

**Public Comments and EPD Responses on Draft NPDES Permit
King America Finishing, Inc. – Permit No. GA0003280**

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Due to the volume of comments received and the number of topics covered in a comment, EPD has summarized and grouped comments together based on the topic.

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Acronyms

CFR – Code of Federal Regulations
COD – Chemical Oxygen Demand
CWA – Clean Water Act
EAD – Environmental Administrative Decisions
EPA – Environmental Protection Agency
EPD – Environmental Protection Division
GA. Comp. R. & Regs. – Georgia Rules and Regulations for the Water Quality Control Act
IC25 – Inhibition Concentration 25%
IWC – Instream Waste Concentration
KAF – King America Finishing, Inc.
LOEC – Lowest Observed Effect Concentration
NOEC – No Observed Effect Concentration
NPDES – National Pollutant Discharge Elimination System
ORK – Ogeechee Riverkeeper
PFAS – Per- and Polyfluoroalkyl Substances
PFOA – Perfluorooctanoic Acid
PFOS – Perfluorooctane Sulfonate
POTW – Publicly Owned Treatment Works
qPCR - Quantitative Polymerase Chain Reaction
TBEL – Technology Based Effluent Limitation
TDS – Total Dissolved Solids
THPC – Tetakis (hydroxymethyl) Phosphonium Chloride
TIE – Toxicity Identification Evaluation
TMDL – Total Maximum Daily Load
TRE – Toxicity Reduction Evaluation
TRI – Toxics Release Inventory
TSCA – Toxic Substances Control Act
TSS – Total Suspended Solids
USC – United States Code
WET – Whole Effluent Toxicity
WQBEL – Water Quality Based Effluent Limitation

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<u>General</u> 1. The fish kill caused by King America has ruined our once thriving business. We have seen first-hand how this amazing resource has been affected. The visual changes in the color of our river and our sandbars. Milliken now operates much like King America by over exceeding their limits and paying fines. In no way should their permits be altered to allow more leniency. 2. The Ogeechee River remains vulnerable to the stressors that contributed to the largest fish-kill in Georgia's history, and global warming will only serve to exacerbate the ongoing water quality issues that contributed to this disaster by increasing the severity of droughts and the frequency of destructively high-water temperatures. This leads us to the dire conclusion that any changes to any of the 57 NPDES permits affecting this water basin will likely require more stringent requirements rather than more lenient ones. 3. The public needs to be confident that there is rigorous attention to pollutants emitted by the Milliken Plant. Casual discussions with stakeholder groups using the river, in my opinion, reveals a reduction in confidence that issues related to the Milliken Plant have been effectively addressed. Although these are often relayed in the form of anecdotes, weakening testing requirements and failure to include PFAS will not help with this erosion of confidence. 4. My Labrador Retriever, who swam in the river daily, died of squamous cell carcinoma of the mouth shortly after the pollution, and that disease is rare but can be caused, in particular, by exposure to	EPD has evaluated the submitted permit application and supporting documentation and proposed a NPDES permit in accordance with applicable Federal and State regulations ensuring the permit is legal, enforceable, and protective of water quality standards, human health, and the environment. Where less stringent effluent limitations have been applied, the rationale has been based on the allowable exceptions defined in Section 402(o)(2) of the CWA (33 U.S.C. § 1342(o)(2)). The implementation of such revised limitations will not result in a violation of a water quality standard under Section 303 of the CWA (33 U.S.C. § 1313) applicable to such waters.

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formaldehyde, which, guess what, was one of the pollutants identified in the King Finishing case. I refuse to lose another beloved friend and therefore support the strictest possible measures to keep the Ogeechee River clean and safe. 5. The permit should be protective of human health and the environment. This includes recreational activities such as fishing and kayaking, and the protection of our drinking water resources.	
<u>Monitoring Frequency of Constituents</u> 1. There should be more frequent testing of constituents, not less as you propose. Milliken has repeatedly failed to operate this plant in compliance with the current permit and should not be allowed to reduce any environmental requirements related to operations or testing. The draft permit improperly allows for a reduction in testing frequency. The Milliken has not been able to consistently meet EPA water quality standards as evidenced by the record of violations. These violations do not support less frequent testing and reducing parameters tested, changes that are indicated in a side-by-side comparison of the current and NPDES proposed permit. Reductions in frequency of testing	EPA's <i>NPDES Permit Writers' Manual</i>, EPA-833-K-10-001 (Sept. 2010) at Section 8.1.3, p. 8-5, directs that "the permit writer should establish monitoring frequencies sufficient to characterize the effluent quality and to detect events of noncompliance, considering the need for data and, as appropriate, the potential cost to the permittee." EPD evaluated the available data and determined for several parameters a reduction of monitoring frequencies could be granted without increasing the risk for undetected events of noncompliance, refer to Appendix D of the Fact Sheet for additional information. Effluent monitoring frequency reductions were proposed in the draft permit for TSS, COD, sulfide, total phenols, and total chromium. Based on public comments received, EPD has returned the monitoring frequency for COD to 5/Week. The facility has not displayed non-compliance with the TBELs for COD, but COD is a useful indicator of

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could lead to a less rapid response to discharge-related increases of the chemicals listed in the permit.	wastewater treatment efficiency and process controls, as evidenced by prior corrective action plans for the KAF facility. Additionally, the draft permit reduced the instream monitoring frequency of acute WET testing for <i>ceriodaphnia dubia</i>. Based on EPD's review of WET testing, instream acute toxicity has not been detected for <i>ceriodaphnia dubia</i> as part of the historical WET testing. However, in consideration of the commentors concerns and the periodic toxicity exhibited in the effluent, EPD has returned the monitoring frequency for acute <i>ceriodaphnia dubia</i> WET testing to once per month. EPD additionally reduced the monitoring frequencies for total Kjeldahl nitrogen, total nitrogen, and orthophosphate in the draft permit. These constituents did not have effluent limitations and monitoring was included to aide in the future development of numeric nutrient criteria. Monthly monitoring data is sufficient to collect the data needed to develop and calibrate EPD water quality models. The proposed, reduced monitoring frequency remains unchanged in the final permit for these constituents.
The discharge of a specific pollutant (or group of pollutants) cannot be permitted if it is not disclosed in a NPDES permit application. The Clean Water Act generally prohibits pollutant discharges to streams and rivers. The NPDES permitting program is a limited exception to that prohibition, and discharges under the program cannot be approved unless they are adequately disclosed. The Environmental Protection Agency has stressed the need for disclosure of pollutants during the permitting process:	<u>Per- and Polyfluoroalkyl Substances (PFAS)</u> The EPA Environmental Appeals Board's decision in <i>re: Ketchikan Pulp Company</i>, 7 E.A.D. 605 (EPA) (1998) and the decision in <i>Piney Run Pres. Ass'n v. Cty. Comm'rs of Carroll Cty., Maryland</i>, 268 F.3d 255 (4th Cir. 2001) contemplates when a "permit shield" is granted for pollutants not addressed in the NPDES permit. The comment as it pertains to Clean Water Act compliance under the current permit is inapplicable to the permit reissuance process under consideration now

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[D]ischargers have a duty to be aware of any significant pollutant levels in their discharge. [...] Most important, [the disclosure requirements] provide the information which the permit writers need to determine what pollutants are likely to be discharged in significant amounts and to set appropriate permit limits. [...] [P]ermit writers need to know what pollutants are present in an effluent to determine approval permit limits in the absence of applicable effluent guidelines. The EPA Environmental Appeals Board's decision in re: Ketchikan Pulp Company further emphasized the importance of disclosure. In Piney Run Pres. Ass'n v. Cty. Comm'rs of Carroll Cty., Maryland, the court followed Ketchikan and stated: The Ketchikan decision therefore made clear that a permit holder is in compliance with the [Clean Water Act] even if it discharges pollutants that are not listed in its permit, as long as it only discharges pollutants that have been adequately disclosed to the permitting authority. [...] To the extent that a permit holder discharges a pollutant that it did not disclose, it violates the NPDES permit and the [Clean Water Act]. Milliken failed to disclose PFAS in its permit application, in violation of the Clean Water Act. Sampling discussed below establishes that the facility is discharging PFAS. The failure to disclose the presence of PFAS should result in EPD remanding the permit to Milliken to disclose fully such PFAS discharges.	and should be raised separately. Regarding the aspects of the comment which apply to the permit reissuance, while important for developing our regulatory framework, the cases are largely inapplicable to this draft permit which explicitly considers per- and polyfluoroalkyl substances (PFAS) through a special condition requiring a PFAS Characterization Study. PFAS are emerging pollutants of concern and significant resources are currently being employed at the national and state levels to develop multi-media and multi-program research and risk communication plans to address PFAS. As this response to comments is being drafted, US EPA has yet to promulgate instream water quality criteria and has not yet developed any 40 C.F.R. § 136 approved wastewater analytical test methods for this category of pollutants. EPA has however published draft analytical method 1633 for 40 PFAS compounds since the draft permit was placed on public notice. While not nationally required for compliance monitoring, the draft method is recommended for use in individual permits. Where applicable, draft method 1633 will be used for the PFAS Characterization Study required in Part III.C.2 of the permit. EPD continues to stay engaged and is following US EPA's progress as it evaluates PFAS as it relates to discharges from point sources to surface waters. The proposed permit expands upon the PFAS Characterization Study required in the previous permit and will serve to assist in the identification of potential sources of PFAS from the facility. EPD may reevaluate the permit based on the results of the PFAS Characterization Study and, if necessary, modify the permit in accordance with 40 C.F.R. § 122.62(a)(2).

