

Docket No. E-2 Sub 1219

Kroger Exhibit JDB-1

**Duke Energy Progress Responses to
Data Requests Referenced in Testimony**

**Duke Energy Progress
Response to
Harris Teeter
Data Request No. 2**

Docket No. E-2, Sub 1219

**Date of Request: February 21, 2020
Date of Response: February 28, 2020**

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The attached response to Harris Teeter Data Request No. 2-4, was provided to me by the following individual(s): Jacalyn H. Moore, Lead Rates & Regulatory Strategy Analyst, and was provided to Harris Teeter under my supervision.

Camal O. Robinson
Senior Counsel
Duke Energy Progress

Harris Teeter
Data Request No. 2
DEP Docket No. E-2, Sub 1219
Item No. 2-4
Page 1 of 1

Request:

Q.2-4 Does the Company anticipate any migration between the MGS rate schedule and the SGS-TOU rate schedule?

- a. If yes, please quantify how much migration is expected.
- b. What is the load factor where Schedule SGS-TOU customers would benefit from migrating to Schedule MGS?
- c. Please explain what kind of migration would be expected if this transitional load factor increased?
- d. Please provide all workpapers (if available in excel format with working formulae and passwords removed) utilized by the Company to assess the potential migration between Schedules MGS and SGS-TOU.

Response:

Q.2-4 The Company did not perform a migration analysis because the Company does not expect any additional migration between the MGS rate schedule and the SGS-TOU rate schedule, since the rate design was not expected to change the breakpoint where customers are better off on MGS versus the SGS-TOU rate schedule.

- a. N/A
- b. N/A
- c. N/A
- d. N/A

**Duke Energy Progress
Response to
Harris Teeter
Data Request No. 2**

Docket No. E-2, Sub 1219

**Date of Request: February 24, 2020
Date of Response: March 3, 2020**

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The attached response to Harris Teeter Data Request No. 3-1, was provided to me by the following individual(s): Teresa Reed, Rates & Regulatory Strategy Director, and was provided to Harris Teeter under my supervision.

Camal O. Robinson
Senior Counsel
Duke Energy Progress

Harris Teeter
Data Request No. 3
DEP Docket No. E-2, Sub 1219
Item No. 3-1
Page 1 of 1

Request:

Q.3-1 Refer to the Company's response to Commercial Group Data Request 1.4, attachment CG DR 1-4 1CP NC 2018 Unit Cost Summary for Rate Design.xlsx.

- a. The Unit Costs 12-31-2018 tab indicates a unit energy cost of 1.31 ¢/kWh (cell L82) based on adj kWh sale of 8,371,865,197 (L77) for MGS excl TOU and 11.44 ¢/kWh (K82) for MGS TOU based on adj kWh sales of 2,807,099,681 (K77). This appears to be an error due to the fact that the kWh sales for MGS excl TOU and MGS TOU were swapped. Please confirm the correct energy billing determinants and unit costs.
- b. The Unit Costs 12-31-2018 tab provides unit costs results for "Proforma Adjusted at Proposed Rates." Please provide unit cost results for the proforma adjusted at present rates and unit cost results per books, in a similar format.

Response:

- a. This is an error. The Company did inadvertently swap kWh sales for MGS excl TOU (Cell L77) with MGS TOU (Cell M77) on the "Unit Costs 12-31-2018" Tab in the Excel workbook noted by Harris Teeter. The correct billing determinants and unit costs have been updated in the attached file "HTDR 2-2 1CP NC 2018 Unit Cost Summary for Rate Design Revised.xlsx" which was also uploaded in response to Harris Teeter DR 2-2.



HTDR 2-2 1CP NC
2018 Unit Cost Sumr

- b. In the attached file noted under response 'a.' above, the Company has provided the "Proforma Adjusted at Proposed Rates" results. See the 'Summary' tab. The Company does not have the unit costs at the per books COS available as this is not a E-1 filing requirement.

**Duke Energy Progress
Response to
Harris Teeter
Data Request No. 4**

Docket No. E-2, Sub 1219

**Date of Request: March 9, 2020
Date of Response: March 18, 2020**

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The attached response to Harris Teeter Data Request No. 4-3, was provided to me by the following individual(s): Teresa Reed, Rates & Regulatory Strategy Director, and was provided to Harris Teeter under my supervision.

Camal O. Robinson
Associate General Counsel
Duke Energy Progress

Harris Teeter
Data Request No. 4
DEP Docket No. E-2, Sub 1219
Item No. 4-3
Page 1 of 1

Request:

Is it the Company's position that aligning SGS-TOU rates with unit costs, as indicated by the Company's cost of service study, would essentially invalidate the Company's SGS-TOU rate structure?

a. If yes, please explain how it would invalidate the rate structure and provide specific examples.

Response:

Yes.

a. The Company's cost of service study relies on multiple demands for the allocation of costs, most notably: summer coincident peak demand to allocate production and transmission related costs (under the SCP method) and noncoincident demands to allocate the demand portion of distribution plant. Rate design billing determinants are based on the noncoincident peak. Using noncoincident demands as a "common denominator" dilutes the other demand elements. The result of such dilution is that high load factor customers who have higher coincidence with the system peak as load factor increases, can drive their costs below the actual cost of providing service.

For example, load factor is a measure of energy intensiveness. A 100-watt bulb used for all hours of the month would have a 100% load factor and use 73 kWh. The same bulb used 50% of the time would use 36.5 kWh. Coincidence represents to what extent the load would be on at the time of the system peak. The bulb used for all hours of the month would be fully coincident with the system peak; the bulb used 50% of the time, may or may not be coincident with the system peak; the same bulb switched on and off for 30 minutes each hour would have a 50% coincidence with the hourly system peak demand. Each bulb has the same maximum demand but impacts coincident demand differently. The effect of pure demand/energy rates would mean that all customers pay the same level of fixed costs, regardless of their coincident peak demands, which causes the most expensive part of the system (i.e., production and transmission which was allocated to the class based on coincident demands).

**Duke Energy Progress
Response to
Harris Teeter
Data Request No. 5**

Docket No. E-2, Sub 1219

**Date of Request: March 10, 2020
Date of Response: March 18, 2020**

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The attached response to Harris Teeter Data Request No. 5-1, was provided to me by the following individual(s): Jacalyn H. Moore, Lead Rates & Regulatory Strategy Analyst, and was provided to Harris Teeter under my supervision.

Camal O. Robinson
Associate General Counsel
Duke Energy Progress

Harris Teeter
Data Request No. 5
DEP Docket No. E-2, Sub 1219
Item No. 5-1
Page 1 of 1

Request:

Q.5-1 Rate Design. Refer to the Company's response to Harris Teeter Data Request Item No. 2-4.

"The Company did not perform a migration analysis because the Company does not expect any additional migration between the MGS rate schedule and the SGS-TOU rate schedule, since the rate design was not expected to change the breakpoint where customers are better off on MGS versus the SGS-TOU rate schedule."

