DEQ/DWR
FACT SHEET FOR NPDES PERMIT DEVELOPMENT
Major Modification
NPDES No. NC0001422

Facility Information			
Applicant/Facility Name:	Duke Energy Progress, LLC/ L.V. Sutton Energy Complex		
Applicant Address:	801 Sutton Steam Plant Road, Wilmington, NC 28401		
Facility Address:	(same)		
Permitted Flow	N/A		
Type of Waste:	100 % Industrial		
Facility/Permit Status:	Major Modification (WWTP Class I)		
County:	New Hanover		
Miscellaneous			
Receiving Stream:	Cape Fear River (001), Sutton Lake (002, 004, 008)	Regional Office:	WiRO
Stream Classification:	C Sw (001) C (002, 004, 008) SI: 18-(63)	Quad	J27SW Castle Hayne
303(d) Listed?:	Yes Impaired for D.O. (Cape Fear River)	Permit Writer:	Sergei Chernikov, Ph.D.
Subbasin:	030617 (CPF)	Date:	March 10, 2020
Drainage Area (mi2):			
Summer 7Q10 (cfs)	Tidally influenced (Outfall 001); Lake (Outfalls 002, 004, and 008)		
30Q2 (cfs):	See above		
Average Flow (cfs):	See above		
IWC (%):	100 (Outfall 8) 22 (Outfall 001) based on CORMIX model		
Primary SIC Code:			

SUMMARY

This is a Major Modification of the NPDES wastewater permit for L.V. Sutton Energy Complex. Duke Energy Progress Sutton Plant is a natural gas-fired 620 MW combined cycle generation facility. The power block consists of two combustion turbine generators (each with a HRSG – heat recovery steam generator) and one steam turbine generator. Historically, the facility operated 3 coal-fired units. The coal-fired units were shut-down in the fourth quarter of 2013. The facility is regulated by federal effluent guidelines (40 CFR Part 423 – Steam Electric Power Generating Point Source Category) – BPT/BAT.

On February 11, 2015 the Wilmington Regional Office delineated the Effluent Channel at the Sutton Energy Complex in accordance with the requirements of 15A NCAC 02B .0228. The new Outfall 008 was established to accommodate discharge from this effluent channel.

The permit is being Modified to incorporate following changes:

- Copper and Nickel Compliance Schedule for Outfall 001/004 was eliminated. The facility submitted a CORMIX model and limits for Copper (limit was eliminated), Nickel, Arsenic, and Selenium were recalculated.

- Special conditions for continuous pH and TSS monitoring were removed from the permit since the facility completed excavation of the ash.
- Copper compliance schedule for Outfall 008 was extended by 2 years to allow the facility to conduct a Water Effect Ratio study.
- Wastewater from the Lay of the Land Ares (LOLA) was added to Outfall 001 to facility excavation of coal ash from LOLA.
- Whole Effluent Toxicity monitoring frequency was reduced to Quarterly from Monthly due to the completion of the coal ash excavation.
- Internal Outfalls 005, 006, 007, and 009 were removed from the permit since all the wastewater from these Outfalls is monitored at Outfall 008.
- Outfalls 002 and 004 were removed from the permit since both ash ponds have been completely excavated.
- Limit for Copper (Outfall 001) was removed from the permit based on the results of the Reasonable Potential Analysis that considered a new dilution derived from the CORMIX model.
- Limits for Arsenic, Selenium, and Nickel (Outfall 001) have been recalculated based on the results of the Reasonable Potential Analysis that considered a new dilution derived from the CORMIX model.
- Acute toxicity testing requirements have been changed to Chronic Quarterly testing requirements at 22% based on the CORMIX model.

The remaining conditions of the permit have not been changed and remain intact until the renewal.

Wastewater outfalls:
Outfall 001 – cooling pond discharge, recirculated cooling water, non-contact cooling water, groundwater, landfill leachate, and treated wastewater from Outfall 004 (new ash pond). The new ash pond can discharge directly to Sutton Lake through Outfall 004 or to Cape Fear River through Outfall 001. The Outfall 001 is discharging through the mixing box that was set-up to concurrently discharge ash pond wastewater and water from Sutton Lake. The compliance point for Outfall 001 is located within the mixing box.

Outfall 002 – wastewater associated with the old ash pond. May consist of low volume waste, yard drains, oily waste treatment. Wastewater can be discharged to Sutton Lake or to Cape Fear River through Outfall 001.