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For all pollutants, the Clean Water Act requires permitting agencies to impose technology-based effluent limitations. If these limits are not enough to ensure compliance with water quality standards, then water quality-based effluent limits must be included. EPD has apparently not evaluated any limits on PFAS, which is understandable since the permittee did not disclose them. But EPD should insist on such disclosure and develop permit terms accordingly. Technology-based effluent limits are “the minimum level of control that must be imposed in a permit.” These limits “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.” As EPA has recognized, “technology-based limits aim to prevent pollution by requiring polluters to install and implement various forms of technology designed to reduce the pollution discharged into the nation’s waters.” When EPA has not issued a national effluent limitation guideline for a particular industry, permitting agencies must implement technology-based effluent limits on a case-by-case basis using their “best professional judgment.” There are available technologies used to reduce the discharge of PFOAs from industrial wastewater. Although it is beyond the expertise of the Riverkeeper to design wastewater treatment systems, it has been widely reported that effective technologies include activated carbon treatment, ion exchange resins, and high-pressure membranes, like nanofiltration or reverse osmosis.	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 CWA, to the extent that EPA-promulgated effluent limitations are inapplicable. EPA has already promulgated applicable effluent limitation guidelines at 40 C.F.R. 410 – Subpart D for woven fabric finishing and commission finishing which apply to the facility’s operations. US EPA recently issued its <i>Effluent Guidelines Program Plan 14</i>, EPA-821-R-21-001 (Jan. 2021) fulfilling its requirements at Section 304(m) of the CWA (33 U.S.C. § 1314(m)) to biennially publish a plan for new and revised effluent limitations guidelines. As part of this plan, US EPA has indicated its intent to conduct a Multi-industry Detailed Study of industrial PFAS use, treatment, and discharges to surface water and POTWs focusing on five-point source categories: PFAS manufacturers, pulp and paper manufacturers, textile and carpet manufacturers, airports, and metal finishers. US EPA has indicated that further study is required of textile manufacturers, prior to initiating any revised rulemaking. US EPA has since issued its <i>Preliminary Effluent Guidelines Program Plan 15</i>, EPA-821-R-21-003 (Sep. 2021) and <i>Multi-Industry Per- and Polyfluoroalkyl Substances (PFAS) Study – 2021 Preliminary Report</i>, EPA-821-R-21-004 (Sep. 2021) which reaffirms EPA’s intent to conduct a separate detailed study to collect and review information and data on the use, treatment, and discharge of PFAS from textiles and carpet manufacturers. Per- and polyfluoroalkyl substances (PFAS) are an extensive group of man-made chemicals which are emerging pollutants of concern. Significant resources are currently being employed at the national and state levels to develop multi-media and multi-program research and risk

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	communication plans to address PFAS. As this response to comments is being drafted, US EPA has yet to promulgate instream water quality criteria and has developed only a limited number of draft wastewater analytical test methods. EPD continues to stay engaged and is following US EPA's progress as it evaluates PFAS as it relates to discharges from point sources to surface waters. Hence, Part III.C.2 of the permit requires a PFAS Characterization Study while the CWA framework for potentially regulating PFAS discharges pursuant to the NPDES program is under development. EPD may reevaluate the permit based on the results of the PFAS Characterization Study and, if necessary, modify the permit in accordance with 40 C.F.R. § 122.62(a)(2).
EPD must ensure that Georgia water quality standards will not be violated by the discharge. If there is a "reasonable potential" that water quality standards will be exceeded, EPD must include water quality-based effluent limits in the permit as well. Georgia water quality standards provide: "All waters shall be free from toxic, corrosive, acidic and caustic substances discharged from municipalities, industries or other sources, such as nonpoint sources, in amounts, concentrations or combinations which are harmful to humans, animals or aquatic life." Ga. Comp. R. & Regs. 391-3-6-.03(5)(e). PFAS are known to harm human health, and they certainly qualify as toxic substances under state law. Two of the most commonly studied PFAS, perfluorooctanoic acid ("PFOA") and perfluorooctane sulfonate ("PFOS"), have been found to cause developmental effects to fetuses and infants, kidney and testicular cancer, liver malfunction, hypothyroidism, high cholesterol, ulcerative colitis, lower birth weight and size, obesity, decreased immune response to vaccines, reduced hormone levels and delayed puberty.	Where numeric criteria have not been established whole effluent biomonitoring may be used to develop a whole effluent toxicity (WET) limit. The proposed permit contains whole effluent toxicity limits, consistent with EPD's <i>NPDES Reasonable Potential Procedures</i> (2003). This approach is necessary and appropriate for the protection of Georgia water quality criteria in accordance with GA. Comp. R. & Regs. 391-3-6-.03(5)(e). During the development of the draft permit, EPD determined King America Finishing does not discharge to a reach of the Ogeechee River that has a designated use for drinking water and there are no surface water drinking water intakes in the downstream vicinity of the discharge. The referenced US EPA drinking water advisories/standards only address exposure through drinking water ingestion (not exposure via consumption of food sources or skin contact) and are not directly applicable to instream water quality standards for point source discharges to surface waters. (<i>Clarification about the Appropriate</i>

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EPA established a lifetime health advisory of 70 ppt for the combined concentrations of PFOA and PFOS in drinking water. Since then, in June 2018, the Agency for Toxic Substances and Disease Registry released an updated Draft Toxicological Profile for PFOA, PFOS, and other PFAS. The report suggested that many of the chemicals are much more harmful than previously thought. For instance, the minimum risk levels, or the amount of a chemical a person can eat, drink, or breathe each day without a detectable risk to health, was determined to be only 11 ppt for PFOA, and 7 ppt for PFOS. Epidemiological studies show that many of these same health outcomes result from exposure to other PFAS. Given these harms, states like Michigan, New York, New Hampshire, New Jersey, and Vermont have acknowledged the dangers of these compounds and have either proposed or finalized drinking water standards for various PFAS at 20 ppt and lower.	<i>Application of the PFOA and PFOS Drinking Water Health Advisories, (Nov. 2016))</i> EPD does however acknowledge the emerging concerns regarding PFAS and the efforts to develop on a national level a comprehensive PFAS Action Plan. US EPA's action plan is a multi-media, multi-program, national research, management, and risk communication plan to address PFAS in drinking water, identify and clean up PFAS contamination, expand monitoring of PFAS in manufacturing, increase PFAS scientific research, and exercise effective enforcement tools. Of specific interest during the permitting process are US EPA's efforts to develop water quality criteria for PFAS, identify industrial sources that may warrant further study and regulations, and continued efforts to develop analytical methods. In conjunction with the national response for PFAS, EPD is working on furthering the objectives of the action plan on a state level. Part III.C.2 of the permit requires a PFAS Characterization Study to determine and quantify the potential the facility has to discharge PFAS into the environment through the discharge of treated wastewater effluent or through industrial sludge disposal. To learn more about this class of chemicals and EPD's investigation and response to them, please visit our webpage at: https://epd.georgia.gov/pfoa-and-pfos-information.
1. PFAS are also harmful to the environment. They have been shown to cause harmful effects in fish, amphibians, mollusks, and other aquatic invertebrates — resulting in developmental and reproductive impacts, behavioral changes, adverse effects to livers, disruption to endocrine	Fish consumption advisories are risk-based recommendations on the amount of fish from a specific waterbody that is safe to consume (e.g., servings per day, week, month, or year). The recommendation is informed by the measured concentration of contaminants in a sample of

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systems, and weakened immune systems. Moreover, they are extremely resistant to breaking down in the environment, can travel long distances, and bio-accumulate in organisms. EPD must ensure that residents who fish, boat, and swim downstream of the discharge are protected. Many people fish for sustenance and recreate downstream of Milliken's discharge location. Emerging research is showing that PFAS—even at low levels—are harmful. In addition, one of the key characteristics of the class is that they bio-accumulate in many fish species. We have evidence, discussed below, that downstream fish are being contaminated with PFAS from the facility and thus are being caught and eaten by Georgia citizens. As part of the ORK and Milliken sampling event in December 2018, two separate effluent samples were analyzed by 2 independent laboratories for 21 perfluoroalkyl substances (PFAS) including PFOS and PFOA using EPA Method 537 (Modified). This sampling indicated that 11 of 23 PFAS analytes were present at concentrations above the reporting limit. Further, these data indicated that the sum of PFOS and PFOA concentrations were between 203 and 227 ng/L(ppt). Although the effluent and the Ogeechee River are not drinking water sources, these concentrations greatly exceed EPA's established human health advisory level of 70 parts per trillion (ppt) for PFOS and PFOA combined in drinking water and indicate a continuous source of PFASs to the Ogeechee River which is utilized by residents for fish consumption. No plausible source of these pollutants other than this textile mill exists. The documented presence of these pollutants requires that EPD remand the permit to the permittee for full disclosure of its discharge of these chemicals.	fish that are representative of a specific waterbody. The underlying basis for the recommendation is an established toxicity criterion, which represents a level of contaminant that an individual can be exposed to every day without experiencing adverse health effects. Instream water quality criteria do not inform or help develop fish tissue advisories. At this time, neither GA EPD nor US EPA has developed instream water quality standards or fish consumption guidelines for PFAS. EPD acknowledges the emerging concerns regarding PFAS and is working on furthering the objectives of US EPA's PFAS Action Plan on a state level. Specifically, for the KAF facility, a PFAS Characterization Study has been included at Part III.C.2 of the permit to determine and quantify the potential the facility has to discharge PFAS into the environment through the discharge of treated wastewater effluent or through industrial sludge disposal. EPD may consider more targeted actions, such as fish tissue studies, as more information becomes available.