- a. Please identify the breakpoint, referenced in the Company's response above, where customers are better off on the MGS versus the SGS-TOU rate schedule.
- b. Has the Company identified whether there are customers currently on the MGS rate schedule that would be better off on the SGS-TOU rate schedule at current rates?
 - i. If yes, please identify the number of MGS customers that would be better off on the SGS-TOU rate schedule, at current rates.
 - ii. If yes, have these customers been notified that they would be better off on the SGS-TOU rate schedule?
- c. Has the Company identified whether there are customers currently on the SGS-TOU rate schedule that would be better off on the MGS rate schedule at current rates?
 - i. If yes, please identify the number of SGS-TOU customers that would be better off on the MGS rate schedule, at current rates.
 - ii. If yes, have these customers been notified that they would be better off on the MGS rate schedule?
- d. Please explain the Company's process for notifying a customer if they will be better off on the MGS vs. SGS-TOU rate schedule.

Response:

- Q.5-1 a. Customers whose load factors are 30% and below are usually better off on the MGS rate schedule as compared to the SGS-TOU rate schedule.
- b. The Company has not conducted a study in recent years to determine whether current MGS customers would be better off on the SGS-TOU rate schedule.
- i. N/A
 - ii. N/A
- c. The Company has not conducted a study in recent years to determine whether current SGS-TOU customers would be better off on the MGS rate schedule.
- i. N/A
 - ii. N/A
- d. It is a goal for the Company's account managers to perform a review annually for their assigned large business customers. This review includes feedback on those accounts that could benefit from a rate change including the SGS-TOU and MGS schedules. All of Harris Teeter's accounts were reviewed in 2019.

**Duke Energy Progress
Response to
NC Public Staff Data Request
Data Request No. NCPS 69**

Docket No. E-2, Sub 1219

**Date of Request: January 14, 2020
Date of Response: January 24, 2020**

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The attached Confidential response to NC Public Staff Data Request No. 69-3, was provided to me by the following individual(s): Jacalyn H. Moore, Lead Rates & Regulatory Strategy Analyst, Pricing & Regulatory Solutions, and was provided to NC Public Staff under my supervision.

Camal. O. Robinson
Senior Counsel
Duke Energy Progress

North Carolina Public Staff
Data Request No. 69
DEP Docket No. E-2, Sub 1219
Item No. 69-3
Page 1 of 1

Request:

3. Please provide costs and revenues profiles for Schedules RES, R-TOUD, R-TOU, SGS, MGS, SGS-TOU, LGS, and LGS-TOU. The Company's response should include: (1) a graphical representation of the profiles across all load factors, and (2) the supporting Excel spreadsheet data (in electronic form) used to generate the profiles.

Confidential Response:

Analyses were performed using Duke's standard rate design model approach that reviews the cost/revenue relationship of all load research sample participants to assess whether the rate design adequately reflects cost causation. Models were constructed and are attached for Schedules RES, R-TOUD, SGS, MGS, SGS-TOU, LGS, LGS-TOU and SI. Inputs to the rate model include 2016 usage data for all load research sample participants (see "Data Input" worksheet), 2016 marginal cost data (see "DEP Input" in models for TOU designs only), and unit cost from the cost of service study (see "COSS charges"). This information is deemed to be confidential because it provides customer-specific information.

Kroger Recommended SGS-TOU Rate Design
at Duke Energy Progress' Proposed Revenue Requirement

		Units	Test Year Billing Units	Current Rates @ 11/29/2019	Annual Revenue @ Current Rates	Proposed Rates	Annual Revenue @ Proposed Rates
	Basic Customer Charge	COUNT	255,341	\$35.50	\$9,064,606	\$35.50	\$9,064,606
On-peak	Energy Charges	KWH	3,383,258,528	\$0.06460	\$218,558,501	\$0.06460	\$218,558,501
Off-peak	Energy Charges	KWH	5,018,962,981	\$0.05235	\$262,742,712	\$0.05235	\$262,742,712
SUMMER (June-Sept Calendar)	Demand Charges	KW	7,294,229	\$10.53	\$76,808,233	\$14.13	\$103,074,148
NONSUMMER (Oct.-May Calendar)	Demand Charges	KW	13,554,853	\$8.85	\$119,960,452	\$11.88	\$160,983,021
Off-peak Excess	Demand Charges	KW	539,503	\$1.22	\$658,194	\$1.85	\$998,081
Minimum Bill	Energy Charges	KWH	0	\$0.04941	\$0	\$0.05502	\$0
Minimum Bill	Demand Charges	KW	0	\$1.22	\$0	\$1.85	\$0
	Billed kVAR	KVAR	237,999	\$0.32	\$76,160	\$0.32	\$76,160
Rate Schedule Base Revenue					\$687,868,856		\$755,497,228

Rate Schedule SGS-TOU Monthly Bill Impacts
at Kroger Proposed Rates
at Duke Energy Progress Proposed Revenue Requirement

Total kWh	On-peak kW	Load Factor	Current Revenue	Proposed Revenue	Percent Increase
24,820	85	40%	\$2,256.30	\$2,529.82	12.1%
27,923	85	45%	\$2,433.91	\$2,707.44	11.2%
31,025	85	50%	\$2,611.53	\$2,885.05	10.5%
34,128	85	55%	\$2,789.15	\$3,062.67	9.8%
37,230	85	60%	\$2,966.77	\$3,240.29	9.2%
40,333	85	65%	\$3,144.39	\$3,417.91	8.7%
43,435	85	70%	\$3,322.00	\$3,595.53	8.2%
46,538	85	75%	\$3,499.62	\$3,773.14	7.8%
49,640	85	80%	\$3,677.24	\$3,950.76	7.4%
175,200	600	40%	\$15,711.70	\$17,642.45	12.3%
197,100	600	45%	\$16,965.48	\$18,896.22	11.4%
219,000	600	50%	\$18,219.25	\$20,150.00	10.6%
240,900	600	55%	\$19,473.03	\$21,403.77	9.9%
262,800	600	60%	\$20,726.80	\$22,657.55	9.3%
284,700	600	65%	\$21,980.58	\$23,911.32	8.8%
306,600	600	70%	\$23,234.35	\$25,165.10	8.3%
328,500	600	75%	\$24,488.13	\$26,418.87	7.9%
350,400	600	80%	\$25,741.90	\$27,672.65	7.5%

AFFIDAVIT OF WILLIAM R. FEDORKA

STATE OF SOUTH CAROLINA §
 §
COUNTY OF LEXINGTON §

On this date personally appeared before me the undersigned authority William R. Fedorka who, having been placed under oath, testified as follows:

1. "My name is William R. Fedorka. I am over 21 years of age. I suffer from no legal disability and I have personal knowledge of all facts stated herein.
2. I am a Vice President of The SEFA Group, Inc., a South Carolina corporation ("SEFA"). I have been employed by SEFA since 2005.
3. SEFA owns and operates a STAR fly ash beneficiation facility located at the Winyah Generating Station operated by Santee Cooper in Georgetown, SC (the "Winyah STAR"). The Winyah STAR was commissioned for operations in April, 2015.
4. As originally designed, the Winyah STAR was intended to generate 250,000 tons per year of beneficiated fly ash under normal operations. As a result of modifications to dryer systems, the current design parameters for normal operations have increased to 275,000 tons per year of beneficiated ash.
5. Based on an assumed average loss on ignition ("LOI") factor of 9% for dried feed ash introduced to the Winyah STAR, the annual feed ash tons to be processed by the Winyah STAR would be approximately 275,000 tons under the original 250,000 ton design specification and approximately 300,000 tons under the revised 275,000 ton design specification.
6. As originally designed, the Winyah STAR specifications assumed that 33% of the ash to be processed in the facility would be supplied directly from operations at the Winyah Generating Station and 67% of the ash to be processed in the facility would be supplied from impoundments located at the Winyah Generating Station or elsewhere in the Santee Cooper system.

7. For 2019, approximately 20% of the ash processed in the Winyah STAR was supplied directly from operations at the Winyah Generating Station, and 80% of the ash processed in the Winyah STAR was supplied from impoundments located at the Winyah Generating Station.

8. The Winyah STAR was constructed at a then-existing facility which used a beneficiation technology different from STAR technology. Significant infrastructure from the previous facility unrelated to the beneficiation technology was retained and reused in the Winyah STAR. Retained infrastructure included a storage dome, a load out silo, truck load outs, a baghouse, ID fan, gas coolers, control room and elements of electrical equipment. The reuse of existing infrastructure lowered the overall cost of construction of the Winyah STAR.

Further affiant sayeth naught."



WILLIAM R. FEDORKA

SUBSCRIBED AND SWORN TO BEFORE ME on the 24 day of April,
2020, to certify which witness my hand and official seal.



Notary Public, State of South Carolina





Benjamin F. Wilson
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September 14, 2018

VIA Email

The Honorable Malcolm J. Howard
Senior United States District Judge
United States Courthouse
201 South Evans St., Rm 209
Greenville, NC 27858
NCEDml_Judge-Howard's_Monitor@nced.uscourts.gov

Re: Duke Energy Court Appointed Monitor Bi-Monthly Update

Dear Judge Howard:

I write to update you on my activities over the last few weeks.

Settlement of the City of Eden's Bromide Claim

On September 7, Duke reported to me that it and the City of Eden have reached a settlement of the City's bromide claim. My team is currently reviewing the settlement under the terms of the Bromide Restitution and Remediation Claims Process.

Semi-annual Status Update on Beckjord Facility

As reported in my August 31 report to the Court, on August 31 Duke provided me with its semi-annual report on the status of the Beckjord facility buyer's compliance with the terms of the purchase agreement. My team has reviewed Duke's report and is generally satisfied with Duke's monitoring of the buyer's progress at Beckjord. We continue to evaluate the status of several closure activities and will update you further in a future report if warranted.

Environmental Audits

Last week, Duke publicly posted the 2018 audit reports for the Buck and Marshall facilities to its website, and this week I provided the reports to the Court and other parties as required under the Plea Agreements. The auditors are currently finalizing the Roxboro and Mayo audit reports and

The Honorable Malcolm J. Howard
September 14, 2018
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are awaiting Duke's comments on the H.F. Lee and Cape Fear reports.

This week, the auditors audited the East Bend facility in Kentucky. The next audits are scheduled for mid-October at the Gallagher and Gibson facilities in Indiana.

Also, as discussed in my September 12, 2018 email transmitting the final Buck and Marshall reports, I have notified the auditors of the import of the recent Fourth Circuit decision in *Sierra Club v. Virginia Electric & Power Co.*, No. 17-1895 (4th Cir. Sept. 12, 2018). The decision holds that a landfill and coal ash settling ponds at a closed coal-fired power plant are not themselves "point sources" under the Clean Water Act, and thus groundwater contamination emanating from the landfill and coal ash ponds via percolation of water through the structures (not via any discrete conveyance) and ultimately reaching surface waters is not subject to the effluent limitations of the Act, 33 U.S.C. § 1311. As you know, over the course of the audit program, the auditors have identified potential discharges from coal ash basins to surface waters through hydrologically connected groundwater as an open line of inquiry in certain audit reports. Those reports noted that the factual circumstances presented an open line of inquiry in part because the Fourth Circuit had not yet determined whether a surface impoundment constitutes a point source in that scenario and therefore the auditors could not draw a firm conclusion as to facility compliance. My team has provided the auditors with a summary of the holding of the *Sierra Club* case and a revised framework for evaluating this issue in pending and future audit reports.

CAM Site Visits

From September 10 through September 12, several members of my team and I visited Duke Energy's four facilities that have been identified as priority excavation sites under North Carolina's Coal Ash Management Act ("CAMA"): Sutton, Dan River, Riverbend, and Asheville. The Independent Monitor Chris Bell joined us for three of the site visits. We conducted our last visits to these sites in March 2018. As with the March 2018 site visits, we wanted to observe the pace of excavation progress at each site and discuss with the Duke Energy teams the engineering challenges that they have been managing since our last tour. In addition, these visits allowed us to develop a better understanding of the sites' projections for excavation completion, especially Sutton and Dan River, which have faced the most difficulties over the past six months.

For each site visit, Duke prepared a presentation outlining the current status of the excavation efforts, and recent and foreseeable challenges to progress. Duke personnel were consistently responsive and knowledgeable on my team's questions. Following the presentations, we were led on a tour of each site. As with my last visit, at each site, I emphasized the importance of achieving the CAMA excavation deadlines. I describe my observations for each site below.

Sutton: As of September 9, 2018, Duke reports that Sutton is 1,215 tons ahead of its year-to-date schedule, but with a projected completion date of September 30, 2019, 60 days after the August 1, 2019 CAMA deadline. However, Duke tentatively believes that Sutton *may* have 500,000

The Honorable Malcolm J. Howard
September 14, 2018
Page 3

less tons of CAMA-regulated ash to excavate than originally thought (currently approximately 1.5 million tons left, rather than 2 million) and thus *may* be able to finish by July 2019. This is because their estimates for total ash, which they believe are accurate, were calculated in volume (cubic yards). Due to the practical difficulties in measuring volume during excavation and disposal, they have been measuring their excavation progress by weighing the disposed ash by weight (tons). Therefore, to equate the amount of excavated ash to the total ash to be excavated, Duke has been using a conversion factor of 1.2 tons per cubic yard. However, the ash at Sutton is reportedly less dense and closer to 1.1 tons of ash per cubic yard, creating the possible delta that Duke now reports.

