (µg/L) Daily Max	Acute C_T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	N/A	N/A	--	--

(1)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E}$$

(2)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

NOTES:

(1) Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33**:

(2) Assuming background dissolved metal concentration (C_S) in the stream is 0 µg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constinuent will be placed in the permit.

End of report

Reasonable Potential Analysis for Freshwater

Permit Name: Georgia Power Company - Plant Wansley
NPDES Permit No.: GA0026778
Outfall No. 01

Stream Data:

Receiving stream Hardness:	53	mg/L
Upstream TSS:	10	mg/L
7Q10:	1,196	ft^3/s
	772,941,312	gal/day
1Q10:	1,070	ft^3/s
	691,511,040	gal/day

Effluent Data:

Flow	117,839,520	gal/day
TSS	16	mg/L
Instream TSS:	10.82	mg/L
Acute Dilution factor:	6.87	
Chronic Dilution factor:	7.56	

Water Quality Criteria:

Mean annual streamflow at discharge:	3,998	ft^3/s
	2,583,795,456	gal/day
Dilution factor:	22.926	

Water Quality Criteria (WQC)

Nonmetal	**Maximum** effluent C_T (µg/L)	Instream Concentration (µg/L)	WQC (µg/L)	WQC/2 (µg/L)	Action needed?
Chloroform	2.1	0.09	470	235	**no**

$$\text{Dilution Factor} = \frac{\text{Mean annual streamflow at discharge}\left(\text{gal/day}\right) + \text{Flow}\left(\text{gal/day}\right)}{\text{Flow}\left(\text{gal/day}\right)}$$

Reasonable Potential Analysis for Freshwater

Permit Name: Georgia Power Company - Plant Wansley

NPDES Permit No.: GA0026778

Outfall No. 01E

Stream Data:

Receiving stream Hardness:	**53**	mg/L
Upstream TSS:	**10**	mg/L
7Q10:	**1,196.00**	ft^3/s
	772,941,312	gal/day
1Q10:	**1,070.00**	ft^3/s
	691,511,040	gal/day

Effluent Data:

Flow	**117,839,520**	gal/day
TSS	**16.20**	mg/L
Instream TSS:	10.82	mg/L
Acute Dilution factor:	6.87	
Chronic Dilution factor:	7.56	

Water Quality Criteria:

Mean annual streamflow at discharge:	**3,998.00**	ft^3/s
	2,583,795,456	gal/day
Dilution factor:	22.926	
IWC	13.22878937	

$$IWC = \frac{Flow\ (^{gal}/_{day})}{Flow\ (^{gal}/_{day}) + 7Q10(^{gal}/_{day})}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K_{PO}	α	f_D	Maximum effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0.00	0.00	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	1.09	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	338.75	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	16.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	7.39	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	32.15	no
Mercury	NA	NA	NA	0.0027	0.0004	1.40	no
Nickel	4.90.E+05	-0.572	0.00	0.00	0.00	273.65	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.43	no

$$\text{Acute Dilution Factor} = \frac{1Q10\ \left(^{gal}/_{day}\right) + Flow\ \left(^{gal}/_{day}\right)}{Flow\ \left(^{gal}/_{day}\right)}$$

Chronic Water Quality Criteria ($WQC_{Chronic}$)

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0.00	0.00	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	0.16	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	44.06	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	11.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	5.21	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	1.25	no
Mercury	NA	NA	NA	0.0027	0.0004	0.012	no
Nickel	4.90.E+05	-0.572	0.00	0.00	0.00	30.39	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.99	no
Selenium	NA	NA	NA	9.00	1.19	5.00	no

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

$$\text{Chronic Dilution Factor} = \frac{7Q10\ \left(^{gal}/_{day}\right) + Flow\ \left(^{gal}/_{day}\right)}{Flow\ \left(^{gal}/_{day}\right)}$$

Total Recoverable Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L) 30-Day Avg	Chronic C_T (lbs/day) 30-Day Avg	Acute C_T (µg/L) Daily Max	Acute C_T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	N/A	N/A	--	--

(1)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E}$$

(2)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

NOTES:

(1) Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33**:

(2) Assuming background dissolved metal concentration (C_S) in the stream is 0 µg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constinuent will be placed in the permit.

End of report

Reasonable Potential Analysis for Freshwater

Permit Name: Georgia Power Company - Plant Wansley
NPDES Permit No.: GA0026778
Outfall No. 01E

Stream Data:

Receiving stream Hardness:	**53**	mg/L
Upstream TSS:	**10**	mg/L
7Q10:	**1,196**	ft^3/s
	772,941,312	gal/day
1Q10:	**1,070**	ft^3/s
	691,511,040	gal/day

Effluent Data:

Flow	**117,839,520**	gal/day
TSS	**16**	mg/L
Instream TSS:	10.82	mg/L
Acute Dilution factor:	6.87	
Chronic Dilution factor:	7.56	

Water Quality Criteria:

Mean annual streamflow at discharge:	**3,998**	ft^3/s
	2,583,795,456	gal/day
Dilution factor:	22.926	

Water Quality Criteria (WQC)

Nonmetal	**Maximum** effluent C_T (µg/L)	Instream Concentration (µg/L)	WQC (µg/L)	WQC/2 (µg/L)	Action needed?
Chloroform	2.1	0.09	470	235	**no**

$$\text{Dilution Factor} = \frac{\text{Mean annual streamflow at discharge}\left(\text{gal/day}\right) + \text{Flow}\left(\text{gal/day}\right)}{\text{Flow}\left(\text{gal/day}\right)}$$

Reasonable Potential Analysis for Freshwater

Permit Name: Georgia Power Company - Plant Wansley

NPDES Permit No.: GA0026778

Outfall No. 03A

Stream Data:

Receiving stream Hardness:	53	mg/L
Upstream TSS:	10	mg/L
7Q10:	0.01	ft^3/s
	7,109	gal/day
1Q10:	0.01	ft^3/s
	5,170	gal/day

Effluent Data:

Flow	7,560,000	gal/day
TSS	8.00	mg/L
Instream TSS:	8.00	mg/L
Acute Dilution factor:	1.00	
Chronic Dilution factor:	1.00	

Water Quality Criteria:

Mean annual streamflow at discharge:	0.80	ft^3/s
	518,956	gal/day
Dilution factor:	1.069	
IWC	99.90605406	

$$IWC = \frac{Flow\ (^{gal}/_{day})}{Flow\ (^{gal}/_{day}) + 7Q10(^{gal}/_{day})}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K_{PO}	α	f_D	Maximum effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.54	16.40	8.89	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	1.09	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	338.75	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	16.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	7.39	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	32.15	no
Mercury	NA	NA	NA	0.0110	0.0110	1.40	no
Nickel	4.90.E+05	-0.572	0.46	5.80	2.64	273.65	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.43	no

$$\text{Acute Dilution Factor} = \frac{1Q10\ \left(^{gal}/_{day}\right) + Flow\ \left(^{gal}/_{day}\right)}{Flow\ \left(^{gal}/_{day}\right)}$$

Chronic Water Quality Criteria ($WQC_{Chronic}$)

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.54	16.40	8.89	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	0.16	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	44.06	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	11.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	5.21	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	1.25	no
Mercury	NA	NA	NA	0.0110	0.0110	0.012	yes
Nickel	4.90.E+05	-0.572	0.46	5.80	2.64	30.39	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.99	no
Selenium	NA	NA	NA	56.20	56.15	5.00	yes

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

$$\text{Chronic Dilution Factor} = \frac{7Q10\ \left(^{gal}/_{day}\right) + Flow\ \left(^{gal}/_{day}\right)}{Flow\ \left(^{gal}/_{day}\right)}$$

Total Recoverable Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L) 30-Day Avg	Chronic C_T (lbs/day) 30-Day Avg	Acute C_T (µg/L) Daily Max	Acute C_T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	0.012	0.001	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	5.00	0.316	--	--

(1)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E}$$

(2)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

NOTES:

(1) Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33**:

(2) Assuming background dissolved metal concentration (C_S) in the stream is 0 µg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constinuent will be placed in the permit.