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In addition to effluent sampling, ORK has conducted, and is in the process of collecting, fish tissues representative of the type and size of fish typically consumed from the Ogeechee River and analyzing these representative fish species for PFOA and PFOS. Fish were collected from the Ogeechee River between the Interstate 16 and Highway 80 bridges. This is approximately 38 miles downstream of the Milliken discharge. A total of 7 fish were collected and PFOS was detected in all 7 fish. The fish were filleted and submitted to an analytical laboratory for analysis for PFOS and PFOA. Five of the 7 fish contained PFOS at concentrations in excess of 10 µg/kg. Based on the Consortium Best Practices guidelines, PFOS tissue concentrations in a majority of the samples would result in a fish consumption advisory for this section of the Ogeechee River of 2 meals per week to be protective of human health. Using EPA's 2016 Drinking Water Health Advisory reference dose (RfD) of 2x10⁻⁴ milligrams per kilogram per day, a fish consumption limit can be developed. Specifically, the Great Lakes Consortium for Fish Consumption Advisories developed the Best Practice for Perfluorooctane Sulfonate (PFOS) Guidelines which contains recommendations for consumption of fish containing PFOS based on EPA's RfD. The guidelines assessed a meal size of 227 grams (1/2 pound) of raw fish per meal for a 70 kg adult. This data calls for further action. Admittedly, this data is limited and more information is needed. It should not be the Riverkeeper's job to collect this data. Rather, the State should require the company to collect this data and submit it to EPD as part of a proper disclosure of	

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its PFAS-related discharges. Thus, the permit should be withdrawn and the company should be required to make a proper disclosure of its PFAS-related discharges and the results of a properly designed fish tissue sampling protocol at which point, if appropriate, TBELs, WQBELs, and appropriate monitoring conditions should be imposed. 2. A fish tissue study is long overdue and should be completed before the permit is granted. The presence of per- and polyfluoroalkyl substances (PFAS) in fish tissue downstream of this plant raises serious concerns for those of us that consume fish and shellfish taken from waters around our homes. A permit should not be issued without a fish tissue study, which should have already been completed under the terms of the previous permit. We would like to express our alarm regarding news that the Riverkeeper has taken samples indicating that Milliken has been discharging a harmful class of long-lasting chemicals known as PFAS, despite submitting reports to the contrary to EPD. The Riverkeeper reports that these carcinogens appear to be accumulating in fish. EPD can begin to address this disturbing development by conducting the comprehensive fish tissue study that was part of the fish kill litigation settlement but canceled due to Milliken' erroneous reporting. ORK has discovered that Milliken has been discharging a harmful class of chemicals known as PFAs, despite submitting reports to GA EPD suggesting otherwise. ORK has also discovered that these carcinogens are appearing in the fish people consume. A permit	

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should include standards and guidelines for PFAS and fish consumption. It is essential that people know what they are eating and are not exposed to harmful chemicals. A comprehensive fish tissue study should be done before any new permit is issued. A threat has been identified by the Ogeechee Riverkeeper of PFA bioconcentration in fish tissues. PFAs are an acknowledged emerging threat to water quality and human health. The permit should be amended to address this new threat. People have the right to know what contaminants are in the fishes they are consuming and to have the EPD work towards setting recommendations in the form of consumption advisories for those contaminants. Included in this effort should be the reduction of PFAs to the river basin. Other states have consumption advisories for PFOs/PFAs (Michigan is an example). PFAS can accumulate and stay in the human body for long periods of time. There is evidence that exposure to PFAS can lead to adverse health outcomes in humans. The most-studied PFAS chemicals are PFOA and PFOS. Studies indicate that PFOA and PFOS can cause reproductive and developmental, liver and kidney, and immunological effects in laboratory animals. Both chemicals have caused tumors in animals. The most consistent findings are increased cholesterol levels among exposed populations, with more limited findings related to low infant birth weights, effects on the immune system, cancer (for PFOA), and thyroid hormone disruption (for PFOS). Why would you allow these possibilities? ORK's discovery of PFAS/PFOS in Ogeechee River fish demonstrates Milliken/King America's lack of transparency regarding their past/current production line. That the fish tissue study called for under the 2013 permit has not been completed is reason	

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enough to delay EPD issuing the permit as it now stands. It took ORK spending its own time and money collecting samples and submitting them to an independent laboratory to again prove that these compounds are present in the facility's effluent. Recognizing that subsistence fishing is still practiced on the Ogeechee for several populations, Milliken must be required to complete a fish tissue survey focused on emerging contaminants that are found in the company's discharge.	
Part III.C.2 of the draft permit contains requirements for a Per-and Polyfluoroalkyl Substances (PFAS) Characterization Study. KAF asserts that the legal, analytical, and scientific framework regarding PFAS, when considered as a broad chemical group rather than specific non-polymeric or polymeric compounds, is too uncertain at this time to allow for clear implementation of a broad characterization requirement like the one proposed in the draft permit. KAF requests that the PFAS characterization requirement be removed from the draft permit.	In accordance with 40 C.F.R. § 122.21(g)(13), “applicants shall provide to the Director, at his or her request, such other information as the Director may reasonably require to assess the discharges of the facility and to determine whether to issue an NPDES permit.” Additionally, consistent with US EPA’s <i>NPDES Permit Writers’ Manual</i>, EPA-833-K-10-001 (Sept. 2010) at Section 6.2.1.5, p. 6-15, the permit writer may require monitoring for pollutants which are expected present in the discharge based on the raw materials stored or used, products or by-products of the facility operation, or available data and information on similar facilities. Hence, EPD is requiring KAF to characterize the discharge of pollutants.
	US EPA has identified textile mills as potential contributors of PFAS as part of their manufacturing process (<i>Effluent Guidelines Program Plan 14</i>, EPA-821-R-21-001 (Jan. 2021)). In conjunction with the national response for PFAS, EPD is working on furthering the objectives US EPA’s PFAS Action Plan on a state level. The PFAS Characterization Study required in the permit will serve to assist in the identification of potential sources of PFAS from the facility. This permit condition is

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KAF objects to the specific language of Part III.C.2.a, which requires that the permittee characterize, within one (1) month, all per- and polyfluoroalkyl substances (PFAS) employed by the facility. PFAS is a broad class of chemicals that includes thousands of non-polymeric and polymeric compounds, the vast majority of which are not currently regulated under environmental or worker protection laws. Because of this, and because PFAS are commonly provided to manufacturers in proprietary formulations, the specific chemical identity of PFAS compounds is not required to be disclosed by the manufacturer and is often not readily available to the permittee. Most notably, PFAS compounds are not typically identified (and are not required to be identified) as hazardous components on Safety Data Sheets. Any characterization effort by the permittee will depend on the willingness and capability of suppliers to provide accurate information to the permittee, and any characterization requirement imposed by the Georgia EPD should consider and allow for this constraint. Specifically, any permittee – including KAF – would need more than one month just to work with suppliers in an effort to obtain this information, and the permit language should clearly acknowledge that the characterization is limited to the information provided by the suppliers. The permit language should also recognize the possibility that this information will be considered proprietary and may not be provided by suppliers voluntarily.	necessary and appropriate for the protection of Georgia water quality criteria in accordance with GA. Comp. R. & Regs. 391-3-6-.03(5)(e). Part III.C.2 of the proposed permit requires that the permittee characterize and report all per- and polyfluoroalkyl substances (PFAS) used in processing or manufacturing facility at the facility or believed present in the facility's wastewater or sludge and submit a report to EPD. In addition, the report should identify any PFAS known or believed to be present in the facility's wastewater or sludge, including any PFAS compounds found in raw materials, residual PFAS compounds from previous activities, and breakdown products. Where such characterizations are reliant on third-party manufacturer's data, the characterization should at a minimum include any PFAS which is required to be identified as part of the Toxic Substances Control Act (TSCA) and Toxic Release Inventory (TRI) reporting requirements. The permittee shall identify where such third-party information is identified as confidential business information so that EPD may obtain the information independently, as necessary. For PFAS data obtained by the permittee which is identified as confidential under the Georgia Open Records Act, O.C.G.A § 50-18-70, <i>et seq.</i>, the permittee shall submit to EPD a "protected" and "redacted" version of the information accompanied by an affidavit supporting the permittee's confidentiality claims in accordance with EPD procedures. The permittee has been given ample notice regarding the PFAS Characterization Study and the requirement to characterize all PFAS used in processing or manufacturing at the facility or believed present in the facility's wastewater or sludge within one month of the effective date