Based on these updated calculations, Duke is hopeful that it will meet the CAMA deadline and, based on what I observed during the site visit, Duke appears to be working diligently to do so. Despite the difficulties of heavy rain over the end of this summer and the discovery of old cypress groves at the bottom of the primary basin, which is obstructing dredging, Duke continues to make good progress. After building a land bridge out to excavate the wettest and deepest end of the 1984 Basin, Duke has finally emptied the basin of water, removed all ash from over 15 acres of the basin, and is now well-positioned to finish clean closure of the basin. In the 1971 Basin, the use of multiple dredges and excavators to address the cypress stumps has been fruitful and Duke will soon be able to focus on continuing to dredge and dewater the remaining ash.

Per Duke personnel, the major obstacles for Sutton are now the need to ensure that remaining work is perfectly executed so that no time is lost to broken equipment or improperly excavated or landfilled material. The other potential obstacle is ensuring that NCDEQ will timely confirm clean closure of the basins once Duke has finished.

Finally, I note that the Sutton facility is currently dealing with the effects of Hurricane Florence – the second hurricane to affect the facility over the term of the plea agreements. While the implications to the work schedule at Sutton from the storm are highly dependent on the intensity and duration of the effects experienced, I believe it is reasonable to expect some schedule delays from the storm. I will update you further about this after Duke has had an opportunity to assess impacts from Hurricane Florence.

Dan River: As of Duke's September 9, 2018 weekly report, Dan River is 362,189 tons behind its schedule, which anticipates completion by January 15, 2019. During the site visit, Duke personnel spoke candidly about the obstacles that led to the delays that have plagued the site's excavation progress. The landfill breach in May, for example, arose out of the landfilling of ash that was not meeting moisture content specifications and thus had to be reworked and allowed to dry further in order to be fully compacted. While that ash was drying, other parts of the landfill were filled, leading to erosion issues from water flow patterns. Combined with a lack of water control measures to withstand a 25-year storm, the improper filling led to a landfill breach during heavy rains. The repair of that breach, as well as remedying of improper sloping and grading and ash compaction, cost the site approximately 4.5 weeks of production.

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Page 4

While these problems originated with the contractor, Duke personnel acknowledged the need for increased oversight and were working to learn from this mistake while sharing successful strategies between other ash sites. The root cause appears to be the ineffectiveness of the contractor's use of well-point dewatering, the use of groundwater pumps connected to chimneys in the ash basins to suck water out, which led to the landfilling of overly moist ash and the cascade of other landfill erosion problems. Now, Duke continues to face weekly deficits as it evaluates how to transition to traditional dewatering – the excavation, stockpiling, and mechanical working of the ash. I have asked to be informed of the site's revised plans as soon as they are available.

Besides these logistical issues, the site has also faced severe rains over this summer, and recent measurements have revealed that original estimates of total ash did not account for approximately 460,000 tons of ash. Given all of the above difficulties, Duke is pushing its scheduled end date from January 15, 2019 to June 1, 2019, with the understanding that it will be pushing its contractor to exceed the schedule to have a larger cushion before the August 1, 2019 CAMA deadline. Duke reports that Dan River has approximately 820,000 tons of CAMA-regulated ash left to excavate.

Riverbend: As of Duke's September 9, 2018 weekly report, Riverbend is 95,467 tons ahead of schedule and, weather permitting, expects to complete ash excavation in late September or October, 2018, well ahead of the CAMA deadline. Only approximately 100,000 tons of the original 4.8 million tons of ash are left to excavate at the site. Much of this ash is currently stockpiled in the ash stack area. Potential challenges to final closure discussed by the project team include water management, dealing with non-ash materials (e.g., boulders and asbestos-containing ash in the cinder pit), validation of final closure, and the removal of the site's equalization ponds. Regarding closure verification, Duke noted that it is working with NCDEQ to establish protocols for verifying proper closure of the CAMA-regulated structures.

Asheville: As of Duke's September 9, 2018 weekly report, Asheville is 73,389 tons ahead of schedule to complete ash excavation by February 2022, over five months ahead of the August 1, 2022 CAMA deadline. The project team reported that the site expects to be 80,000 tons ahead of plan by the end of the year. The most significant potential challenges that Duke anticipates concerns water management as the site excavates wetter ash; availability of landfill space; consistent availability of truck drivers for the hauling contractor, Waste Management; and potential discovery of more on-site ash.

Update on ash discovery at H.F. Lee

During the September 10 visit to the Sutton site, Duke presented more information on its plans for the ash discovery at H.F. Lee from earlier this year, as my team had requested. Duke reported its position that ash discoveries that are not related to coal ash surface impoundments, like at H.F. Lee, are not subject to CAMA but rather to North Carolina's general groundwater regulatory program. Nonetheless, Duke delineates such ash to determine its extent and potential origin, and as

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September 14, 2018
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Duke performs groundwater investigation at all of its ash sites, such non-impoundment ash could become subject to excavation requirements if doing so would remedy detected groundwater exceedances. I will continue to monitor NCDEQ's implementation of its groundwater and surface water programs as they relate to Duke's North Carolina sites.

Status of Groundwater Corrective Action for Duke Sites in North Carolina

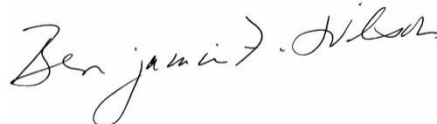
During the September site visits, Duke also discussed the status of groundwater remediation at its North Carolina sites. For instance, the Sutton and Asheville facilities are subject to accelerated groundwater remediation work (via pump and treat). Meanwhile, six priority sites where Duke expects to close ash impoundments with ash in place must submit closure plans by August 2019, and updated Corrective Action Plans (CAPs) will be submitted for those sites by December 2019. The timeline for updating CAPs at other sites remains undetermined but is subject to negotiations between Duke and NCDEQ. I will continue to monitor this issue closely as more information becomes available.

Environmental Concerns and Potential Violations

We continue to receive weekly updates on environmental concerns reported through the hotline and online portal, as well as Duke's "environmental events" reports. To date, we have not identified any reported concerns that rise to the level of a "suspected violation."

As always, please do not hesitate to contact me with any questions or concerns regarding the information in this report or our work in general.