Outfall 004 – wastewater associated with the new ash pond. May consist of low volume waste, yard drains, oily waste treatment. Wastewater can be discharged to Sutton Lake or to Cape Fear River through Outfall 001.

Outfall 008- Primarily consists of recirculating cooling water from the Combined Cycle generation unit, contains flows from internal outfalls 005, 006, 007, 009, and stormwater outfalls.

Internal Outfall 005 – wastewater from the Combined Cycle generation unit.

Internal Outfall 006 - wastewater from the Combined Cycle generation unit.

Internal Outfall 007 – stormwater/wastewater flows from the closure activities for coal-fired units.

Internal Outfall 009 – low volume wastes from a new simple cycle combustion turbine expected to be online in 2017.

Outfall 010 - non-contact stormwater from North Pond Emergency Spillway, the pond will receive stormwater from the coal ash landfill after landfill is capped.

Outfall 011 – non-contact stormwater from South Pond Emergency Spillway, the pond will receive stormwater from the coal ash landfill after landfill is capped.

Stormwater outfalls discharging to the effluent channel and then to Sutton Lake via Outfall 008:
Internal Outfall SW001 – Runoff from the temporary laydown area and the parking lot.

Internal Outfall SW002 – Runoff from the parking lot and Peaker Combustion Turbine area.

Internal Outfall SW003 – Runoff from the parking lot.

Internal Outfall SW004 – Pumped stormwater from the 115 Electrical Switchyard area.

Internal Outfall SW005 – Discharge from the south wet detention basin.

Internal Outfall SW006 – Discharge from the rip rap armored emergency spillway for the north infiltration basin that treats stormwater from a parking lot and surrounding areas.

Internal Outfall SW007 – Runoff from the potential rail loading yard, rail spur, and truck roads installed to transport coal ash from the site.

ASH POND DAMS
Seepage through earthen dams is common and is an expected consequence of impounding water with an earthen embankment. Even the tightest, best-compacted clays cannot prevent some water from seeping through them. Seepage is not necessarily an indication that a dam has structural problems, but should be kept in check through various engineering controls and regularly monitored for changes in quantity or quality which, over time, may result in dam failure.
Currently, no seeps have been detected at the site.

DILUTION MODEL
Geosyntec Consultants of NC has submitted a CORMIX model on behalf Duke Energy Progress, LLC for the discharge of Sutton Lake water to the Cape Fear River (classified C, Swamp, PNA) at 0.35 and 3.5 MGD.

The CORMIX model was used in conjunction with a previously calibrated Environmental Fluid Dynamics Code (EFDC) model to determine tidal inputs to the model. The outfall configuration was updated with the latest changes to the outfall following the separation of the Cooling Pond wastewater discharge to Sutton Lake. The model was completed in two parts. The first, the embayment stage, is a roughly uniform channel to the main river. The plume characteristics at the end of the embayment model run are used as inputs to the river hydrodynamics portion of the model. For reasons discussed below, mixing zone considerations were reserved to the embayment channel.

The model results show a buoyant plume undergoing near-field mixing for approximately three meters before contacting the surface of the water. Near-field mixing occurs along the surface contact for another half meter before moving into passive ambient diffusion. The plume continues with passive diffusion and contacts the nearest bank at 14 meters eventually ending approximately 8 meters wide and 0.25 meters deep from the surface. EPA guidance for sizing acute mixings zones (section 4.3.3 of the *Technical Support Document for Water Quality-based Toxics Control,* 1991) were reviewed with the criteria of 50 times the discharge length scale (square root of the port cross-

sectional area) being the most restrictive of the three options, in this case 13.5 m with a dilution of 10.5. The Division believes that 13.5 m is too large of an acute mixing zone considering the receiving water classification of Primary Nursery Area by the NC Division of Marine Fisheries, the length of the passive buoyant plume, and that the dilution allowed at this distance too great to protect downstream saltwater standards in accordance with 15A NCAC 2B .0203. To minimize the mixing zone and the pollutant concentrations in the ambient spreading plume, the mixing zone will be set where the plume contacts the water surface approximately 3 m from the outfall. The dilution at this point is 4.5.

Dilution Chronic/Acute- 4.5:1
IWC%- 22%
Diffuser-Existing outfall structure.
Regulatory Mixing Zone- three meters downstream of outfall.