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	of the permit. The proposed permit condition remains unchanged from the draft permit.
<u>Technology-Based Effluent Limitations</u> The permit establishes three tiers of TBEL, mass-based limits which are related to production. However, it is unclear how those limitations are to be applied. This will result in confusion regarding the status of compliance at the facility. The permit requires that the average daily production (in terms of pounds of product/day) be reported each month and could result in the limits changing on a monthly basis as production changes. For daily average discharge limitations, this approach is straightforward. Once the average daily production is known for the month, the average discharge load is calculated and compared to the daily average limitation for the appropriate tier. However, this approach is problematic for the daily maximum limitation. Since production may change from day to day, compliance with the daily maximum limitation should be based on the limitation established for the tier based on production for that day, not the tier based on the average daily production value which may allow a higher discharge load. This will make it challenging to determine if the facility is in or out of compliance. The permit should be modified to define how the limit changes and provide a justification for using average daily production values to establish daily maximum limitations.	The daily average and daily maximum effluent limitations established in the permit are based on a reasonable measure of the facility's actual production rate consistent with US EPA's <i>NPDES Permit Writers' Manual</i>, EPA-833-K-10-001 (Sept. 2010) at Sections 5.2.2.5 and 5.2.2.7. This level of production represents a long-term average production rate that is expected to exist during the permit term and is subsequently used to calculate both the daily average and daily maximum effluent limitations. The use of daily production values to establish dynamic daily maximum effluent limits, as the commentor has suggested, are contrary to the long-standing US EPA guidance for establishing production-based effluent limitations. As part of the permit application process, the permittee requested consideration that the production levels return to the historical levels achieved in 2011. To accurately reflect production levels without restricting facility operations, EPD has established 3 tiers of effluent limitations. The permittee will be required to comply with the tiered permit limitations based on the monthly average production levels (lbs/day). EPD appreciates the commentor's concerns regarding the status of compliance with a tier-based approach to effluent limitations. To provide further transparency, EPD has adopted certain elements of the production-based limitations for the automotive manufacturing industry

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	established at 40 C.F.R. § 122.45(b)(2)(ii)(A)(2). The revised permit includes a requirement that the permittee notify EPD in writing at least two business days prior to the month they expect to be operating at a higher level of production (higher than Tier 1). The notice shall specify the anticipated level and the period during which the permittee expects to operate at the alternate level. New notice is required to cover a period or production level not covered by prior notice or, if during two consecutive months otherwise covered by a notice, the production level at the permitted facility does not in fact meet the higher level designated in the notice.
It defies reason that limits be based on the facility's production levels. The health of the Ogeechee River itself must be the sole determiner of the limits and restricts you set. The draft permit improperly bases limits on the facility's production levels, not the health of the river. We agree with the Riverkeeper's objection to tiered limitations based on the facility's self-reported production levels rather than setting thresholds that best protect the river. This is another example of prioritizing the permittee's interest in controlling costs over the public interest in a safe, clean, and diverse environment. Presumably, higher production levels would be accompanied by higher revenues that could cover the costs of keeping pollutant discharges low enough to be protective. The facility's production levels have no bearing on the river's resiliency and should not be used as an excuse to allow increased pollution levels. Restrictions on discharge levels should be based on models of river health and current available science, not on facility production goals.	When drafting a National Pollutant Discharge Elimination System (NPDES) permit, a permit writer must consider the impact of the proposed pollutants in a discharge on the quality of the receiving water. Water quality goals for a waterbody are defined by state water quality criteria or standards. By analyzing the effect of a pollutant in the 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 or protect downstream users. 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 water quality standards are met in the receiving water and the designated use and downstream uses are protected. On the basis of the requirements of 40

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	C.F.R. §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. (US EPA's <i>NPDES Permit Writers' Manual</i>, EPA-833-K-10-001 (Sept. 2010) at Ch. 6, p. 6-1) TBELs 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 State. TBELs are developed independently of the potential impact of a discharge on the receiving water, which is addressed through water quality standards and WQBELs. The NPDES regulations at 40 C.F.R. §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 requires permit writers to include in permits additional or more stringent effluent limitations and conditions, including those necessary to protect water quality. (US EPA's <i>NPDES Permit Writers' Manual</i>, EPA-833-K-10-001 (Sept. 2010) at Ch. 5, p. 5-1) The draft permit placed on public notice evaluates the need for both TBELs and WQBELs for pollutants of concern (see Fact Sheet). Where more stringent WQBELs are required, they have been included in the permit. WQBELs are developed to protect designated uses and water quality criteria and can originate from modeling (WLAs), TMDLs, and other EPD policies (e.g., reasonable potential analysis). WQBELs are not always more stringent than TBELs, in which case the more stringent TBELs are included in the NPDES permit. An example of such a situation in this permit is BOD₅ for which the calculated production-based TBELs were more stringent than the corresponding WQBELs. At

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	the highest tier of production, TBELs of 423 lbs/day daily average and 846 lbs/day daily maximum are required. Conversely, the applicable WQBELs based on water quality modeling (WLA) for BOD₅ would be 776 lbs/day daily average and 1,551 lbs/daily maximum. As such, production-based TBELs were included in the permit as they are more stringent than the modeled WQBELs for BOD₅.
<u>Water Quality-Based Effluent Limitations</u>	
The Draft permit does not include limitations for cyanide and uses the highest reported cyanide concentration (18 µg/L) as a basis for a reasonable potential analysis. However, during a joint sampling event between ORK and Milliken, cyanide was detected at 120 µg/L. Using the reasonable potential approach detailed in Ga. Comp. R. & Regs. 391-3-6.-06(4)(d)5(ii), the permittee is required to monitor for cyanide for a period of 10 months. Specifically, there are less than 10 data points (only 1 result of 18 µg/L for cyanide was reported in the permit application). The resulting instream concentration of 5.83 µg/L (based on the 120 µg/L result) is greater than half of the chronic cyanide criterion of 5.2 µg/L. Thus, additional monitoring is required. If additional data has been generated, the data should be made public and the Fact Sheet for the permit should be updated describing the results of a reasonable potential analysis for cyanide in the discharge.	The extent of the December 2018 joint sampling event between ORK and the permittee was limited to parameters specifically included in the 2013 NPDES permit. Split sampling was thus not conducted for cyanide nor is the permittee required to submit third-party data as part of the NPDES permit application. In addition to the cyanide sampling conducted in preparation for the NPDES application, the permittee submitted additional results of a split sampling analysis conducted in June 2019; whereas the sample results were 22 µg/L and 26 µg/L with an average of the split sample results as 24 µg/L. Based on EPDs review and analysis, there is no reasonable potential for the cyanide to cause or contribute to an instream violation of Georgia Water Quality Standards, thus effluent limits have not been included in the permit.
KAF notes that Georgia EPD has chosen to retain several water-quality based effluent limitations that were proposed for Georgia EPD to consider in Consent Decree 6:12-CV-00058 (the “Consent Decree”) settling litigation between KAF and the Ogeetchee Riverkeeper (the	EPD has retained several water-quality based effluent limitations originally proposed for consideration in Consent Decree 6:12-CV-00058. Where such water-quality based effluent limitations were included and retained, the limitations were considered to be an

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“Riverkeeper”) in 2013. Those limits include sulfide, TDS, and ammonia at Tier 1 production levels and COD, sulfide, TDS, and ammonia at Tier 2 and Tier 3 production levels. While KAF does not object to Georgia EPD’s selection of those specific permit limitations, the company does not believe it is appropriate to use the Consent Decree as the basis for those limits in this reissuance of the permit as is currently stated. Specifically, KAF directs Georgia EPD’s attention to footnote 2 on pages 30 and 31 of the permit rationale. The purpose of the Consent Decree was to settle Clean Water Act violations that allegedly occurred in 2011 and 2012. It was not to establish water-quality based effluent limitations. Georgia EPD should reconsider the stated basis for those current limits and rely on a basis that is legally supportable.	appropriate numeric translation to attain and maintain Georgia’s narrative water quality criteria and will fully protect the receiving water’s designated use. The proposed permit and basis for effluent limits remains unchanged.
1. With specific regard to fecal coliform, as noted above, the draft permit weakens the protections from the prior permit. The 2013 Milliken permit included a concentration-based discharge limitation for fecal coliform, which allowed a daily maximum discharge of 200 colonies per 100 millimeters (200 cfu/100mL) and a 400 cfu/100mL daily maximum. EPD’s new proposed permit allows an increase of this discharge, permitting for the months of May through October a daily average of 500 cfu/100mL and a daily maximum of 500 cfu/100mL. During the months between November and April, the permit allows a daily average of 1,000 cfu/100mL and a daily maximum of 4,000 #/100mL. We object to this change in permit terms based upon the anti-backsliding law. Additionally, for water bodies where contact recreation activities are anticipated to occur, the Georgia water quality standard provides that fecal coliform are not to exceed a geometric mean of 200 cfu/100mL. If it can be demonstrated that fecal coliform levels from non-human	The designated use for the Ogeechee River at the discharge location is fishing/secondary contact recreation. Fecal coliform is the currently approved bacterial indicator for the protection of secondary contact recreation in and on the water. (GA R. & Regs. 391-3-6-.03(6)(c)) On September 25, 2015, the facility began operation of a septic tank system under general permit GAG278093. All sanitary wastewater from the facility was re-directed to the septic system, thereby eliminating sanitary wastewater from the direct discharge to the Ogeechee River. On October 9, 2015, a series of dye tests were performed confirming that the sanitary wastewater was isolated from the discharge covered under this permit. Furthermore, in July of 2017, Milliken conducted a Quantitative Polymerase Chain Reaction (qPCR) DNA test which indicated no human-based fecal coliform was detected while simultaneously indicating that fecal coliform from non-human sources exceeded 200 cfu/100mL.