Sincerely,



Benjamin F. Wilson

cc: Jim Wells, Duke Energy
Steve Struble, Duke Energy
Lara Nichols, Duke Energy
Matt Hanchey, Duke Energy
Julie Janson, Duke Energy

The Honorable Malcolm J. Howard
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Jim Cooney, Womble Carlyle
Lana Pettus, United States Department of Justice
Banu Rangarajan, United States Department of Justice
JoAnna McFadden, United States Department of Justice
Steve Kaufman, United States Department of Justice
Seth Wood, United States Department of Justice
Dwayne Benfield, United States Probation Office
John Wasco, United States Probation Office
Chris Bell, Greenberg Traurig
Stacey Wiggins, Eastern District of North Carolina
Stockton Brown, Eastern District of North Carolina

STATE OF NORTH CAROLINA
COUNTY OF NEW HANOVER

BEFORE THE
DEPARTMENT OF ENVIRONMENTAL
QUALITY

IN THE MATTER OF:

REQUEST FOR VARIANCE FROM
SESSION LAW 2014-122, SECTIONS
3(B)(4) AND 3(C), COAL ASH
MANAGEMENT ACT BY

DUKE ENERGY PROGRESS, LLC

**DECISION GRANTING IN PART
VARIANCE WITH CONDITIONS**

On November 16, 2018, pursuant to NCGS § 130A-309.215, Duke Energy Progress, LLC (Duke Energy) submitted an Application for Grant of Variance to Extend the Deadline to Close Sutton Plant CCR Surface Impoundments ("Application") to the North Carolina Department of Environmental Quality ("Department"). The Department received additional information regarding the Application ("Additional Information") from Duke Energy on December 14, 2018. The Application requests that the Department issue a variance to extend the Coal Ash Management Act ("CAMA") closure deadline for the Sutton Plant Coal Combustion Residuals ("CCR") surface impoundments by six months from August 1, 2019 to February 1, 2020.

Based on the Department's analysis of the information submitted, the Department makes the following:

FINDINGS OF FACT

1. The L.V. Sutton Energy Complex (Sutton Plant) is located at 801 Sutton Steam Plant Road, near Wilmington, NC in New Hanover County. The facility is located adjacent to the Cape Fear River and Sutton Lake. The Sutton Plant operated as a three-unit, 575-megawatt coal-fired power plant from 1954 until the coal fired units were retired in 2013 and replaced with a 625-megawatt natural gas fired combined-cycle facility.
2. The Sutton facility has two CCR surface impoundments known as the 1971 Basin and the 1984 Basin. These CCR surface impoundments were operated under NPDES Permit No. NC0001422. The 1971 Basin was operated until 1985 and is unlined. The 1984 Basin was operated until 2013 and was constructed with a 24" thick clay liner. In 2013, the coal-fired units at the Sutton Plant were shut down and coal ash was no longer sluiced to the surface impoundments.
3. By October 2014, Duke Energy had developed the initial excavation plan for the CCR surface impoundments at the Sutton Plant. Duke Energy submitted the plan to the Department in November 2014. To meet the August 2019 deadline, the initial excavation

plans included transporting ash by rail and truck to the Brickhaven Mine facility in Chatham County, NC.

4. As part of the CCR surface impoundments excavation plan, Duke Energy developed the plans for an on-site landfill. Duke Energy submitted the application for the on-site landfill on August 7, 2015. Initial excavation of ash began in November 2015. On April 7, 2016, the Department announced that it would conduct an environmental justice analysis of each Duke Energy coal ash landfill application. The Department submitted its analysis to the EPA Office of Civil Rights, the U.S. Commission on Civil Rights and its North Carolina Advisory Committee for review and approval. Upon completion of this process, the Department issued a permit to construct the Sutton Plant landfill on September 22, 2016. This environmental justice analysis added approximately five months to the landfill construction process.
5. In October 2016, Hurricane Matthew severely impacted the region, delaying both landfill construction and transportation of ash to the Brickhaven Mine.
6. On July 6, 2017, the Department issued the permit to operate the Sutton Plant landfill. The following day Duke Energy began transporting ash to the landfill.
7. In June 2018, dredging operations in the 1971 ash basin were delayed by approximately three weeks due to the unexpected presence of rock and tree stumps in approximately five acres of the basin.
8. In September 2018, Hurricane Florence severely impacted the region causing additional delays in the ability to remove material from the CCR surface impoundments due to extreme flooding as well as damage to the landfill.
9. Throughout this time, Duke Energy evaluated and undertook various measures to accelerate excavation of the CCR surface impoundments, including expediting completion of the onsite landfill and expanding dredging operations.
10. Duke Energy estimates that, as of the end of 2018, it had excavated 4.9 million tons of ash, and that approximately 1.4 million tons of ash remain to be excavated during 2019. From October 2015 until July 2017, Duke Energy excavated an average of 130,000 tons of coal ash per month. Since the landfill became operational in July 2017, Duke Energy has excavated an average of approximately 150,000 tons of coal ash per month.
11. At the end of July 2019, assuming that there are no significant additional delays, Duke Energy forecasts that approximately 350,000 tons of coal ash will require excavation, which means that the excavation would be approximately 94% complete.
12. In terms of Duke Energy's compliance with the provisions of CAMA for the Sutton Plant:

- a. Annual inspection by the Department of the Sutton 1971 and 1984 dams occurred on August 29, 2018 and no concerns or issues were reported.
 - b. Pursuant to NCGS § 130A-309-211(c1), no permanent replacement water connections were required.
 - c. Pursuant to NCGS § 130A-309-211(a), Duke submitted a comprehensive site assessment for the Sutton Plant on August 4, 2015.
 - d. Pursuant to NCGS § 130A-309-211(b), Duke submitted a corrective action plan for the Sutton Plant in two parts on November 2, 2015 and February 1, 2016.
13. In accordance with NCGS § 130A-309.215(a2), the Department provided public notice and held a public hearing on January 14, 2019 in Wilmington, NC. Jim Gregson, Deputy Director of the Department's Division of Water Resources, served as the hearing officer. Further details are provided in the enclosed Hearing Officer's Report dated March 25, 2019. The hearing officer provided the following recommendation:

Based on the review of the public record, written comments, the North Carolina General Statutes and Administrative Code, the Coal Ash Management Act of 2014, and discussions with other Department staff, I recommend to the Assistant Secretary for the Environment that the request for variance be granted and that the closure deadline for the Sutton Plant CCR surface impoundments be extended by the minimum necessary time period that Duke Energy indicates it will take to complete the closure. The extension should not exceed six months.

Based upon the foregoing Findings of Fact, the Department makes the following:

CONCLUSIONS OF LAW

1. The CCR surface impoundments at the Sutton Plant in Wilmington, North Carolina are subject to Session Law 2014-122. Section 3(b) of Session Law 2014-122 deemed the CCR surface impoundments at the Sutton Plant as high priority. Sections 3(b)(4) and 3(c) of Session Law 2014-122 required that the CCR surface impoundments be closed by excavation no later than August 1, 2019.
2. NCGS § 130A-309-215(a) authorizes the Secretary of the Department of Environmental Quality to grant a variance to extend any CAMA deadlines. Secretary Michael Regan has delegated this authority in writing to Sheila Holman, Assistant Secretary for the Environment.
3. Pursuant to NCGS § 130A-309-215(a1), for a variance requested by an impoundment owner, the owner shall submit an application that includes "identification of the site, applicable requirements, and applicable deadlines for which a variance is sought, and the site-specific circumstances that support the need for the variance."