REASONABLE POTENTIAL ANALYSIS(RPA)-OUTFALL 001

The Division conducted EPA-recommended analyses to determine the reasonable potential for toxicants to be discharged at levels exceeding water quality standards/EPA criteria by this facility. For the purposes of the RPA, the background concentrations for all parameters were assumed to be below detections level. The RPA uses 95% probability level and 95% confidence basis in accordance with the EPA Guidance entitled "Technical Support Document for Water Quality-based Toxics Control." The RPA included evaluation of dissolved metals' standards, utilizing a default hardness value of 25 mg/L $CaCO_3$ for hardness-dependent metals. The 2007-2014 Triennial Review standards adopted by NC in Nov. 2014 and approved by EPA in April 2016 were used to develop the acute and chronic limits. The RPA spreadsheets are attached to this Fact Sheet.

RPA for Outfall 001 have been re-calculated based on the results of the new CORMIX dilution model. Calculations included: As, Be, Cd, Al, Cr, Cu, F, Pb, Hg, Mo, Ni, Se, Ag, Zn, Ba, Sb and Tl (please see attached). The projected flow of 3.5 MGD was used in the analysis. The RPA indicated the need for following the water-quality based limits: As, Ni, and Se.

The proposed permit requires that EPA methods 200.7 or 200.8 (or the most current versions) shall be used for analyses of all metals except for total mercury.

MERCURY EVALUATION (Outfall 001)

The State of North Carolina has a state-wide mercury impairment. The TMDL has been developed to address this issue in 2012. The TMDL included the implementation strategy, both documents were approved by EPA in 2012.

The mercury evaluation was conducted in accordance with the Permitting Guidelines for Statewide Mercury TMDL.

Year	2015	2016
Annual average concentration (ng/L)	1.69	1.91
Maximum sampling result (ng/L)	3.43	9.8

Allowable mercury concentration for this facility is 12.0 ng/L. All annual average mercury concentrations are below the allowable level. All maximum sampling results are below the TBEL of 47.0 ng/L. Based on the Permitting Guidelines for Statewide Mercury TMDL, the limits are not required.

INSTREAM MONITORING-OUTFALL 002

The permit required semi-annual upstream and downstream monitoring near the ash pond discharge. These monitoring stations have been established through the Lower Cape Fear River

Program. The monitored parameters are: total arsenic, total selenium, total mercury (method 1631E), total chromium, dissolved lead, dissolved cadmium, dissolved copper, and dissolved zinc. The results for all parameters are below detection level upstream and downstream of the Outfall 001. It is required that the monitoring of the instream stations will continue during the next permit cycle.

CWA SECTION 316(a)

Since the Sutton Lake has been reclassified to the "waters of the State" on November 5, 2014, the facility has to develop a strategy to meet the state temperature standard in Sutton Lake. In order to obtain thermal variance/mixing zone for Lake Sutton/Cape Fear River the facility shall develop and conduct comprehensive 316(a) studies. The 316(a) studies shall be performed in accordance with the Division of Water Resources approved plan. The temperature analysis and the balanced and indigenous study plan shall conform to the specifications outlined in 40 CFR 125 Subpart H and the EPA's Draft 316(a) Guidance Manual, dated 1977, and the Region 4 letter to NCDENR, dated June 3, 2010.

CWA SECTION 316(b)

The permittee shall comply with the Cooling Water Intake Structure Rule per 40 CFR 125.95. The Division approved the facility request for an alternative schedule in accordance with 40 CFR 125.95(a)(2). The permittee shall submit all the materials required by the Rule with the next renewal application.

TOXICITY TESTING-OUTFALL 001 AND OUTFALL 008

Current Requirement: Outfall 001, 008 – Acute P/F @ 90% using *Pimephales promelas*

Recommended Requirement: Outfall 001 – Chronic P/F @ 22% using *Ceriodaphnia dubia*

Recommended Requirement: Outfall 008 – Acute P/F @ 90% using *Pimephales promelas*

This facility has passed all toxicity tests during the previous permit cycle, please see attached.

COMPLIANCE SUMMARY

During the last 5 years, the facility has exceeded limit 3 times, please see attached. The limit violations were for Oil and Grease (2 times - Outfall 005) and flow volume (Outfall 001), please see attached.