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sources exceed 200cfu/100mL occasionally (emphasis added), then the allowable geometric mean for fecal coliform shall not exceed 500 cfu/100mL in free-flowing streams during the summer recreational months (May to October). In July of 2017, Milliken conducted a Quantitative Polymerase Chain Reaction (qPCR) DNA test to determine the amount of human-based fecal coliform present in the sample. The result of this single test was that no human-based fecal coliform was detected. The amount of human-derived fecal coliform in all other samples is unknown. One test should not be the basis for this weakening of the permit. To demonstrate compliance with this regulation, the permit should be modified to include additional qPCR testing a minimum of monthly to demonstrate that the discharge continues to contain no human-based fecal coliform counts. Based on the permit application data, it further appears that the summer standard of 500 cfu/100mL will also be consistently (not occasionally) exceeded. Thus, EPD should establish a compliance schedule requiring Milliken to identify and implement alternatives to achieve the Georgia water quality standard of 500 cfu/100 mL as daily maximum and daily average limitations. Without a compliance schedule, the discharge is likely to continue to exceed the established permit limitation without any clear date when the facility will be compliant with the permit. 2. Fecal coliform is another issue. The plant has demonstrated its inability to answer the question of why they violate this parameter so frequently. It is past time to bring this facility into compliance on fecal coliform. Reducing requirements on this parameter is laughable, and yet Milliken/King America's request that EPD lower effluent limitations is borne out in the draft permit put out for public comment by the EPD.	The removal of sanitary wastewater has not eliminated fecal coliform exceedances and there is a reasonable potential for the discharge to cause or contribute to an instream violation of Georgia's Water Quality Standards for fecal coliform. Historical data indicates that the levels of fecal coliform in the discharge exceed not only the current effluent limitations of 200 #/100mL daily average and 400 #/100mL daily maximum, but also the seasonal effluent limitations included in the proposed draft permit based on the contributions of non-human sources. In response to exceedances of the effluent limitations in the current permit, the permittee is required as part of Consent Order EPD-WP-9076, issued May 05, 2021, to conduct an alternatives analysis regarding treatment technology that will evaluate alternatives to allow the facility to consistently meet fecal coliform effluent limitations while simultaneously consistently meeting the effluent limitations for other parameters in the NPDES Permit. Implementation of this condition requires the permittee to meet the current fecal coliform effluent limitations of 200 #/100mL daily average and 400#/100mL daily maximum. Considering that the consent order requires the evaluation and selection of treatment technologies to meet the 200 #/100mL daily average and 400 #/100mL fecal coliform effluent limitations, it is no longer justified to backslide through the inclusion of less stringent effluent limitations. The proposed permit has been revised retaining the current effluent limits of 200 #/100mL daily average and 400 #/100mL daily maximum. The permittee is expected to be in compliance with the effluent limitations for fecal coliform upon the effective date of the permit. Exceedances of the fecal coliform effluent limitations will be handled by EPD's compliance office.

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	Additionally, as part of the 2019 Triennial Review process, EPD is finalizing recommendations to replace fecal coliform and adopt <i>Escherichia coli</i> (<i>e. coli</i>) and <i>enterococci</i> as pathogen indicators for waters designated as fishing, coastal fishing, and drinking water. The proposed criteria must be approved by the DNR Board and the US EPA before they can take effect and be used in NPDES permits. In anticipation of approval during the upcoming permit term, the permit includes language which allows for the transition from fecal coliform effluent limitations discussed above to year-round <i>e. coli</i> effluent limitations of 126 #/100mL daily average (expressed as a geometric mean) and 410 #/100mL daily maximum. The <i>e. coli</i> limitations were calculated to yield the same gastrointestinal illness rate as the fecal coliform limitations and therefore are equivalently protective of human health and do not constitute backsliding.
KAF requests that the fecal coliform limitations be excluded from the renewed permit, on the following basis: Since sanitary sewage is no longer discharged to the wastewater treatment plant to be treated, KAF no longer has any human or industrially-related source of pathogens directed to the permitted outfall. This has been confirmed through dye tests and analysis of the effluent for human gene biomarkers.	Fecal coliform is the currently approved bacterial indicator for waters designated as fishing and for the protection of secondary contact recreation in and on the water. (GA R. & Regs. 391-3-6-.03(6)(c)) The current Georgia water quality criteria for fecal coliform does not apply specifically to human sources and the proposed criteria does not distinguish between human and non-human sources at all, hence the exclusion of sanitary wastewater is not a justifiable basis for the removal of fecal coliform effluent limitations nor a guarantee that pathogens are absent from the facility's discharge that may cause harm to humans recreating in and on the water. Review of the renewal application and all data submitted by the permittee during the last permit term indicates a persistent and highly variable presence of fecal coliform in the discharge which frequently exceeds Georgia's instream water quality standards and current permit

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	limits. Fecal coliform bacterium are highly variable in the receiving stream after treatment and dilution is not considered in EPD's reasonable potential analysis as bacteria have the inherent ability to reproduce in the receiving stream. WQBELs have been applied for fecal coliform based on the facility's reasonable potential to cause or contribute to a violation of Georgia's water quality criteria for fecal coliform. EPD has also included provisions to replace the fecal coliform effluent limitations with <i>e. coli</i> effluent limitations during the permit term subject to EPA approval of the proposed changes to the Georgia Rules for Water Quality Control, Chapter 391-3-6.03 (Water Use Classifications and Water Quality Standards) for bacterial indicators. The transition to <i>e. coli</i> is discussed in more detail in the above EPD Responses and in Sections 4.4 and 5.2 of the Fact Sheet.
KAF requests that the fecal coliform limitations be excluded from the renewed permit, on the following basis: The fecal coliform limitations in the current permit were originally added based on a condition in the Consent Decree between KAF and the Ogeechee Riverkeeper. The Consent Decree specifically states that its conditions are not contingent upon the EPD's adoption any limitations, and the Consent Decree in no way prohibits or discourages the Georgia EPD from making modifications to any limits in future permits based on new information.	Based on a review of the permitting files, EPD agrees that Consent Decree 6:12-CV-00058 was the original basis for the fecal coliform effluent limit. However, EPD is required to review the renewal application and all data submitted by the permittee during the last permit term. The data received indicates a persistent and highly variable presence of fecal coliform in the discharge which frequently exceeds Georgia's instream water quality standards. Fecal coliform bacterium are highly variable in the receiving stream after treatment and dilution is not considered in EPD's reasonable potential analysis as bacteria have the inherent ability to reproduce in the receiving stream. WQBELs have been applied for fecal coliform based on the facility's reasonable potential to cause or contribute to a violation of Georgia's water quality criteria for fecal coliform.

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	These effluent limitations are independent of the conditions established in the consent decree (Civil Action No. 6:12-CV-00058) between King America Finishing, Inc. and the Ogeechee-Canoochee Riverkeeper signed on January 15, 2014. EPD has also included provisions to replace the fecal coliform effluent limitations with <i>e. coli</i> effluent limitations during the permit term subject to EPA approval of the proposed changes to the Georgia Rules for Water Quality Control, Chapter 391-3-6.03 (Water Use Classifications and Water Quality Standards) for bacterial indicators. The transition to <i>e. coli</i> is discussed in more detail in the above EPD Responses and in Sections 4.4 and 5.2 of the Fact Sheet.
KAF requests that the fecal coliform limitations be excluded from the renewed permit, on the following basis: Fecal coliform is common in water and soil due to wildlife. The KAF wastewater facility, like all rural outdoor environments, is exposed to wildlife, with alligators and waterfowl attracted to the ponds and other treatment units. This wildlife is likely to contaminate the ponds and other treatment units with fecal coliform, and these sources are outside of the reasonable control of KAF.	Fecal coliform is the currently approved bacterial indicator for waters designated as fishing and for the protection of secondary contact recreation in and on the water. (GA R. & Regs. 391-3-6-03(6)(c)) The current Georgia water quality criteria for fecal coliform does not apply specifically to human sources and the proposed criteria does not distinguish between human and non-human sources at all, hence the exclusion of sanitary wastewater is not a justifiable basis for the removal of fecal coliform effluent limitations nor a guarantee that pathogens are absent from the facility's discharge that may cause harm to humans recreating in and on the water. Furthermore, the permittee is required as part of Consent Order EPD-WP-9076, issued May 05, 2021, to conduct an alternatives analysis regarding treatment technology that will evaluate alternatives to allow the facility to consistently meet fecal coliform effluent limitations while simultaneously consistently meeting the effluent limitations for other parameters in the NPDES Permit.