End of report

Reasonable Potential Analysis for Freshwater

Permit Name: Georgia Power Company - Plant Wansley

NPDES Permit No.: GA0026778

Outfall No. 03B

Stream Data:

Receiving stream Hardness:	53	mg/L
Upstream TSS:	10	mg/L
7Q10:	0.01	ft^3/s
	7,109	gal/day
1Q10:	0.01	ft^3/s
	5,170	gal/day

Effluent Data:

Flow	7,560,000	gal/day
TSS	8.00	mg/L
Instream TSS:	8.00	mg/L
Acute Dilution factor:	1.00	
Chronic Dilution factor:	1.00	

Water Quality Criteria:

Mean annual streamflow at discharge:	0.80	ft^3/s
	518,956	gal/day
Dilution factor:	1.069	
IWC	99.90605406	

$$IWC = \frac{Flow\ (^{gal}/_{day})}{Flow\ (^{gal}/_{day}) + 7Q10(^{gal}/_{day})}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K_{PO}	α	f_D	Maximum effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.54	16.40	8.89	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	1.09	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	338.75	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	16.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	7.39	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	32.15	no
Mercury	NA	NA	NA	0.0110	0.0110	1.40	no
Nickel	4.90.E+05	-0.572	0.46	5.80	2.64	273.65	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.43	no

$$\text{Acute Dilution Factor} = \frac{1Q10\ \left(\frac{gal}{day}\right) + Flow\ \left(\frac{gal}{day}\right)}{Flow\ \left(\frac{gal}{day}\right)}$$

Chronic Water Quality Criteria ($WQC_{Chronic}$)

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.54	16.40	8.89	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	0.16	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	44.06	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	11.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	5.21	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	1.25	no
Mercury	NA	NA	NA	0.0110	0.0110	0.012	yes
Nickel	4.90.E+05	-0.572	0.46	5.80	2.64	30.39	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.99	no
Selenium	NA	NA	NA	56.20	56.15	5.00	yes

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

$$\text{Chronic Dilution Factor} = \frac{7Q10\ \left(\frac{gal}{day}\right) + Flow\ \left(\frac{gal}{day}\right)}{Flow\ \left(\frac{gal}{day}\right)}$$

Total Recoverable Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L) 30-Day Avg	Chronic C_T (lbs/day) 30-Day Avg	Acute C_T (µg/L) Daily Max	Acute C_T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	0.012	0.001	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	5.00	0.316	--	--

(1)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E}$$

(2)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

NOTES:

(1) Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33**:

(2) Assuming background dissolved metal concentration (C_S) in the stream is 0 µg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constinuent will be placed in the permit.

End of report

Reasonable Potential Analysis for Freshwater

Permit Name: Georgia Power Company - Plant Wansley

NPDES Permit No.: GA0026778

Outfall No. 04

Stream Data:

Receiving stream Hardness:	53	mg/L
Upstream TSS:	10	mg/L
7Q10:	0.26	ft^3/s
	170,616	gal/day
1Q10:	0.35	ft^3/s
	223,610	gal/day

Effluent Data:

Flow	7,200	gal/day
TSS	0.00	mg/L
Instream TSS:	9.60	mg/L
Acute Dilution factor:	32.06	
Chronic Dilution factor:	24.70	

Water Quality Criteria:

Mean annual streamflow at discharge:	30.70	ft^3/s
	19,840,550	gal/day
Dilution factor:	2756.632	
IWC	4.049133809	

$$IWC = \frac{Flow\ (^{gal}/_{day})}{Flow\ (^{gal}/_{day}) + 7Q10(^{gal}/_{day})}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K_{PO}	α	f_D	Maximum effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0.00	0.00	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	1.09	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	338.75	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	16.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	7.39	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	32.15	no
Mercury	NA	NA	NA	0.0230	0.0007	1.40	no
Nickel	4.90.E+05	-0.572	0.00	0.00	0.00	273.65	no
Zinc	1.25.E+06	-0.704	0.29	16.50	0.15	68.43	no

$$\text{Acute Dilution Factor} = \frac{1Q10\ \left(\frac{gal}{day}\right) + Flow\ \left(\frac{gal}{day}\right)}{Flow\ \left(\frac{gal}{day}\right)}$$

Chronic Water Quality Criteria ($WQC_{Chronic}$)

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0.00	0.00	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	0.16	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	44.06	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	11.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	5.21	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	1.25	no
Mercury	NA	NA	NA	0.0230	0.0009	0.012	no
Nickel	4.90.E+05	-0.572	0.00	0.00	0.00	30.39	no
Zinc	1.25.E+06	-0.704	0.29	16.50	0.19	68.99	no
Selenium	NA	NA	NA	0.00	0.00	5.00	no

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

$$\text{Chronic Dilution Factor} = \frac{7Q10\ \left(\frac{gal}{day}\right) + Flow\ \left(\frac{gal}{day}\right)}{Flow\ \left(\frac{gal}{day}\right)}$$

Total Recoverable Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L) 30-Day Avg	Chronic C_T (lbs/day) 30-Day Avg	Acute C_T (µg/L) Daily Max	Acute C_T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	N/A	N/A	--	--

(1)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E}$$

(2)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

NOTES:

(1) Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33**:

(2) Assuming background dissolved metal concentration (C_S) in the stream is 0 µg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constinuent will be placed in the permit.