4. Additionally, “[t]he owner of the impoundment shall also provide detailed information that demonstrates (i) the owner has substantially complied with all other requirements and deadlines established by this Part; (ii) the owner has made good faith efforts to comply with the applicable deadline for closure of the impoundment; and (iii) that compliance with the deadline cannot be achieved by application of best available technology found to be economically reasonable at the time and would produce serious hardship without equal or greater benefits to the public.” NCGS § 130A-309-215(a1).
5. A variance request shall not be submitted any earlier than one year prior to the applicable deadline.
6. The Department concludes that, in its Application, Duke Energy has identified:
 - a. The site for which a variance for the closure deadline is sought as Duke Energy’s Sutton Plant (see Application, p. 1);
 - b. The applicable requirements in Session Law 2014-122 (see Application, pp. 1-2); and
 - c. The applicable deadline for which variance is sought as August 1, 2019 (see Application, p. 2).
7. The Department further concludes that, in its Application and Additional Information, Duke Energy has:
 - a. Identified the site-specific information that supports the need for a variance, including the delays caused by two hurricanes, delays caused by the Department’s environmental justice review, and Duke Energy’s evaluation and implementation of measures to expedite excavation (see Application, pp. 2-9).
 - b. Supplied detailed information demonstrating its compliance with the provisions of CAMA, including its submissions of a Comprehensive Site Assessment and a Corrective Action Plan, no issues or concerns were reported with Sutton dams, and no alternative water supplies were required around the Sutton Plan (see Application, pp. 9-10; Additional Information, pp. 3-5).
 - c. Supplied detailed information showing it made good faith efforts to comply with the applicable deadline for closure of the CCR surface impoundments, including excavating at an average rate of 150,000 tons per month since commencement of the operation of the onsite landfill, expediting completion of that landfill, expanding dredging operations, adding a third conveyor, simultaneously operating three dredges, and taking various additional measures to meet the August 1, 2019 deadline (see Application, pp. 2-9; Additional Information, pp. 1-3).
 - d. Supplied detailed information indicating that compliance with the deadline cannot be achieved by application of best available technology found to be economically reasonable at the time and would produce serious hardship without equal or greater benefits to the public, including information regarding the technology that is currently being deployed to overcome the delays outlined above, additional technology that has been evaluated, and the computation of the average monthly rate of excavation, the amount of coal ash that remains to be excavated, and the

number of months remaining until August 1, 2019 (see Application, pp. 2-9; Additional Information, pp. 1-3).

ORDER

Based on the Findings of Fact and Conclusions of Law as set forth above, IT IS HEREBY ORDERED that the request for the variance is GRANTED IN PART pursuant to NCGS § 130A-309-215(a) with the following conditions:

1. The August 1, 2019 closure date for the CCR surface impoundments at Duke Energy's Sutton Plant is extended four (4) months to December 1, 2019.
2. Beginning April 15, 2019, and by the 15th day of each successive month until closure is completed, Duke Energy shall provide the Department with the amount of ash excavated at the Sutton Plant during the previous month and the cumulative total for ash excavation, the amount of ash placed in the landfill, the rate at which the ash is being removed and disposed, and the estimated volume of the remaining ash to meet the requirements of the closure.
3. This variance is only for the activities associated with the closure and removal of ash from the 1971 and 1984 Basins at the Sutton Plant in Wilmington, North Carolina.

This the 26th day of March, 2019.

DEPARTMENT OF ENVIRONMENTAL QUALITY



Sheila Holman

Assistant Secretary for the Environment

ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
LINDA CULPEPPER
Director



March 25, 2019

MEMORANDUM

To: Sheila Holman
Assistant Secretary for the Environment

From: Jim Gregson *JHG*
Deputy Director

Subject: Hearing Officer's Report and Recommendations
Duke Energy Progress, LLC – L.V. Sutton Energy Complex
Variance Request to Extend the Deadline to Close Sutton Plant Coal Combustion
Residual (CCR) Surface Impoundments
New Hanover County

On January 14, 2019, I served as the Hearing Officer for the Subject Public Hearing held at Cape Fear Community College, 411 North Front Street, McLeod Building Room S-002, Wilmington, NC 28360. The purpose of the public hearing was to allow the public to comment on Duke Energy's request for variance to extend the Coal Ash Management Act (CAMA) closure deadline for the Sutton Plant CCR impoundments by six months.

No oral comments were presented at the public hearing. I have reviewed all written comments received during the public comment period which ended on February 4, 2019. In preparation of this report I have considered all public comments, Duke Energy's variance application and the public record.

The report has been prepared using the following outline:

- I. Site History / Background
- II. January 14, 2019, Public Hearing and Comments Summary
- III. Recommendations
- IV. Attachments

Hearing Officer Report

JANUARY 14, 2019, PUBLIC HEARING – DUKE ENERGY PROGRESS, LLC VARIANCE REQUEST TO EXTEND DEADLINE TO CLOSE SUTTON PLANT CCR SURFACE IMPOUNDMENT LOCATED AT 801 SUTTON STEAM PLANT ROAD NEW HANOVER COUNTY

I. History / Background

The L.V. Sutton Energy Complex (Sutton Plant) is located at 801 Sutton Steam Plant Road, near Wilmington, NC in New Hanover County. The facility is located adjacent to the Cape Fear River and Sutton Lake. The Sutton Plant operated as a three-unit, 575-megawatt coal-fired power plant from 1954 until the coal fired units were retired in 2013 and were replaced with a 625-megawatt natural gas fired combined-cycle facility.

The Sutton facility has two CCR basins known as the 1971 and 1984 Basins. These basins were operated under NPDES Permit No. NC0001422. Fly and bottom ash sluicing was discontinued when the coal fired units were shut down in 2013. The 1971 Basin was operated until 1985 and is unlined. The 1984 Basin was operated from 1984 until 2013 and was constructed with a 24" thick clay liner.

Section 3(b) of the Coal Ash Management Act, Session Law 2014-122 deemed the CCR surface impoundments at the Sutton Plant as high risk. Sections 3(b)(4) and 3(c) of Session Law 2014-122 further required that the surface impoundments be closed by excavation no later than August 1, 2019.

On November 16, 2018, an application was received from Duke Energy for Variance to extend the deadline to close the Sutton Plant CCR surface impoundments. Additional information regarding the application was received from Duke Energy on December 14, 2018. The application requests that the Department issue a variance to extend the CAMA closure deadline for the Sutton Plant CCR Impoundments by six months; from August 1, 2019 to February 1, 2020.

II. January 14, 2019, Public Hearing and Comments Summary

A public hearing was held on January 14, 2019, at 6:00 pm, at Cape Fear Community College, 411 North Front Street, McLeod Building Room S-002, in Wilmington, NC. The purpose of the public hearing was to allow the public to comment on Duke Energy's request for variance to extend the Coal Ash Management Act (CAMA) closure deadline for the Sutton Plant CCR impoundments by six months.