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	EPD has also included provisions to replace the fecal coliform effluent limitations with <i>e. coli</i> effluent limitations during the permit term subject to EPA approval of the proposed changes to the Georgia Rules for Water Quality Control, Chapter 391-3-6.03 (Water Use Classifications and Water Quality Standards) for bacterial indicators. The transition to <i>e. coli</i> is discussed in more detail in the above EPD Responses and in Sections 4.4 and 5.2 of the Fact Sheet.
KAF requests that the fecal coliform limitations be excluded from the renewed permit, on the following basis: The EPD has demonstrated that it has the freedom to use professional judgement to exclude bacterial indicator limitations from NPDES permits. In the 2016 Ogeechee River TMDL document (and other TMDLs), the EPD states the following: <i>Municipal and industrial wastewater treatment facilities with the potential for fecal coliform in their discharge are given end-of-pipe limits to meet the applicable water quality standard. An exception is constructed wetland systems, which have a natural level of fecal coliform input from animals attracted to the artificial wetlands.</i> The Richmond Hill – Elbow Swamp Constructed Wetlands Facility is specifically mentioned in this TMDL as a facility that qualifies for this exclusion from bacterial indicator limitations, even though the Georgia EPD is aware that Richmond Hill’s effluent contains fecal coliform. KAF requests that the same professional judgement be applied to the renewed KAF permit.	The <i>Total Maximum Daily Load Evaluation for Eight Stream Segments in the Ogeechee River Basin for Fecal Coliform (2016)</i> established allowable pollutant loadings and other quantifiable parameters to return the identified stream segments to supporting their designated use. TMDLs are site-specific evaluations which consider wasteload allocations (point sources) and load allocations (non-point sources) within a watershed in order to determine a pollution reduction target. This specific TMDL determined that point source discharges were not the primary source of fecal coliform and that bacterial contributions from the constructed wetland system did not require a wasteload allocation. The lack of a wasteload allocation in a TMDL does not preclude the inclusion of effluent limitations within an NPDES permit, nor do the circumstances at the King America Finishing facility mirror that of the example provided by the commenter. Nonetheless, based on EPD’s best professional judgement and reasonable potential analysis, fecal coliform limitations have since been applied at the final effluent following an upgrade of the Richmond Hill – Elbow Swamp Constructed Wetlands Facility

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KAF requests that the fecal coliform limitations be excluded from the renewed permit, on the following basis: Other states have demonstrated flexibility with this issue. Milliken has facilities in the State of South Carolina that have manufacturing processes and wastewater treatment facilities like those at the KAF facility. When the potential for effluent bacterial indicator limitations was considered, the State of South Carolina allowed for two common-sense approaches at these Milliken facilities: i. At two facilities, sanitary sewage going to the wastewater treatment plant was pre-disinfected and South Carolina required indicator bacteria to be sampled at an internal outfall after the treatment. Effluent sampling and limitations were not required. ii. At one facility, sanitary sewage was segregated and pumped to a POTW. The facility was considered to have no reasonable potential going forward. Effluent sampling and limitations were not required. KAF believes that the Georgia EPD has the same flexibility regarding effluent bacterial indicator limitations.	Georgia EPD is not knowledgeable on how the state of South Carolina analyzes reasonable potential for bacteria and EPD does not determine our RPA nor establish effluent limitations based on other state's determinations.
KAF requests that the fecal coliform limitations be excluded from the renewed permit, on the following basis: No additional measures, outside of continuous effluent disinfection, can be reasonably expected to prevent intermittent exceedances of the fecal coliform indicator bacteria. Effluent disinfection may require storage of large quantities of hazardous materials, such as gaseous chlorine or bleach, only a few yards from a natural wetland and less than half a mile	Effluent disinfection is an extremely common form of wastewater treatment with several demonstrated treatment technologies (e.g., chlorination, ozonation, ultraviolet radiation, microfiltration). The permittee's concerns that the use of chemical disinfection could impact compliance with other permit terms and limitations and spills may result from the storage of hazardous chemicals have no legal basis for the elimination of fecal coliform effluent limitations. Furthermore, the permittee is required as part of Consent Order EPD-WP-9076, issued

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from the Ogeechee River. Chemical disinfection of the effluent would also likely result in the discharge of additional salts, disinfection byproducts, and toxicants. Such chemical disinfection of the discharge could impact KAF's compliance with other permit terms and limitations. Given the low risk associated with the natural sources of this bacteria, the much higher risk from the storage and discharge of hazardous chemicals is unwarranted.	May 05, 2021, to conduct an alternatives analysis regarding treatment technology that will evaluate alternatives to allow the facility to consistently meet fecal coliform effluent limitations while simultaneously consistently meeting the effluent limitations for other parameters in the NPDES Permit.
KAF requests that the fecal coliform limitations be excluded from the renewed permit, on the following basis: KAF expects that most other industrial wastewater treatment plants in the State of Georgia are exposed to wildlife and have the same potential for natural sources of fecal contamination. If the Georgia EPD establishes a general policy that NPDES permits for these discharges must have bacterial indicator monitoring and limitations, regardless of whether the site has human or industrially-related sources of pathogens, this would undoubtedly result in significant cost and an unnecessary burden for industry in the State of Georgia, without providing a significant benefit to the environment. KAF encourages the application of common-sense approaches to this potential issue statewide, such as the sanitary sewage segregation implemented at our facility.	EPD evaluates permits on a case-by-case basis and considers information provided within the specific permit application and permit compliance history. Fecal coliform is the currently approved bacterial indicator for waters designated as fishing and for the protection of secondary contact recreation in and on the water. (GA R. & Regs. 391-3-6-.03(6)(c)) The facility's discharge has demonstrated the reasonable potential cause or contribute to a violation of Georgia's water quality criteria for fecal coliform thus effluent limitations are required.

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<u>Anti-Backsliding Regulations / Removal of Monitoring Requirements</u> 1. Section 402(o) of the CWA prohibits backsliding, or the reissuance of a permit with “effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.” 33 U.S.C. § 1342(o)(1). The draft permit reduces and/or eliminates certain permit limits and also reduces and/or eliminates monitoring frequency for a number of parameters of concern. We oppose any such backsliding in the permit. In 2013, EPD issued the current permit which set out certain limits and conditions. These permit conditions were imposed to ensure that the facility met the CWA and did not violate any applicable state water quality laws. Presumably, EPD believed these permit terms and conditions were necessary and appropriate to protect water quality in the Ogeechee River. The draft permit, however, contains lower effluent limitations for a number of parameters of concern including fecal coliform, formaldehyde, total suspended solids (TSS), color, total phenols, and total chromium. It also weakens monitoring requirements for chemical oxygen demand (COD), TSS, total phenols, total chromium, total Kjeldahl Nitrogen, total Nitrogen, color, sodium, peroxide, total mercury, and sulfide. Riverkeeper opposes all such instances of backsliding and requests that EPD maintain or strengthen the permit terms and conditions as they existed in the previous permit. We particularly believe that the permit should not be weakened given that the permittee has failed to meet the terms of the current permit as evidenced by the numerous permit exceedances it has reported.	Reductions in monitoring frequency do not constitute backsliding as defined in Section 402(o) of the CWA (33 U.S.C. § 1342(o)) and 40 C.F.R. § 122.44(l). Comments relating to the reduction of monitoring frequencies have been addressed separately in this response to comments document. In general, the term “anti-backsliding” refers to the statutory and regulatory provisions established at 33 U.S.C. § 1342(o) that prohibit renewal, reissuance, or modification of an existing NPDES permit that contains effluent limitations less stringent than those established in the previous permit. There are, however, exceptions to this prohibition established at 33 U.S.C. § 1342(o)(2) and at 33 U.S.C. § 1313(d)(4) which allow for less stringent effluent limitations to be applied, provided they comply with the “safety-clause” established at 33 U.S.C. § 1342(o)(3). Less stringent effluent limitations have been applied for TSS, total phenols, and chromium, total, and effluent limitations have been removed for formaldehyde and color based on the allowable backsliding exceptions. Section 5.3 of the fact sheet identifies the applicable exception for each instance where less stringent effluent limitations or monitoring have been applied. The implementation of such revised limitations will not result in a violation of a water quality standard under Section 303 of the CWA (33 U.S.C. § 1313) applicable to such waters. The legal rationale for allowing instances of backsliding is already addressed at length in the draft permit’s fact sheet, but EPD has provided

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2. Less than a decade ago the facility was responsible for a massive fish kill which decimated wildlife in the Ogeechee River and endangered the public health of nearby communities and homes. Now you want to loosen regulations when due to the facility's history of negligence regulations should be stricter. Testing and discharge mitigation efforts should be strengthened and enforced for all hazardous chemicals in use at the King America Finishing Plant. 3. Despite the fact that the present owner of the facility, Milliken & Company, has repeatedly violated the existing permit, this draft permit proposes eliminating the testing of serious parameters and constituents, including formaldehyde and the flame retardant THPC.	additional narrative regarding formaldehyde in this response to comments as it was specifically identified by several commenters. Georgia does not have an instream numeric water quality criterion for formaldehyde nor does US EPA have a national recommended water quality criterion. Consistent with EPD's <i>NPDES Reasonable Potential Procedures</i> (2003), where numeric criteria have not been established whole effluent biomonitoring may be used to develop a whole effluent toxicity (WET) limit. This approach is necessary and appropriate for the protection of Georgia water quality criteria in accordance with GA. Comp. R. & Regs. 391-3-6-.03(5)(e). Whole effluent toxicity testing is thus more suitable to identify any toxicity exhibited by formaldehyde in the effluent and provides the added benefit of identifying any potential additive and synergistic effects on the effluent as a whole. Additionally, historical formaldehyde analytical results have shown considerable issues with quality control and quality assurance as well as matrix interference due to the co-extraction of other matrix contaminants. Such issues can cause false positive results, overreporting of formaldehyde concentrations, and overall analysis accuracy issues which limit the suitability of formaldehyde sampling for the determination of aquatic toxicity. Commenters have additionally expressed concerns related to the removal of monitoring requirements for THPC, sodium, and peroxide in the effluent. THPC, sodium, and peroxide do not have numeric water quality criteria with which to conduct a reasonable potential analysis against, and as previously discussed above, effluent WET testing is the appropriate compliance standard to ensure the protection of Georgia water quality criteria.