End of report

Reasonable Potential Analysis for Freshwater

Permit Name: Georgia Power Company - Plant Wansley

NPDES Permit No.: GA0026778

Outfall No. 05

Stream Data:

Receiving stream Hardness:	53	mg/L
Upstream TSS:	10	mg/L
7Q10:	1,196.00	ft^3/s
	772,941,312	gal/day
1Q10:	1,070.00	ft^3/s
	691,511,040	gal/day

Effluent Data:

Flow	220,000	gal/day
TSS	5.00	mg/L
Instream TSS:	10.00	mg/L
Acute Dilution factor:	3144.23	
Chronic Dilution factor:	3514.37	

Water Quality Criteria:

Mean annual streamflow at discharge:	3,998.00	ft^3/s
	2,583,795,456	gal/day
Dilution factor:	11745.525	
IWC	0.028454605	

$$IWC = \frac{Flow\ (^{gal}/_{day})}{Flow\ (^{gal}/_{day}) + 7Q10(^{gal}/_{day})}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K_{PO}	α	f_D	Maximum effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0.00	0.00	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	1.09	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	338.75	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	16.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	7.39	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	32.15	no
Mercury	NA	NA	NA	0.0420	0.0000	1.40	no
Nickel	4.90.E+05	-0.572	0.00	0.00	0.00	273.65	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.43	no

$$\text{Acute Dilution Factor} = \frac{1Q10\ \left(^{gal}/_{day}\right) + Flow\ \left(^{gal}/_{day}\right)}{Flow\ \left(^{gal}/_{day}\right)}$$

Chronic Water Quality Criteria ($WQC_{Chronic}$)

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0.00	0.00	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	0.16	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	44.06	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	11.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	5.21	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	1.25	no
Mercury	NA	NA	NA	0.0420	0.0000	0.012	no
Nickel	4.90.E+05	-0.572	0.00	0.00	0.00	30.39	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.99	no
Selenium	NA	NA	NA	0.00	0.00	5.00	no

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

$$\text{Chronic Dilution Factor} = \frac{7Q10\ \left(^{gal}/_{day}\right) + Flow\ \left(^{gal}/_{day}\right)}{Flow\ \left(^{gal}/_{day}\right)}$$

Total Recoverable Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L) 30-Day Avg	Chronic C_T (lbs/day) 30-Day Avg	Acute C_T (µg/L) Daily Max	Acute C_T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	N/A	N/A	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	N/A	N/A	--	--

(1)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E}$$

(2)

$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

NOTES:

(1) Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33**:

(2) Assuming background dissolved metal concentration (C_S) in the stream is 0 µg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constinuent will be placed in the permit.

End of report

Reasonable Potential Analysis for Freshwater

Permit Name: Georgia Power Company - Plant Wansley

NPDES Permit No.: GA0026778

Outfall No. 06

Stream Data:

Receiving stream Hardness:	**53**	mg/L
Upstream TSS:	**10**	mg/L
7Q10:	**0.26**	ft^3/s
	170,616	gal/day
1Q10:	**0.35**	ft^3/s
	223,610	gal/day

Effluent Data:

Flow	**2,160,000**	gal/day
TSS	**5.00**	mg/L
Instream TSS:	5.37	mg/L
Acute Dilution factor:	1.10	
Chronic Dilution factor:	1.08	

Water Quality Criteria:

Mean annual streamflow at discharge:	**30.70**	ft^3/s
	19,840,550	gal/day
Dilution factor:	10.185	
IWC	92.67936794	

$$IWC = \frac{Flow\ (^{gal}/_{day})}{Flow\ (^{gal}/_{day}) + 7Q10(^{gal}/_{day})}$$

Acute Water Quality Criteria (WQC_{Acute})

Metal	K_{PO}	α	f_D	Maximum effluent C_T (µg/L)	Instream C_D (µg/L)	WQC_{Acute} (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0.00	0.00	340.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	1.09	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	338.75	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	16.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	7.39	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	32.15	no
Mercury	NA	NA	NA	0.0420	0.0381	1.40	no
Nickel	4.90.E+05	-0.572	0.00	0.00	0.00	273.65	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.43	no

$$\text{Acute Dilution Factor} = \frac{1Q10\ \left(^{gal}/_{day}\right) + Flow\ \left(^{gal}/_{day}\right)}{Flow\ \left(^{gal}/_{day}\right)}$$

Chronic Water Quality Criteria ($WQC_{Chronic}$)

Metal	K_{PO}	α	f_D	Average effluent C_T (µg/L)	Instream C_D (µg/L)	$WQC_{Chronic}$ (µg/L)	Action needed?
Arsenic	4.80.E+05	-0.729	0.00	0.00	0.00	150.00	no
Cadmium	4.00.E+06	-1.131	0.000	0.00	0.00	0.16	no
Chromium III	3.36.E+06	-0.930	0.00	0.00	0.00	44.06	no
Chromium VI	3.36.E+06	-0.930	0.00	0.00	0.00	11.00	no
Copper	1.04.E+06	-0.744	0.00	0.00	0.00	5.21	no
Lead	2.80.E+06	-0.800	0.00	0.00	0.00	1.25	no
Mercury	NA	NA	NA	0.0420	0.0389	0.012	yes
Nickel	4.90.E+05	-0.572	0.00	0.00	0.00	30.39	no
Zinc	1.25.E+06	-0.704	0.00	0.00	0.00	68.99	no
Selenium	NA	NA	NA	0.00	0.00	5.00	no

$$f_D = \frac{1}{1 + K_{PO} \times TSS_{Instream}(mg/L)^{(1+\alpha)} \times 10^{-6}}$$

$$\text{Instream } C_D = \frac{\text{Effluent } C_T(mg/L) \times f_D}{DF} \quad mg/L$$

$$\text{Chronic Dilution Factor} = \frac{7Q10\ \left(^{gal}/_{day}\right) + Flow\ \left(^{gal}/_{day}\right)}{Flow\ \left(^{gal}/_{day}\right)}$$

Total Recoverable Effluent Limit

Metal	C_S (µg/L)	Chronic C_T (µg/L) 30-Day Avg	Chronic C_T (lbs/day) 30-Day Avg	Acute C_T (µg/L) Daily Max	Acute C_T (lbs/day) Daily Max
Arsenic	0.0	N/A	N/A	N/A	N/A
Cadmium	0.0	N/A	N/A	N/A	N/A
Chromium III	0.0	N/A	N/A	N/A	N/A
Chromium VI	0.0	N/A	N/A	N/A	N/A
Copper	0.0	N/A	N/A	N/A	N/A
Lead	0.0	N/A	N/A	N/A	N/A
Mercury	0.0	0.01	0.000	N/A	N/A
Nickel	0.0	N/A	N/A	N/A	N/A
Zinc	0.0	N/A	N/A	N/A	N/A
Selenium	0.0	N/A	N/A	--	--

(1)
$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10) - (1Q10 \times C_S)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10) - (7Q10 \times C_S)}{Q_E}$$

(2)
$$\text{Acute } C_T = \frac{\frac{WQC_{Acute}}{f_D} \times (Q_E + 1Q10)}{Q_E}$$

$$\text{Chronic } C_T = \frac{\frac{WQC_{Chronic}}{f_D} \times (Q_E + 7Q10)}{Q_E}$$

NOTES:

(1) Chronic and acute total recoverable metal effluent concentration (C_T) from **EPA 823-B-96-007, June 1996, page 33**:

(2) Assuming background dissolved metal concentration (C_S) in the stream is 0 µg/L, equations above become:

NOTES:

*Water Quality Criteria (WQC) from State of Georgia Rules and Regulations 391-3-6-.03.

*If the calculated instream concentration is less than 50% of the instream water quality criteria, then the constinuent will be considered not to be present at levels of concern in the effluent and it will not be included in the permit.