PERMIT LIMITS DEVELOPMENT

- The temperature limits (Outfall 001 and Outfall 008) are based on the North Carolina water quality standards (15A NCAC 2B .0200).
- The limits for Oil and Grease and Total Suspended Solids (Outfall 001, Outfall 008, Outfall 010, and Outfall 011) are based on the requirements in 40 CFR 423.
- The pH limits (Outfall 001, Outfall 008, Outfall 010, and Outfall 011) are based on the North Carolina water quality standards (15A NCAC 2B .0200).
- The Whole Effluent Toxicity limit (Outfall 001 and Outfall 008) is based on the requirements of 15A NCAC 2B .0500.
- The Water Quality Based Effluent Limits for Total Arsenic, Total Selenium, and Total Nickel (Outfall 001) are based on the results of the Reasonable Potential Analysis.
- The turbidity limit (Outfall 001) is based on North Carolina water quality standards (15A NCAC 2B .0200).
- The Water Quality Based Effluent Limits for Total Arsenic, Total Selenium, and Total Copper (Outfall 008) are based on the results of the Reasonable Potential Analysis.

PROPOSED CHANGES

- Copper and Nickel Compliance Schedule for Outfall 001/004 was eliminated. The facility submitted a CORMIX model and limits for Copper (limit was eliminated), Nickel, Arsenic, and Selenium were recalculated.
- Special conditions for continuous pH and TSS monitoring were removed from the permit since the facility completed excavation of the ash.
- Copper compliance schedule for Outfall 008 was extended by 2 years to allow the facility to conduct a Water Effect Ratio study.
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PROPOSED SCHEDULE

Draft Permit to Public Notice:	March 30, 2020 (est.)
Permit Scheduled to Issue:	May 22, 2020 (est.)

STATE CONTACT

If you have any questions on any of the above information or on the attached permit, please contact Sergei Chernikov at (919) 707-3606 or sergei.chernikov@ncdenr.gov.

NPDES Implementation of Instream Dissolved Metals Standards – Freshwater Standards

The NC 2007-2015 Water Quality Standard (WQS) Triennial Review was approved by the NC Environmental Management Commission (EMC) on November 13, 2014. The US EPA subsequently approved the WQS revisions on April 6, 2016, with some exceptions. Therefore, metal limits in draft permits out to public notice after April 6, 2016 must be calculated to protect the new standards - as approved.

Table 1. NC Dissolved Metals Water Quality Standards/Aquatic Life Protection

Parameter	Acute FW, µg/l (Dissolved)	Chronic FW, µg/l (Dissolved)	Acute SW, µg/l (Dissolved)	Chronic SW, µg/l (Dissolved)
Arsenic	340	150	69	36
Beryllium	65	6.5	---	---
Cadmium	Calculation	Calculation	40	8.8
Chromium III	Calculation	Calculation	---	---
Chromium VI	16	11	1100	50
Copper	Calculation	Calculation	4.8	3.1
Lead	Calculation	Calculation	210	8.1
Nickel	Calculation	Calculation	74	8.2
Silver	Calculation	0.06	1.9	0.1
Zinc	Calculation	Calculation	90	81

Table 1 Notes:

1. FW= Freshwater, SW= Saltwater
2. Calculation = Hardness dependent standard
3. Only the aquatic life standards listed above are expressed in dissolved form. Aquatic life standards for Mercury and selenium are still expressed as Total Recoverable Metals due to bioaccumulative concerns (as are all human health standards for all metals). It is still necessary to evaluate total recoverable aquatic life and human health standards listed in 15A NCAC 2B.0200 (e.g., arsenic at 10 µg/l for human health protection; cyanide at 5 µg/L and fluoride at 1.8 mg/L for aquatic life protection).

Table 2. Dissolved Freshwater Standards for Hardness-Dependent Metals

The Water Effects Ratio (WER) is equal to one unless determined otherwise under 15A NCAC 02B .0211 Subparagraph (11)(d)

Metal	NC Dissolved Standard, µg/l
Cadmium, Acute	WER*{1.136672-[*ln* hardness](0.041838)} · *e*^{0.9151 [*ln* hardness]-3.1485}
Cadmium, Acute Trout waters	WER*{1.136672-[*ln* hardness](0.041838)} · *e*^{0.9151[*ln* hardness]-3.6236}
Cadmium, Chronic	WER*{1.101672-[*ln* hardness](0.041838)} · *e*^{0.7998[*ln* hardness]-4.4451}
Chromium III, Acute	WER*0.316 · *e*^{0.8190[*ln* hardness]+3.7256}