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	Similarly, the instream monitoring requirements for formaldehyde, sodium, peroxide, and sulfide were removed as there are no numeric water quality criteria with which to compare the instream data against to determine whether the receiving waterbody is supporting its designated use.
<u>Whole Effluent Toxicity</u> 1. Due to the past fish kill and continued permit violations, any new permit should be more strict on toxicity. Milliken has continually failed to meet EPA standards, with 12 violations in the last 12 quarters. Failure to meet standards is not an argument for lowering those standards. Any new permit should be stricter on toxicity limits. In May of 2011, the Ogeechee River experienced one of the largest fish kills in our state's history. 38,000+/- fish were killed along with alligators, turtles, and birds over a 77-mile stretch of the river. This trail of devastation began in Screven County, just downstream of the discharge pipe of a textile treatment facility – King America Finishing (KAF), Inc., now Milliken. Ogeechee Riverkeeper (ORK) sued KAF in 2012 for violations of the Clean Water Act. The settlement agreement put in place comprehensive and stringent environmental protections. 2. Considering the plant's recent track record on ongoing toxicity issues and continued multiple permit violations, as well as the plant's history	

The current permit requires WET testing at the frequencies listed below. Based on the submitted WET testing results from December 2013 – May 2021, the number of tests and percentage of violations have been summarized below.

	Effluent Data				Instream Data			
	Acute WET		Chronic WET		Acute WET		Chronic WET	
	<i>C. dubia</i> 2/Week	<i>P. promelas</i> 1/Year	<i>C. dubia</i> 1/Month	<i>P. promelas</i> 1/Year	<i>C. dubia</i> 1/Month	<i>P. promelas</i> 1/Year	<i>C. dubia</i> 1/Month	<i>C. dubia</i> 1/Year
# of Tests	912	11	124	11	131	8		119
% of Viol.	15	1	4	0	0	0		4
% Viol.	1.64	9.09	3.23	0	0	0		3.36

Instream acute toxicity has not been detected for *ceriodaphnia dubia* as part of the historical WET testing. However, in consideration of the commentors concerns and the periodic toxicity exhibited in the effluent, EPD has returned the monitoring frequency for acute *ceriodaphnia dubia* WET testing to once per month.

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of the disastrous fish kill in 2011, any new permit should be more strict on toxicity. The company should be made to upgrade its wastewater treatment operation further until it can consistently pass its WET testing.	
As you know, the toxicity of the effluent has been the Riverkeeper's primary concern since the fish kill, which was itself the result of a toxic discharge event. Since the last permit iteration, both the company and Riverkeeper have conducted toxicity sampling and both the company's and the Riverkeeper's sampling results have identified toxicity as an ongoing concern. Although a significant number of chronic toxicity tests have been either at the permit limit or have violated the limit, the draft permit has maintained the monitoring frequency for whole effluent testing established in the prior permit. Further, many of the testing frequency reductions have been justified because of ongoing aquatic toxicity testing; however, the permit does not increase this toxicity testing to ensure compliance. We believe that the frequency of the toxicity sampling must be increased as further explained below. Given the high variability exhibited in the chronic tests and the number of periodic violations, we believe chronic toxicity testing must occur weekly. We agree and support the change to the permit that requires that if two test results violate the limit of $\geq 8\%$ effluent or are acutely toxic (LC50<100%), a toxicity identification and reduction evaluation (TI/RE) be implemented in accordance with federal Environmental Protection Agency ("EPA") guidance. The initiation of a TI/RE should require the development of a compliance schedule. This schedule should establish milestones to identify the toxicants, develop and identify alternatives to	Historical WET testing does not demonstrate a distinguishable trend of the effluent becoming more toxic overtime nor are there indicators that toxicity has been experienced instream which has not been identified through effluent WET testing. Hence, the proposed monitoring frequency of monthly for chronic toxicity testing for the water flea is sufficient to identify toxicity in the effluent. Additionally, due to the fact that the NOEC is limited to the concentrations tested, the coefficient of variation is limited by the selected dilution series and is subject to uncertainty. The commentor has also raised concerns over the selection of the dilution series for the chronic WET testing as well as the lack of IC25 reporting. As is noted by the commentor, the NOEC is the state of Georgia's metric for determining compliance with WET requirements, not the IC25. To provide additional transparency regarding WET testing results, EPD has required the IC25 to be reported to supplement the NOEC. EPD has additionally evaluated the selected dilution series for the chronic WET testing and has established in the permit a defined dilution series of Control, 2%, 4%, 8%, 16%, 32%, 64%, 100%. The revised dilution series includes two additional test concentrations to provide a more precise concentration-response relationship near the IWC using a modified 0.5 dilution factor in order to increase the precision of effect concentrations estimated from those relationships.

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remove the toxicants, and bring the facility back into compliance with the permit limit. This request to increase chronic toxicity testing for the water flea, <i>Ceriodaphnia dubia</i>, to weekly is based on the following: • The effluent has been observed to be chronically toxic and has become more toxic over time; • The effluent exhibits substantial variability (coefficient of variation of 60%); • The discharge has experienced long periods of time where the discharge NOEC (No Observed Effect Concentration) was at the limit of 8% effluent, and • For tests in which inhibition concentration (IC25) data are available, the tests predict effects on reproduction at or near the instream waste concentrations The facility has been required to analyze for chronic toxicity at a frequency of monthly since 2013 using <i>Ceriodaphnia dubia</i>. The limitation for chronic toxicity is established as a NOEC of $\geq 8\%$. This is approximately the instream waste concentration under fully mixed 7Q10 flow conditions. As a result, nearly the entire river flow is allocated to the facility for dilution prior to determining compliance. The 25% inhibition concentration (IC25) should be used as the point estimate for chronic toxicity; however, this value was not available in the Pre-Draft permit document. Because the NOEC is a function of the dilution series used, the results do not reflect the true variability of the effluent. Additionally, the NOEC determination is influenced by the variability of the testing, which can mask both toxic and non-toxic samples. The IC25 is independent of test sensitivity and is therefore a	The modified dilution series has been included to increase confidence in results near the IWC at the expense of losing precision when the NOEC lies within the 32% - 100% range. The modified dilution series will also negatively impact the ability to accurately compare historical WET results with those obtained moving forward. The draft permit placed on public notice also included stricter toxicity requirements by including a special condition, at Part III.C.3.e for the permittee to perform a TIE/TRE in the event that two WET tests are failed. The proposed permit goes further and includes revisions to the TIE/TRE special conditions requiring more explicit obligations within the TIE/TRE process and where applicable; establishes a schedule for the completion of such obligations

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better indication of actual sample toxicity. However, the test reports identified above were reviewed to determine the dilution series utilized. From this review, the dilution series for chronic aquatic toxicity testing is 100%, 80%, 65%, 50%, 25%, 8%, and 6.25%. Although the compliance limit of 8% is bracketed, typically the critical concentration ($\geq 8\%$ effluent) is bracketed by 2 concentrations both above and below 8%. This was not the case for the tests reviewed as most tests only had one exposure concentration less than 8% effluent. Assuming a similar dilution series was used for all of the tests, the data indicate that the effluent is highly variable with NOEC values ranging from a low of 5% effluent to a high of 84% effluent. For the most toxic test result collected in December 2018 (NOEC = 5% effluent), ORK collected and split a sample with Milliken. The ORK test indicated that the lowest observable effect concentration was 10% effluent and the IC25 was 10.6% effluent. The test run by Milliken reported that the NOEC was less than the lowest concentration tested (6.25% effluent). In the review of the May 2018 test report, it was noted that reproduction levels in both the 6.25% and 25% exposure concentrations were significantly different than the control while the 8% concentration was not significantly different. The report states that the NOEC is 8% for this test period. This scenario would be classified as a non-significant effect bracketed by significant effects (response 6 in the USEPA guidance (2002)). As such, the test would be considered valid and the NOEC should be reported as the concentration below the LOEC of 6.25%. Thus, the NOEC should have been reported as $<6.25\%$ effluent, not 8% as reported. The available data illustrate the following:	