*If the calculated instream concentration is 50% or more of the instream water quality criteria, then a permit limit for that constinuent will be placed in the permit.

End of report

Appendix E – Mixing Zone Analysis

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Richard E. Dunn, Director

Watershed Protection Branch
7 Martin Luther King, Jr. Drive
Suite 450
Atlanta, Georgia 30334
404-463-1511

MEMORANDUM

Date: March 27, 2020

To: Audra Dickson

Through: Elizabeth Booth EAB
Josh Welte JW

From: Lucy Sun LS

Subject: **Thermal Plume Analysis**
Georgia Power Company – Plant Wansley (GA0026778)
Chattahoochee River, Heard County, WQMU 1292

Introduction

This memorandum responds to a thermal modeling review request from the Wastewater Regulatory Program (WRP) for the Georgia Power Company – Plant Wansley having National Pollutant Discharge Elimination System (NPDES) permit GA0026778. This memorandum summarizes the issues involving the study report.

Background and Relevant Issues

Plant Wansley is an existing, coal-fired steam electric power generating facility. It has two cooling tower units that generate blowdown wastewater. The heated blowdown effluent is conveyed through a pipe to a retention pond where it mixes with other process wastewater and stormwater with a total maximum flow rate of 145 million gallons per day (MGD). As a conservative modeling approach, assuming no dilution, only the heated discharge flow of 32 MGD from the cooling tower blowdown was included. The final discharge enters the Chattahoochee River through a discharge channel, estimated as 15 ft wide and 2 ft deep. Georgia Power conducted a thermal plume study using the EPA-approved near-field model, CORMIX (version 11.0) to model its effluent thermal plumes. This study report, along with the model input data, has been submitted to GA EPD for review.

Plant Wansley is located along the Chattahoochee River in Heard County, Georgia. It withdraws cooling water from the Chattahoochee River. The receiving stream segment is on Georgia's 2018 305(b)/303(d) list as not supporting its designated use of "Fishing and Drinking Water", caused primarily by urban runoff and non-point source for fecal coliform bacteria and fish consumption guidance. The drainage area upstream from the outfall is approximately 2550 square miles. The estimated 7Q10 stream flow is 1196 cubic feet per second (cfs).

Applicable instream temperature criteria are a maximum of 90^0F and a ΔT of no more than 5^0F above intake temperature. The main parameters utilized in the analysis are listed in the following table. Detailed modeling input parameters can be found in the Georgia Power Company's Plant Wansley's Thermal Plume Report (Attachment).

Summary of Parameter

Parameter	Value
Maximum Effluent Flow Rate (cfs)	50
Effluent Temperature – Summer (^{0}F)	90.0
Effluent Temperature – Winter (^{0}F)	55.5
Ambient Stream Temperature – Summer (^{0}F)	85.8
Ambient Stream Temperature – Winter (^{0}F)	42.2
7Q10 Streamflow (cfs)	1196
River Channel Depth at Discharge (ft)	4.8
Average River Channel Depth (ft)	5
River Channel Width (ft)	260

Recommended Permit Limits Methodology

Analyses show that all applicable temperature criteria should be met outside of a zone having dimensions of approximately 80 ft downstream and 40 ft across at the downstream extent. The figure below illustrates the general extent of the thermal plume.

Attachment: GA Power Company's Plant Wansley's Thermal Plume Report

Georgia Power

Georgia Power Company

CORMIX Modeling of Georgia Power Company's Plant Wansley's Thermal Plume

Prepared for Georgia Power Company

10 October 2018

Project No. 0465421

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10 October 2018

CORMIX Modeling of Georgia Power Company's Plant Wansley's Thermal Plume

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Acronyms and Abbreviations

Name	Description
°C	degrees Celsius
°F	degrees Fahrenheit
cfs	cubic feet per second
EPD	Environmental Protection Division
ft.	feet
GA	Georgia
GPC	Georgia Power Company
gpm	gallons per minute
MBtu h^{-1}	Million British Thermal Units per hour
NWIS	National Water Information System
$Q_{7\text{-}10}$	Lowest one-week average discharge with a 10-year recurrence interval
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
W/(m^2 °C)	Watt per square meter per degree Celsius

1. BACKGROUND

The primary purpose of this study is to determine the size and configuration of the thermal plume resulting from the discharge of Georgia Power Company's (GPC's) Plant Wansley's cooling tower blowdown to the Chattahoochee River. The United States Environmental Protection Agency (USEPA)-approved near-field model, CORMIX (Version 11.0), was chosen for this study. CORMIX has been applied to many similar cases (http://www.cormix.info/) and is recognized by the USEPA and recommended by Georgia Environmental Protection Division (EPD)[i] as an appropriate model for computing trajectories, dilution rates, and mixing zone dimensions. This report summarizes the application of the CORMIX model to Plant Wansley's thermal discharge.

Plant Wansley is located in Carrollton, Georgia and has a nameplate capacity of approximately 1,700 megawatts of coal-fired, and 2,300 megawatts gas-fired combined-cycle power generation. Plant Wansley includes two cooling tower units, which produce a heated effluent from cooling water. The effluent is sent through a pipe, then to a retention pond where it mixes with other process wastewaters prior to entering the Chattahoochee River.

The locations of Plant Wansley, the retention pond, regulated spillway, and Chattahoochee River are shown in Figure 1. A detailed view of the spillway location and entrance to the Chattahoochee River (outfall 01) are shown in Figure 2 with the ambient flow direction.

[i] https://www.epa.gov/sites/production/files/2016-08/documents/final_ga_pqr_report.pdf