The Department provided notices of public hearing and public comment by:

- providing Duke Energy's request for a variance and the Department's notice of public hearing and public comment to the New Hanover County Health Department (Attachment A);

- providing Duke Energy's request for a variance and the Department's notice of public hearing and public comment to the New Hanover County Public Library (Attachment B);
- posting Duke Energy's request for a variance and the Department's notice of public hearing and public comment to the Department's website, issuing a press release, and posting additional notices to its website on January 14, 2019 and February 4, 2019 (Attachment C);
- emailing notice to all persons on its coal ash email distribution list (Attachment D); and
- publishing notice in the *Wilmington Star News* on December 20, 2018; December 27, 2018; and January 3, 2019 (Attachment E).

Approximately 13 people attended the public hearing including 10 staff members of the Department of Environmental Quality and myself. No individuals signed the attendance sign in sheets at the hearing (Attachment F). The hearing officer provided opening comments and a brief overview of the variance request. No one registered in advance of the hearing to provide oral comments. No one responded when the Hearing Officer asked if anyone that did not register to speak would still like to provide oral comments.

The public hearing transcript is included as Attachment G.

In addition to the public hearing, The Department received seven written comments by email during the public comment period. Two of the emails were duplicates. Email comments are included as Attachment H.

WRITTEN COMMENTS SUMMARY

All email comments expressed general objection to the variance request or provided a general request that the ash be removed. The following is a summary by three major topic areas:

- Clean-up has been prolonged too long.
- What has Duke been doing for the past four years?

Response – The classification of the Sutton Plant CCR surface impoundments as high risk and the requirements for closure of the impoundments by August 1, 2019, were mandated in Session Law 2014-122 which became effective on September 20, 2014. By October 2014, Duke Energy had developed the initial excavation plan for the surface impoundments at the Sutton Plant. The plan was submitted to the Department of Environmental Quality in November 2014. To meet the August 2019 deadline, the initial excavation plans included transporting ash by rail and truck to the Brickhaven Mine facility in Chatham County. At the same time Duke began developing the plans for an on-site landfill. The application for the on-site landfill was submitted on August 7, 2015. Initial excavation of ash began in November 2015. On April 7, 2016, NC DEQ announced that it would conduct an environmental justice review of each Duke Energy coal ash landfill application and ask the EPA Office of Civil

Rights, the U.S. Commission on Civil Rights and its North Carolina Advisory Committee to review and approve the environmental justice analysis before the permit is issued. The additional review by outside groups with expertise in environmental justice issues is to help ensure Duke Energy's construction of a landfill will not have an adverse disparate impact on a minority or low-income community protected by Title VI of the Civil Rights Act of 1964. Upon completion of this process, the permit to construct the Sutton Plant landfill was issued on September 22, 2016. Hurricane Matthew impacted the region in October 2016, causing additional delays in both landfill construction and transportation of ash to the Brickhaven Mine. In June 2018, dredging operations in the 1971 ash basin were delayed by approximately three weeks due to the unexpected presence of rock and tree stumps in approximately five acres of the basin. The permit to operate the Sutton Plant landfill was issued on July 6, 2017. The following day Duke Energy began transporting ash to the landfill. In September 2018, the area was severely impacted by Hurricane Florence causing additional delays in the ability to remove material from the ash basins due to extreme flooding and damage to the landfill. Duke Energy estimates that approximately 1.4 million tons of ash remain to be excavated during 2019.

- Ash basins should not have been in flood prone areas.

Response – A review of current FEMA flood maps for the Sutton Plant area indicate the ash basins are in a Flood Zone X (Area of Minimal Flood Hazard). It is recognized that the Sutton Plant property was severely impacted by the historic rainfall events associated with Hurricane Florence.

III. Recommendations

Based on the review of the public record, written comments, the North Carolina General Statutes and Administrative Code, the Coal Ash Management Act of 2014, and discussions with other Department staff, I recommend to the Assistant Secretary for the Environment that the request for variance be granted and that the closure deadline for the Sutton Plant CCR surface impoundments be extended by the minimum necessary time period that Duke Energy indicates it will take to complete the closure. The extension should not to exceed six months.

IV. Attachments

- A. Notice to New Hanover Health Department
- B. Notice to New Hanover Public Library
- C. Notices Posted to the Department's Website
- D. Notices Sent to the Department's Coal Ash Email Distribution List
- E. Notices Published in the *Wilmington Star News*
- F. Public Hearing Attendance Sign-in Sheet
- G. Public Hearing Transcript
- H. Written Comments Received During Public Comment Period

Attachment A

From: [Martin, Sharon L.](#)
To: programsupport@nhcgov.com
Subject: Public Notice of Variance request on Duke Energy Sutton Coal Ash Closure
Date: Friday, December 14, 2018 4:45:00 PM
Attachments: [SuttonVariance public notice -12142018.pdf](#)
[Sutton Station Application for Grant of Variance to Close Impoundments_20181116.pdf](#)

Dear program support,

I spoke with James in your environmental health section and he indicated you were the best contact. Attached is a public notice of the Duke Energy request for variance for the closure deadline of the Sutton Coal Ash Facility.

We are required by law to make a copy of this notice and document available in the county health department. Please post as necessary.

Feel free to give me a call if you have any questions of concerns.

Thanks,

Sharon Martin

Public Information Officer



Sharon Martin
Public Information Officer, Division of Air Quality
North Carolina Department of Environmental Quality
919.707.8446 (Office)
919.675.4912 (Mobile)
Sharon.Martin@ncdenr.gov

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

**NOTICE FOR PUBLIC MEETING AND PUBLIC COMMENT PERIOD
ON REQUEST FOR VARIANCE TO EXTEND CLOSURE DEADLINE
Duke Energy Sutton Plant**

Duke Energy has made a request to the North Carolina Department of Environmental Quality (DEQ) for a variance to extend the Coal Ash Management Act closure deadline by six months for the Sutton Coal Ash facility located at:

801 Sutton Steam Plant Road
Wilmington, NC 28401

This notice serves as a Notice of Public Meeting and Opportunity for Public Comment for this request. The public meeting will be held at the Cape Fear Community College on January 14, 2019 in the Union Station Building.

A copy of the variance request is posted on the DEQ website at deq.nc.gov/Sutton-Variance.

Interested persons are invited to provide comment on the variance request. Written comments may be sent to:

Ellen Lorscheider
1646 Mail Service Center
Raleigh, North Carolina 27699 1646
Phone/Fax: (919)707-8200

The comment period began on December 14, 2018 and ends on February 4, 2019. Written comments may also be submitted during the public comment period via email at the following address:

publiccomments@ncdenr.gov

Please type "Sutton Variance Request" in the subject line.

After weighing all relevant comments received, DEQ will decide whether to grant the request.