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• Since 12/12/2013 (and including the May 2018 report), there have been 4 permit limit violations of the chronic toxicity limitation (1 each in 2013 and 2014 and 2 in 2018) • There is a high degree of variability in the data. Effluent NOEC values range from a low of 5% effluent (collected in December 2018) to a high of 84%. The calculated average of the NOEC values is 40% and the data exhibit a coefficient of variation of 60%. • Between November 2017 and June 2018 (8 tests), the NOEC value was reported as 8% effluent for 7 of the tests. • For the available data (94 tests plus 1 duplicate), there were 20 tests with results reported as NOEC of 8% or less. Note, for the duplicate test, that both tests indicated that the NOEC was below 8% effluent. As noted above, there is extensive variability in the reported NOEC values. To determine if there are any data trends, the quarterly average NOEC value was calculated for the available dataset. Again, the lack of an IC25 value limits data interpretation; however, assuming that the test concentration series has not changed, the data indicate that the effluent has become more toxic over time. During the period from November 2017 to June 2018 in which the NOEC was consistently reported at 8% (with the exception of January 2018), variability equivalent to that observed for the period of record would be expected; thus, it is likely that actual toxicity varied around 8% effluent—both above and below. This variability was not captured by the monthly data. Thus, we believe that chronic aquatic toxicity testing should be increased to weekly to understand the impact of the discharge on the Ogeechee River. Further, the fact that the endangered native Robust Redhorse fish has failed to establish a population downstream of the	

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facilities effluent after restocking indicates that conditions are not ideal. Finally, in addition to reporting the NOEC, the permittee should also be required to report the chronic IC25 so that a better understanding of the effluent variability can be obtained and the potential for instream impact can be assessed. In summary, therefore, we support: weekly testing to ensure compliance given reduced chemical monitoring; NOEC reporting (because this is the state standard); and IC25 reporting because this is a superior metric. We understand that the permittee will resist this increased testing and argue that other facilities in the state are not subject to similar testing requirements. But this facility is very different from other industrial dischargers in the state. The historical data and the history of the largest fish kill in the state justify whatever marginal additional cost this entails because of the importance of this issue.	
Part III.C.3.e of the draft permit, on page 28, contains a condition that requires the facility to complete both a Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE) after two WET test failures. Although KAF acknowledges the usefulness of the TIE and TRE protocols in some situations, we object to this requirement as it is written, because it may require the permittee to take actions under certain circumstances that are not possible or that serve no useful purpose. For example, toxicity failures at KAF have been infrequent, and when they have occurred, the elevated toxicity was not persistent over time. When toxicity is not persistent, execution of a TIE is impractical, as it is impossible to collect a representative sample on which to perform the identification activities. As the permit condition is written, KAF would be required to complete the TIE protocol regardless of the availability of toxic effluent. A TIE performed under these circumstances would yield	The historical results of the facility's whole effluent toxicity testing have shown intermittent toxicity issues which have yet to be successfully eliminated. To address toxicity, a special condition has been included at Part III.C.3.e for the permittee to perform a TIE/TRE in the event that two WET tests are failed. EPD has revised the TIE/TRE special condition to provide more explicit obligations within the TIE/TRE process and where applicable; to establish a schedule for the completion of such obligations.

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no useful information to the permittee or Georgia EPD. In addition, in some cases, the cause of toxicity in the effluent can be quickly and readily identified without the need for a TIE. Examples would include toxicity that corresponds to a wastewater treatment facility upset or an inadvertent chemical release to the wastewater treatment facility. Under these circumstances, the Toxicity Reduction Evaluation (TRE) activities can be initiated immediately with no need for a TIE. KAF suggests that this condition be modified in the following ways to prevent conditions that require actions that are not possible or that serve no useful purpose: - Require the TIE/TRE only under conditions that suggest persistent toxicity, such as the failure of consecutive toxicity samples. - Add language that explicitly allows for the discretion of a Professional Engineer and the Georgia EPD in determining whether TIE activities are necessary. For example, the permit could require submittal to the Georgia EPD of a Corrective Action Plan, prepared by a Professional Engineer, that considers the usefulness and practicality of the TIE methodology in addressing the causes of the persistent toxicity.	
<u>Instream Monitoring</u> ORK requests that downstream samples be collected in a manner that ensures samples are collected within the discharge plume, are representative of downstream conditions, and allow the calculation of percent effluent in the sample. Currently, the draft permit requires only measurement of conductivity and collection of a sample at any location within 25 feet of the discharge pipe. The data will be utilized by EPD to determine if the downstream sampling is representative of sampling	The permit at Part I.A.4 includes a downstream sampling point identified as 25 feet downstream of the discharge and 38 feet from the left riverbank. This location was identified through water quality modeling as the assumed center of the effluent plume. Conductivity sampling was also included to confirm that the downstream sampling location is representative of the effluent plume within the Ogeechee River.

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within the effluent plume. While we agree with the objective of the requirement, ORK believes that the requirement is too vague. Specifically, the language only requires Milliken to monitor the conductivity of the sample but does not require Milliken to locate the effluent plume and then sample directly from the plume. Given that there is over an order of magnitude difference in receiving water and Milliken effluent conductivity, location and identification of the plume based on conductivity alone is possible. Part I A.4 of the permit requires the permittee to collect a sample 25 feet downstream of the outfall pipe for aquatic toxicity testing. Depending on stream flow conditions, this results in a highly variable sample. We understand that this sampling location was selected to monitor actual instream conditions associated with the effluent discharge. However, based on a limited review of sampling data, the collection of a sample which contains a representative concentration of the effluent is often a hit or miss proposition. For example, the May 2018 receiving water toxicity test was conducted with a downstream sample which contained essentially no effluent. The Ogeechee River flow for this sample period was less than the harmonic mean flow for which Milliken modeled expected effluent concentrations downstream of the discharge. This data indicates that none of the downstream samples contained effluent from the Milliken discharge. Specifically, the samples collected 25 feet downstream of the outfall were more representative of upstream conditions than downstream. Further, based on modeling conducted by Milliken, samples collected within the discharge plume 25 feet downstream of the discharge should have had conductivity of between 249 and 309 $\mu\text{mhos/cm}$ under harmonic mean flow conditions. In contrast, the downstream samples used for testing contained only one-	Outside of the scope of the permit issuance, the permittee has also been required as part of Consent Order EPD-WP-9076, issued May 05, 2021, to demonstrate that the downstream sampling location is within the effluent plume under variable effluent and river flow conditions and if necessary, recommend adjustments to the sampling methodology where feasible. The demonstration will include, but not be limited to, a modeling analysis that evaluates expected conductivity at the downstream sampling location based on the historical effluent data and stream flows compared to historical actual conductivity readings at the downstream location. Under Part I.A.4 of the permit, EPD may review and approve an alternate downstream sampling location should data indicate that the current location is not representative of the effluent plume within the Ogeechee River.

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third of the conductivity and were representative of upstream conditions, not downstream discharge conditions. To remedy this situation, we recommend the following improvements in sampling methodology: • Prior to collecting the downstream sample, the sampler shall conduct a conductivity survey of the cross-section of the receiving stream at a point 25 feet downstream of the outfall. The objective of the survey is to identify the location of the effluent plume. The survey shall be conducted from top to bottom and from bank to bank at representative intervals across the stream. • Once the location of the plume has been identified, the sampler shall collect a vertically proportional sample; specifically, the sample shall be collected representative of the bottom third, middle third and top third of the receiving stream within the discharge plume. • Based on upstream and effluent conductivity values, the percent effluent in the sample shall be calculated.	
The reasonable potential analysis for various parameters assumes rapid and complete dilution with the entire river flow to determine instream concentrations. This presumes a mixing zone of unspecified and unlimited size, without designating or physically defining a mixing zone. Clearly, based on the downstream monitoring that has been conducted, the mixing is neither rapid nor complete. Had complete mixing been rapidly achieved, conductivity measurements for the May 2018 sampling	GA R. & Regs. at 391-3-6-03(10) state that the use of a reasonable and limited mixing zone may be permitted on receipt of satisfactory evidence that such a zone is necessary and that it will not create an objectionable or damaging pollution condition. EPD may establish a mixing zone where the use of the dilution factor equations defined at GA R. & Regs. at 391-3-6-.06(2)(f) are inapplicable and it is deemed necessary to define such a zone within which certain water quality criteria may be exceeded.

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event discussed above would have ranged between 158 and 182 µmhos/cm not 99–109 as reported by Milliken. Further, assuming complete mixing and providing the entire river flow for dilution, when this is not the case, allows for areas where water quality criteria are exceeded. Without delineation of the size of the mixing zone, the impact of the discharge on the receiving stream is unknown. Georgia regulations allow for properly identified and circumscribed mixing zones, but only with limitations and restrictions that have not been met or addressed.	EPD's dilution factor equations assume a relatively rapid and complex mix. US EPA guidance generally describes rapid and complete mixing as mixing which occurs when the lateral variation in the concentration of a pollutant in the direct vicinity of the outfall is small. (US EPA's <i>NPDES Permit Writers' Manual</i>, EPA-833-K-10-001 (Sept. 2010) at Sec. 6.2.5.1, p. 6-20) The facility's outfall is equipped with a diffuser which facilitates mixing and minimizes lateral variation in the concentration of a pollutant in the direct vicinity of the outfall. CORMIX modeling provided with the permit application indicates that based on available near-field mixing, it is unnecessary to define a mixing zone within which certain water quality criteria would be exceeded.