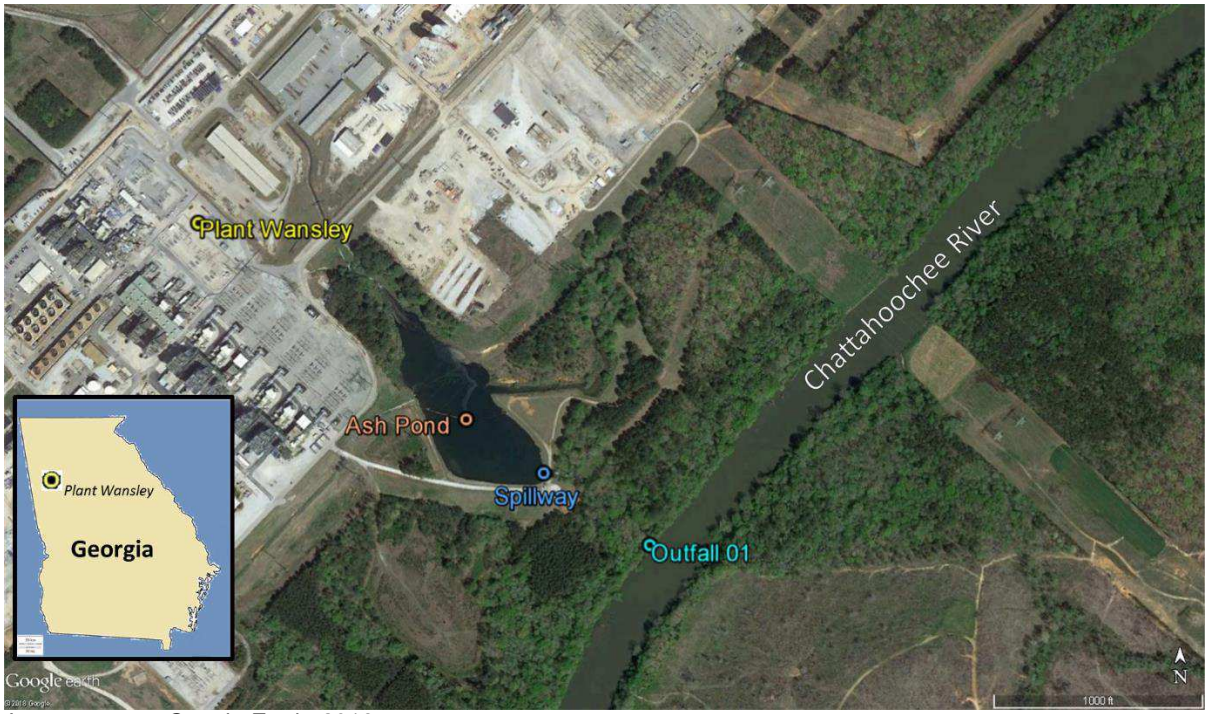

Image source: Google Earth, 2018

Figure 1: Site overview showing Plant Wansley and discharge location

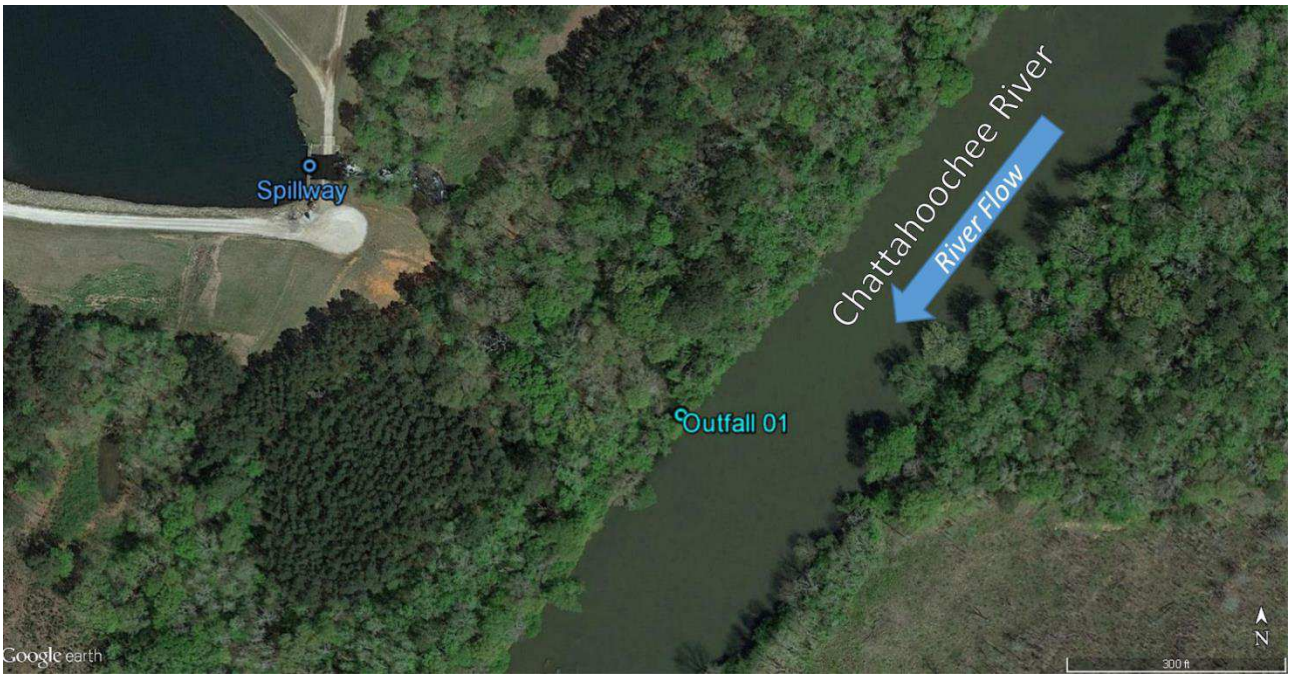

Image source: Google Earth, 2018

Figure 2: Location of discharge structure (detail)

2. CORMIX APPLICATION TO PLANT WANSLEY'S EFFLUENT

A typical CORMIX application requires three types of data as inputs:

- A description of the effluent (i.e., its flow and temperature);
- The dimensions, location, and configuration of the discharge structure; and
- The properties and characteristics of the receiving waterbody, in this case, the Chattahoochee River (i.e., width, depth, flow rate, and temperature).

GPC supplied information used as input to CORMIX in the form of reports, drawings, maps, electronic files, and website-accessible data files. Ambient Chattahoochee River data were obtained from the United States Geological Survey (USGS).

2.1 Chattahoochee River Dimensions, Flow Rate, and Temperature

2.1.1 River Dimensions and Flow Rate

The Chattahoochee River width at the discharge was determined to be 260 feet (ft.), as measured from a Google Earth image. This value was estimated from Google Earth as of April 2018 data and is representative of recent morphological changes to the stream.

A "low flow" ($Q_{7\text{-}10}$) for the Chattahoochee River is reported by the USGS in a 2016 report as 1140 cubic feet per second (cfs) (U.S. Geological Survey 2012) near Whitesburg, GA. This location is upstream of the discharge point and is likely lower than would actually occur at the discharge, therefore representing a more critical low flow value at this discharge point. This ambient flow rate was applied in the CORMIX modeling to simulate a critical discharge condition.

Two USGS gages with flow rate data for the Chattahoochee River are available nearby the Plant Wansley discharge channel. These include USGS 02338000: Chattahoochee River near Whitesburg, Georgia (GA), which is located approximately 13 miles upstream of the discharge channel entrance to the Chattahoochee River, and USGS 02338500: Chattahoochee River at GA 100, at Franklin, GA, which is located approximately 13 miles downstream of the discharge entrance to the Chattahoochee River.

In addition to river flow, river velocity data were available from the USGS 02338500 site near Franklin, GA. From the flow rate and velocity data at this downstream station, a cross sectional area corresponding to low-flow, $Q_{7\text{-}10}$ conditions can be estimated. The $Q_{7\text{-}10}$ value of 1140 cfs is based on the upstream USGS gage near Whitesburg, GA, so dates in the flow record corresponding to this flow rate were determined. Then, corresponding discharge and velocity values at the downstream gage at Franklin, GA were used to compute an average cross sectional area, assuming uniform river velocity. Dividing this cross sectional area of 1820 ft^2 by the estimated river width of 260 ft. gives an average low-flow river depth of 7 ft.