Chromium III, Chronic	WER*0.860 · e^{0.8190[ln hardness]+0.6848}
Copper, Acute	WER*0.960 · e^{0.9422[ln hardness]-1.700}
Copper, Chronic	WER*0.960 · e^{0.8545[ln hardness]-1.702}
Lead, Acute	WER*{1.46203-[ln hardness](0.145712)} · e^{1.273[ln hardness]-1.460}
Lead, Chronic	WER*{1.46203-[ln hardness](0.145712)} · e^{1.273[ln hardness]-4.705}
Nickel, Acute	WER*0.998 · e^{0.8460[ln hardness]+2.255}
Nickel, Chronic	WER*0.997 · e^{0.8460[ln hardness]+0.0584}
Silver, Acute	WER*0.85 · e^{1.72[ln hardness]-6.59}
Silver, Chronic	Not applicable
Zinc, Acute	WER*0.978 · e^{0.8473[ln hardness]+0.884}
Zinc, Chronic	WER*0.986 · e^{0.8473[ln hardness]+0.884}

General Information on the Reasonable Potential Analysis (RPA)

The RPA process itself did not change as the result of the new metals standards. However, application of the dissolved and hardness-dependent standards requires additional consideration in order to establish the numeric standard for each metal of concern of each individual discharge.

The hardness-based standards require some knowledge of the effluent and instream (upstream) hardness and so must be calculated case-by-case for each discharge.

Metals limits must be expressed as 'total recoverable' metals in accordance with 40 CFR 122.45(c). The discharge-specific standards must be converted to the equivalent total values for use in the RPA calculations. We will generally rely on default translator values developed for each metal (more on that below), but it is also possible to consider case-specific translators developed in accordance with established methodology.

RPA Permitting Guidance/WQBELs for Hardness-Dependent Metals - Freshwater

The RPA is designed to predict the maximum likely effluent concentrations for each metal of concern, based on recent effluent data, and calculate the allowable effluent concentrations, based on applicable standards and the critical low-flow values for the receiving stream.
If the maximum predicted value is greater than the maximum allowed value (chronic or acute), the discharge has reasonable potential to exceed the standard, which warrants a permit limit in most cases. If monitoring for a particular pollutant indicates that the pollutant is not present (i.e. consistently below detection level), then the Division may remove the monitoring requirement in the reissued permit.

1. To perform a RPA on the Freshwater hardness-dependent metals the Permit Writer compiles the following information:
    - Critical low flow of the receiving stream, 7Q10 (the spreadsheet automatically calculates the 1Q10 using the formula 1Q10 = 0.843 (s7Q10, cfs) $^{0.993}$
    - Effluent hardness and upstream hardness, site-specific data is preferred
    - Permitted flow
    - Receiving stream classification

2. In order to establish the numeric standard for each hardness-dependent metal of concern and for each individual discharge, the Permit Writer must first determine what effluent and instream (upstream) hardness values to use in the equations.

   The permit writer reviews DMR's, Effluent Pollutant Scans, and Toxicity Test results for any hardness data and contacts the Permittee to see if any additional data is available for instream hardness values, upstream of the discharge.

   If no hardness data is available, the permit writer may choose to do an initial evaluation using a default hardness of 25 mg/L (CaCO3 or (Ca + Mg)). Minimum and maximum limits on the hardness value used for water quality calculations are 25 mg/L and 400 mg/L, respectively.

   If the use of a default hardness value results in a hardness-dependent metal showing reasonable potential, the permit writer contacts the Permittee and requests 5 site-specific effluent and upstream hardness samples over a period of one week. The RPA is rerun using the new data.

   The overall hardness value used in the water quality calculations is calculated as follows:
   Combined Hardness (chronic)
   = (Permitted Flow, cfs *Avg. Effluent Hardness, mg/L) + (s7Q10, cfs *Avg. Upstream Hardness, mg/L)
   (Permitted Flow, cfs + s7Q10, cfs)
   The Combined Hardness for acute is the same but the calculation uses the 1Q10 flow.
3. The permit writer converts the numeric standard for each metal of concern to a total recoverable metal, using the EPA Default Partition Coefficients (DPCs) or site-specific translators, if any have been developed using federally approved methodology.