The CORMIX User Manual suggests that the difference between depth at the discharge and average depth in the region of interest is not to be modeled as greater than 30%. Therefore, for this application it was assumed that the average depth and the depth at the discharge location are both equal to 7 ft., as determined from a low-flow analysis of the available USGS data.

CORMIX calculates the velocity and cross-sectional area from the average width and depth. For the $Q_{7\text{-}10}$ and the dimensions discussed, the velocity is about 0.63 ft. per second.

2.1.2 Temperature

Relevant water quality standards reported by Georgia EPD for temperature include not exceeding 90°F in a receiving water body or exceeding a temperature increase more than 5°F above ambient temperature. Ambient temperatures for modeling were selected to demonstrate mixing zones corresponding to these two standards.

Ambient water quality data were available for several locations along the Chattahoochee River nearby Plant Wansley, including upstream and downstream locations. These locations included pooled, intermittently collected data at Whitesburg, GA and Franklin, GA, available from the National Water Information System (NWIS), and continuously monitored at USGS 02338500 at Franklin, GA. The NWIS datasets cover a longer period of time (at least 5 years) compared to the USGS gage (less than 1 year); however, temperature measurements at the NWIS stations are collected intermittently and likely do not capture all possible temperature ranges seen during the period of record. While the continuous data record from the USGS at Franklin, GA may capture more extreme events, the dataset is limited in time and likely does not include a long enough monitoring duration to be representative of long-term temperatures.

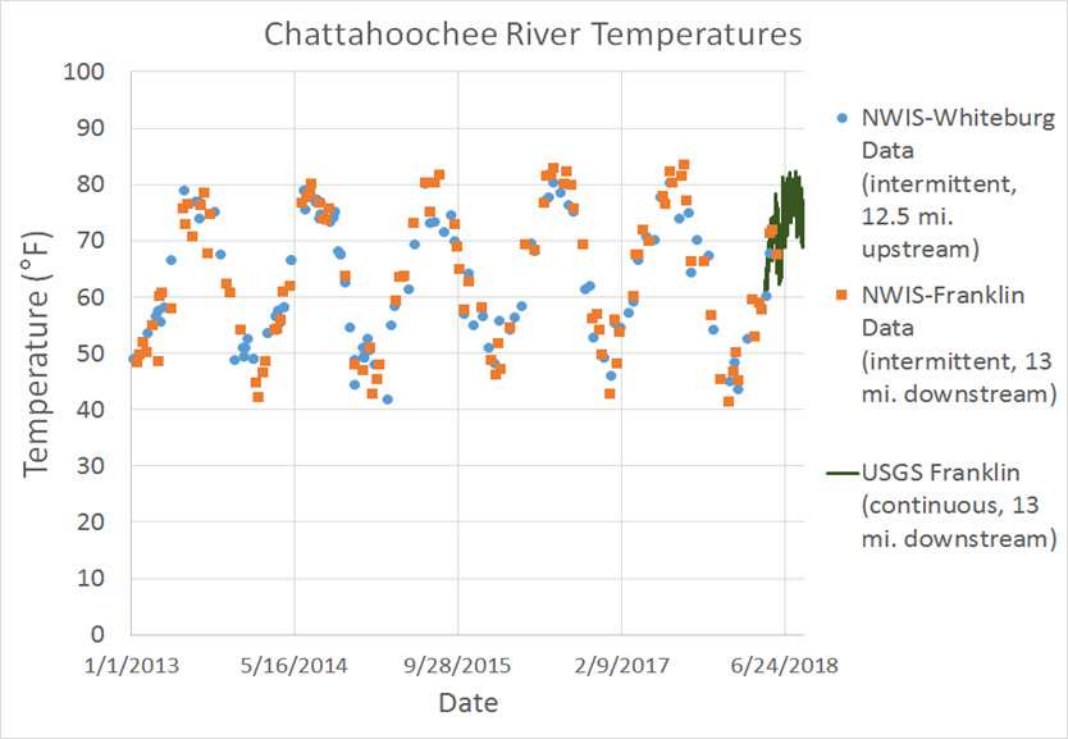

Figure 3: Comparison of three temperature datasets near Plant Wansley

The highest 1% probable temperature of these three stations was taken at the warm ("summer") ambient temperature for CORMIX modeling. To determine this, a probability plot was generated for each of the three datasets, and the highest 1%-probable temperature was evaluated as an extreme consideration. The highest of these three values was selected as the "summer" ambient temperature for modeling, which was 85.82°F from the NWIS Whitesburg temperature dataset. Correspondingly, the 1% lowest probable temperature, 42.8°F was taken from the dataset's probability distribution as the ambient temperature for the "winter" modeling case.

The probability plot of recorded temperatures from the NWIS Whitesburg dataset is shown in Figure 4.

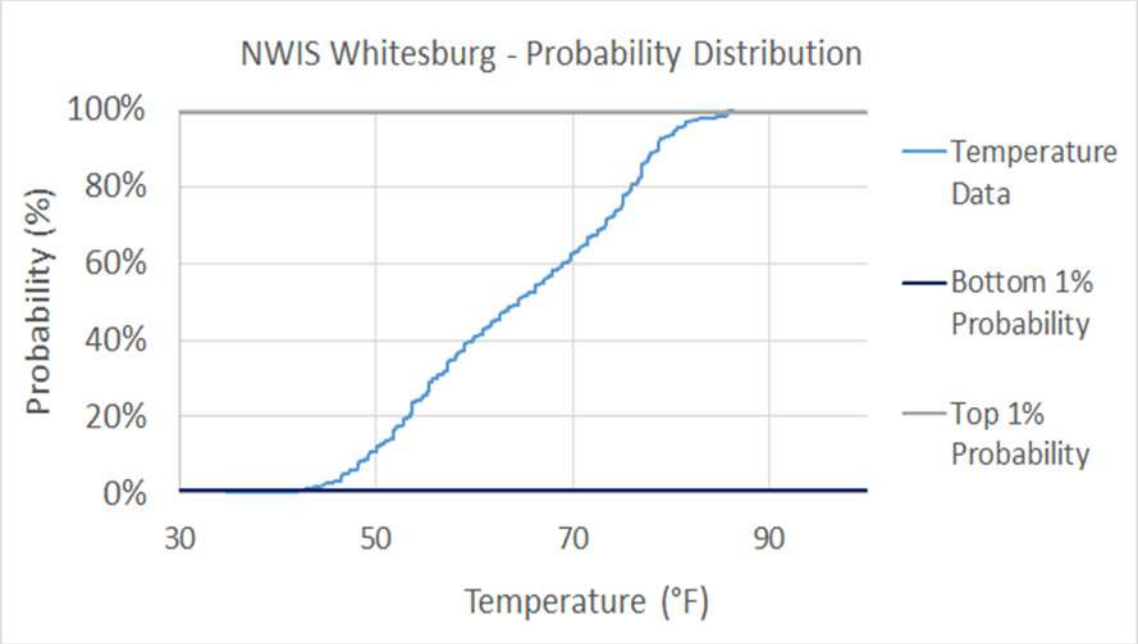

Figure 4: Probability of Chattahoochee River water temperatures measured near Whitesburg, GA and downloaded from the NWIS, including 17 February 1958 through 15 May 2018

For the 90°F temperature standard to be relevant for Plant Wansley's effluent, the ambient temperature of the Chattahoochee River must be at or above 77.8°F. Temperature above 77.8°F occur approximately 18% of the time based on the three temperature datasets combined. Therefore, the 90°F standard is relevant to Plant Wansley. An extreme, 1%-probable temperature was selected for the CORMIX modeling analysis as a conservative approach.

2.2 Configuration of the Discharge Structure

The cooling water blowdown discharge exits Plant Wansley at a total flow rate of 22,204 gallons per minute (gpm). This flow typically mixes with at least 13,700 gpm from other process wastewater and storm water discharges, diluting excess heat. The total flow, when combined with all possible diluting flows, can reach up to 100,408 gpm entering the Chattahoochee River. However, as a conservative modeling assumption, only the heated discharge flow of 22,204 gpm from the cooling tower blowdown was included, assuming no dilution, an unlikely scenario.

The discharge from the cooling tower blowdown ultimately enters the Chattahoochee River through a discharge channel, estimated as 15 ft. wide and 2 ft. deep. As a conservative approach, it was assumed that no additional flow would be included that would dilute the heated effluent from the cooling tower blowdown, and it was assumed that heat exiting the facility is conserved to the point where the flow enters the Chattahoochee River.

The discharge channel enters perpendicular to the Chattahoochee River, and at a vertical slope of approximately 15%. The discharge channel is along the right river bank as seen by an observer facing downstream. An image of the discharge channel to the Chattahoochee River is shown in Figure 5, looking downstream the channel at the entrance to the Chattahoochee River.

Figure 5: Discharge entering the Chattahoochee River from an observer's perspective looking downstream the discharge channel

2.3 Properties of the Effluent

The effluent discharge rate based on the cooling tower blowdown is 22,204 gpm, and the net heat load for the combined flows entering the Chattahoochee River is 42.8 Million British Thermal Units per hour (MBtu h^{-1}) for the summer condition and 135.4 MBtu h^{-1} for the winter condition. This is equivalent to a maximum effluent temperature rise of 4.2°F for the summer condition and 12.2°F for the winter condition.

When fully mixed in the Chattahoochee River at the $Q_{7\text{-}10}$ flow rate of 1140 cfs, the net heat added will result in a temperature rise of 0.2°F for the summer condition and 0.5°F for the winter condition.

2.4 Scenario Information

Georgia EPD water quality standards limit thermal discharges by the temperature increase in the receiving waterbody. These standards are given by temperature increases more than 5°F above ambient, and receiving waterbody temperatures greater than 90°F.

An estimate of Plant Wansley's maximum thermal loading to the Chattahoochee River results in a 4.2°F increase above ambient temperatures during the warmer summer months and 12.2°F increase above ambient temperatures during the cooler winter months. The 5°F ambient standard is not relevant for the summer modeling case, but is relevant for the winter case. For the 90°F standard to be relevant, ambient temperatures must exceed 77.8°F, which is approximately 18%-probable based on historical data. Thus, the standard for 90°F temperatures applies to the summer modeling case.

A summary of all CORMIX modeling input parameters, including the winter and summer cases, are reproduced in Table 1.

Table 1: CORMIX3 input data

Parameter	Value
Port type (surface/subsurface)	Surface discharge (CORMIX3)
Discharge channel width	15 ft.
Channel depth	2 ft.
Port orientation (horizontal angle, sigma)	90°
Bottom slope	15%
Effluent flow rate ($Q_{7\text{-}10}$)	22,204 gpm
Effluent temperature	Summer: 90.02°F; Winter: 55.5°F
Effluent temperature rise	Summer: 4.2°F; Winter: 12.2°F
Waterbody type (bounded/unbounded)	Bounded
Bounded width	260 ft.
Bed roughness (Manning or Chezy coefficient)	Manning: 0.01
Average water depth	7 ft.
Water depth at discharge structure	7 ft.
Ambient discharge ($Q_{7\text{-}10}$)	1140 cfs
Ambient temperature	Summer: 85.82°F; Winter: 42.8°F
Surface heat exchange coefficient	10 W/(m^2 °C)

3. RESULTS

3.1 CORMIX Model Results

Mixing zone dimensions for the thermal discharge from GPC's Plant Wansley have been modeled with CORMIX. The mixing zone computations are based on the maximum anticipated effluent rate and heat load, extreme seasonal Chattahoochee River temperatures, and low Chattahoochee River flow as defined by the $Q_{7\text{-}10}$. The thermal plume was modeled as a surface discharge using CORMIX's buoyant surface discharge ("CORMIX3") module. This model allows for the effluent to laterally enter the river waters through a flush channel mouth from the shoreline. The heated effluent plume then gets deflected by the incoming ambient river flow while mixing throughout the water column, causing relatively uniform spreading in the horizontal direction.

The temperature rise isotherm of interest during summer is 4.2°F. This is less than the 5°F excess temperature increase criteria, making this criteria irrelevant for the summer modeling case. The highest 1% Chattahoochee River temperature was determined to be 85.82°F and the corresponding discharge temperature is 90.02°F; consequently, the summer scenario was evaluated for the distance needed to decrease the temperature to 90°F temperature or 0.02°F decrease in temperature rise. This temperature criteria is immediately achieved in the CORMIX simulation. The 90°F criteria was not relevant for the winter scenario, but the plume resulting from the 12.2°F excess above the ambient winter temperature of 42.8°F (bottom 1%-probability) was evaluated for the 5°F excess temperature isotherm.

Table 2 summarizes the extent of the 5°F above ambient plume for winter in multiple dimensions, as characterized by three indicators:

- Length of the plume downstream (centerline);
- Width of the plume; and
- Plume thickness.

Table 2: Mixing zone dimensions based on plume centerline for the two critical condition scenarios

Scenario	Criteria	Isotherm of interest	Plume length (ft.)	Width (ft.)	Thickness (ft.)
Winter	ΔT < 5°F	5°F	33	35	5.2

The CORMIX simulation shows that the <5°F excess temperature requirement in winter is met approximately 33 ft. downstream and 35 ft. across for the extreme, bottom 1%-probable temperature in winter.

The plume area exceeding a 5°F temperature increase in winter is shown in Figure 6. The dimensions shown represent the centerline temperature downstream extent and width; temperatures decrease away from the centerline.

Temperatures along the centerline of the summer and winter plumes for the initial 200 ft. region downstream are also shown in Figure 7 and Figure 8, respectively. The centerline temperature is the maximum at each transect; temperatures decrease away from the centerline.