4. The

   EPA default partition coefficients or the "Fraction Dissolved" converts the value for dissolved metal at laboratory conditions to total recoverable metal at in-stream ambient conditions. This factor is calculated using the linear partition coefficients found in *The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion* (EPA 823-B-96-007, June 1996) and the equation:

   $$\frac{C_{diss}}{C_{total}} = \frac{1}{1 + \{ [K_{po}] [ss^{(1+a)}] [10^{-6}] \}}$$

   Where:
   ss = in-stream suspended solids concentration [mg/l], minimum of 10 mg/L used, and
   Kpo and *a* = constants that express the equilibrium relationship between dissolved and adsorbed forms of metals. A list of constants used for each hardness-dependent metal can also be found in the RPA program under a

   numeric standard for each metal of concern is divided by the default partition coefficient (or site-specific translator) to obtain a Total Recoverable Metal at ambient conditions.

   In some cases, where an EPA default partition coefficient translator does not exist (ie. silver), the dissolved numeric standard for each metal of concern is divided by the EPA conversion factor to obtain a Total Recoverable Metal at ambient conditions. This method

presumes that the metal is dissolved to the same extent as it was during EPA's criteria development for metals. For more information on conversion factors see the June, 1996 EPA Translator Guidance Document.

5. The RPA spreadsheet uses a mass balance equation to determine the total allowable concentration (permit limits) for each pollutant using the following equation:

$$Ca = \frac{(s7Q10 + Qw)(Cwqs) - (s7Q10)(Cb)}{Qw}$$

Where: Ca = allowable effluent concentration (µg/L or mg/L)
Cwqs = NC Water Quality Standard or federal criteria (µg/L or mg/L)
Cb = background concentration: assume zero for all toxicants except NH_3* (µg/L or mg/L)
Qw = permitted effluent flow (cfs, match s7Q10)
s7Q10 = summer low flow used to protect aquatic life from chronic toxicity and human health through the consumption of water, fish, and shellfish from noncarcinogens (cfs)
* Discussions are on-going with EPA on how best to address background concentrations

Flows other than s7Q10 may be incorporated as applicable:
1Q10 = used in the equation to protect aquatic life from acute toxicity
QA = used in the equation to protect human health through the consumption of water, fish, and shellfish from carcinogens
30Q2 = used in the equation to protect aesthetic quality

6. The permit writer enters the most recent 2-3 years of effluent data for each pollutant of concern. Data entered must have been taken within four and one-half years prior to the date of the permit application (40 CFR 122.21). The RPA spreadsheet estimates the 95th percentile upper concentration of each pollutant. The Predicted Max concentrations are compared to the Total allowable concentrations to determine if a permit limit is necessary. If the predicted max exceeds the acute or chronic Total allowable concentrations, the discharge is considered to show reasonable potential to violate the water quality standard, and a permit limit (Total allowable concentration) is included in the permit in accordance with the U.S. EPA Technical Support Document for Water Quality-Based Toxics Control published in 1991.

7. When appropriate, permit writers develop facility specific compliance schedules in accordance with the EPA Headquarters Memo dated May 10, 2007 from James Hanlon to Alexis Strauss on 40 CFR 122.47 Compliance Schedule Requirements.

8. The Total Chromium NC WQS was removed and replaced with trivalent chromium and hexavalent chromium Water Quality Standards. As a cost savings measure, total chromium data results may be used as a conservative surrogate in cases where there are no analytical results based on chromium III or VI. In these cases, the projected maximum concentration (95th %) for total chromium will be compared against water quality standards for chromium III and chromium VI.

9. Effluent hardness sampling and instream hardness sampling, upstream of the discharge, are inserted into all permits with facilities monitoring for hardness-dependent metals to ensure the accuracy of the permit limits and to build a more robust hardness dataset.

10. Hardness and flow values used in the Reasonable Potential Analysis for this permit included:

Parameter	**Value**	**Comments (Data Source)**
Average Effluent Hardness (mg/L) [Total as, $CaCO_3$ or (Ca+Mg)]	25.0	Default value
Average Upstream Hardness (mg/L) [Total as, $CaCO_3$ or (Ca+Mg)]	25.0	Default value
7Q10 summer (cfs)	0	Lake or Tidal
1Q10 (cfs)	0	Lake or Tidal
Permitted Flow (MGD)	2.1	For dewatering