Image source: Google Earth, 2018

Figure 6: Mixing zone during critical conditions for the 5°F excess temperature (winter) temperatures

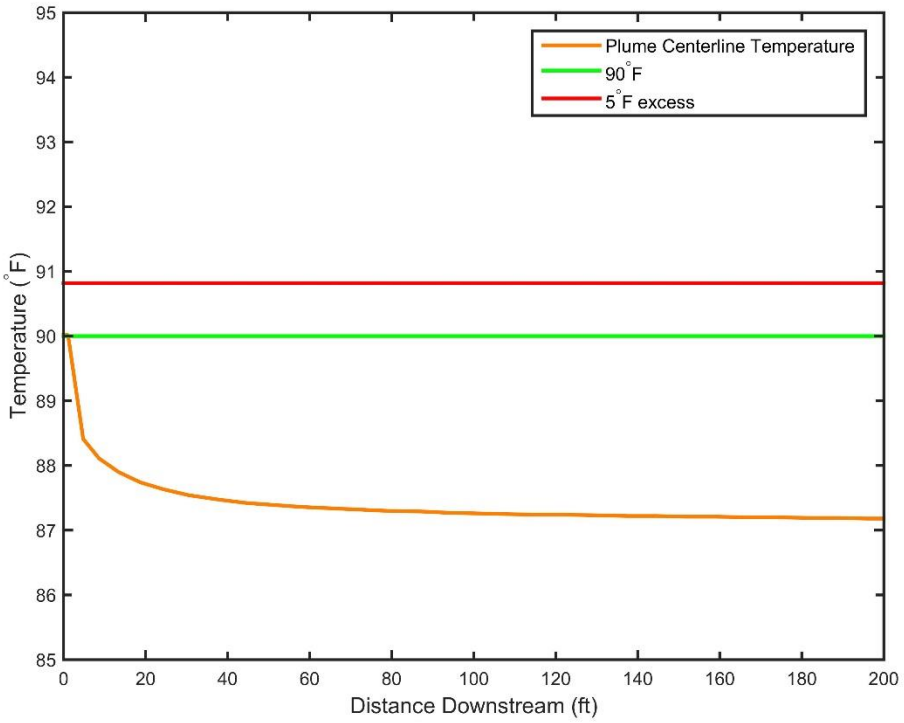

Figure 7: Temperature versus distance downstream for the summer scenario

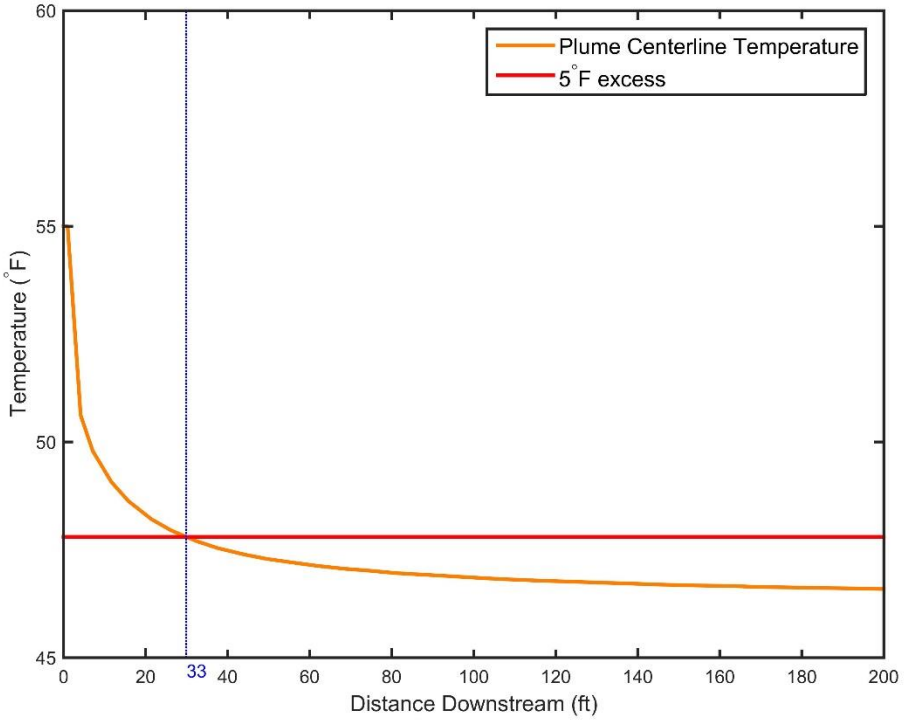

Figure 8: Temperature versus distance downstream for the winter scenario

3.2 Conclusions

Conclusions are summarized as follows:

- For warm summer ambient conditions all modelled plume temperature criterion are met in the receiving waters, based on the extreme, highest 1%-probable temperature.
- For cool winter ambient conditions, the <5°F temperature increase requirement is met beyond 33 ft. downstream and 35 ft. across for the extreme, bottom 1%-probable temperature in winter.

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Appendix F – Flow-Weighted Average Calculations

Flow Weighted Limitations for Co-Treated Wastestreams

Georgia Power Company - Plant Wansley
GA0026778

			Oil & Grease Limitation		TSS Limitation		Oil & Grease Limitation		TSS Limitation	
Outfall ID	Wastestream	Average Flow Rate (MGD)	Daily Average (mg/L)	Daily Maximum (mg/L)	Daily Average (mg/L)	Daily Maximum (mg/L)	Daily Average (lbs/d)	Daily Maximum (lbs/d)	Daily Average (lbs/d)	Daily Maximum (lbs/d)
02Q	Coal Pile Runoff (combined)[3]	0.0432	0	0	30	50	0	0	10.8	18.0
02D	Coal Handling STP[1,2]	0.00432	0	0	30	45	0	0	1.1	1.6
02E	Chemical Metal Cleaning Waste[4]	0.000	15.0	20.0	30.0	100.0	0	0	0	0
02F	CT Basin Waste[4]	0.000	15.0	20.0	30.0	100.0	0	0	0	0
02G	CT Basin Waste[4]	0.000	15.0	20.0	30.0	100.0	0	0	0	0
02H	Service Bldg STP[1,2]	0.010	0	0	30	45	0	0	2.5	3.8
--	Low Volume Waste	1.532	15.0	20.0	30.0	100.0	191.7	255.6	383.3	1277.8
02A	U1 & U2 Wastewater Basin	1.590	14.5	19.3	30.0	98.1	191.7	255.6	397.8	1301.2

[1] There are no applicable technology based effluent limitations for sanitary wastewater; however, TSS is expected to be present in the wastestream. Credit for the sanitary wastewater has been set equivalent to the secondary treatment standards for sanitary wastewater established in 40 CFR 133 based on EPD's best professional judgement.

[2] There are no applicable technology based effluent limitations for sanitary wastewater and significant contributions of oil and grease are not expected. Sanitary wastewater will be considered a dilute wastestream for oil and grease based on EPD's best professional judgement.

[3] The effluent guidelines for coal pile runoff do not establish a daily average or daily maximum effluent limitation but rather an instantaneous maximum of 50 mg/L. EPD has made the conservative decision to set the instantaneous maximum equivalent to the daily maximum for the flow-weighted calculations. Additionally, a daily average credit of 30 mg/L has been applied based on EPD's best professional judgement.

[4] Due to the intermittent and infrequent nature of the discharge from Outfalls 02E, 02F, 02G; contributions from these discharges have not been included in the flow-weighted calculations.