George T. Hamrick
Senior Vice President
Coal Combustion Products

400 S. Tryon Street, ST06A
Charlotte, NC 28202

Phone: 980-373-8113
Email: george.hamrick@duke-energy.com

November 16, 2018

VIA UPS OVERNIGHT DELIVERY AND ELECTRONIC MAIL

Mr. Michael S. Regan
Secretary
North Carolina Department of Environmental Quality
217 W Jones St
Raleigh, NC 27603

RE: Application for Grant of Variance to Extend Deadline to Close Sutton Plant CCR Surface Impoundments (N.C.G.S. § 130A-309.215)

Dear Secretary Regan:

North Carolina General Statutes Section 130A-309.215(a) authorizes the Secretary of the North Carolina Department of Environmental Quality ("NCDEQ" or "Department") to "grant a variance to extend any deadline under [the Coal Ash Management Act ("CAMA")] on the Secretary's own motion, or that of an impoundment owner, on the basis that compliance with the deadline cannot be achieved by application of best available technology found to be economically reasonable at the time and would produce serious hardship without equal or greater benefits to the public." Pursuant to N.C.G.S. § 130A-309.215(a1), where a variance is requested by an impoundment owner, the impoundment owner must within one year prior to the applicable deadline, request a variance including, at a minimum, information regarding (A) the site; (B) applicable requirements; (C) applicable deadlines for which a variance is sought; (D) site-specific circumstances supporting the need for the variance; and (E) detailed information demonstrating that "(i) the owner has substantially complied with all other requirements and deadlines established by [CAMA]; (ii) the owner has made good faith efforts to comply with the applicable deadline for closure of the impoundment; and (iii) that compliance with the deadline cannot be achieved by application of best available technology found to be economically reasonable at the time and would produce serious hardship without equal or greater benefits to the public."

Consistent with the requirements of subsection (a1) of N.C.G.S. § 130A-309.215, Duke Energy Progress, LLC ("Duke Energy" or "Company") hereby submits this application for a variance to extend by six months the CAMA closure deadline applicable to the coal combustion residuals ("CCR") surface impoundments at Duke Energy's Sutton Plant ("Sutton") in Wilmington, North Carolina. Section I of this application

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addresses elements A, B, and C above; Section II addresses elements D, (E)(ii), and (E)(iii); and Section III addresses element (E)(i). As detailed in Section II below, NCDEQ's grant of the variance is warranted, because despite Duke Energy's application of best available technology found to be economically reasonable, compliance with the applicable CAMA deadline cannot be achieved due to myriad factors, including the impacts of several permitting delays, two major hurricanes, and other unforeseeable challenges and limitations beyond the Company's control.

I. Site; Applicable Requirements and Applicable Deadline

Sections 3.(b)(4) and 3.(c) of CAMA (Sess. L. 2014-122) require that the CCR surface impoundments at Sutton be closed by removal of CCR by no later than August 1, 2019 ("Deadline"). For the reasons discussed in detail below, despite Duke Energy's good faith efforts to apply best available technology found to be economically reasonable, Duke Energy has determined that it may not be able to meet the Deadline without producing serious hardship without equal or greater benefits to the public.

II. Site-specific Circumstances Demonstrating Why Compliance with CAMA's Deadline Cannot be Achieved Despite Duke Energy's Good Faith Efforts and Application of Best Available Technology

Throughout the basin excavation process, Duke Energy has encountered numerous challenges that have cumulatively resulted in the current schedule delay at Sutton and have impacted the Company's ability to close the Sutton CCR surface impoundments by the Deadline. During this period, Duke Energy has consistently exercised best efforts to minimize any delays in meeting the Deadline and has taken important steps to overcome the various challenges and limitations presented in an effort to recover schedule.

Under the standard set out in N.C.G.S. § 130A-309.215, whether application of a given technology would be commercially or economically reasonable requires that the costs of such technology be balanced against its benefits to the public. Following this fundamental principle over the course of the basin closure project, Duke Energy has consistently looked for and evaluated measures to safely and reasonably minimize any delays to the extent possible, considering at all times, the risks and benefits associated with each of the options considered.

In October 2014, the Company developed the initial Sutton Excavation Plan and held the Phase I excavation bidding event for excavation of the first two million tons of CCR for rail transport, which was determined to be the amount of ash that would need

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to be transported by rail to meet the Deadline. The contractor Duke Energy selected under this bidding event ("Contractor A") was chosen not only because it had bid the lowest price per ton, but also because it had completeness of technical support, engineering competence, and extensive wet ash basin experience. Due to CAMA's aggressive completion date of August 1, 2019, the complexity of CCR excavation at Sutton, and the expected timeline to construct an on-site landfill, the Brickhaven structural fill in Chatham County, North Carolina was selected as the initial CCR placement site for ash from the Sutton impoundments.

On November 13, 2014, Duke Energy submitted the initial Sutton Excavation Plan to the Department to cover the first 12 to 18 months (Phase I) of ash basin excavation activities. In general, the scope of work included site preparation, initiation of basin dewatering, ash basin preparation, construction of the on-site landfill, and ash removal from the basins. Under the initial Excavation Plan, Duke Energy would begin placing ash in the Brickhaven structural fill—a beneficial use of CCR pursuant to N.C.G.S. § 130A-309.201(1), (11), and (14). Ash would be transported from the site via rail car and also trucked to Brickhaven. Although the quantity trucked was small relative to the quantities transported by rail, this action demonstrated Duke Energy's commitment to commence ash excavation and placement operations as soon as feasible. Rail operations would consist of 85 car unit trains, with rail cars averaging 90 tons per car. The monthly goal was to deliver 14 loaded trains to Brickhaven per month, working seven days per week, or approximately 107,000 tons per month.

While transporting ash to Brickhaven, Duke Energy developed simultaneously an on-site landfill in order to meet the Deadline. Based on an engineering feasibility study commissioned by Duke Energy, it was determined that an on-site landfill would be the least-cost option to dispose of the ash and would have the least environmental impact. Moreover, it was determined to be the most expedient method of ash removal from the basins, consistent with the requirements of CAMA. North Carolina's solid waste rules, which prohibit the commencement of construction activities without having first secured the necessary permits, on-site landfill construction could not begin until issuance of the Permit to Construct.

On August 7, 2015, Duke Energy submitted its application for a Permit to Construct the on-site landfill to dispose of five million tons of coal ash from the Sutton impoundments (Phase II). On September 3, 2015, NCDEQ sent a letter to Duke Energy notifying the Company that the landfill application had been deemed "complete." NCDEQ sent a follow-up letter on October 7, 2015, requesting supplemental information, which Duke Energy provided on December 10, 2015. NCDEQ then initiated a 60-day public comment period, which ran from February 11 to April 15, 2016. The Company reasonably expected that the permit would issue soon after the conclusion

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of the comment period because (i) the public meeting was not heavily attended or contentious, (ii) NCDEQ Solid Waste Division staff had been reviewing the application since it was submitted on August 7, 2015, and (iii) it historically took the Department only a few weeks after expiration of the comment period to issue such permits.¹

Duke Energy completed the updated 2015 Sutton Excavation Plan in November 2015 and revised the milestone dates, which reflected a reasonable expectation that it would secure the Permit to Construct in early 2016, thereby supporting a schedule to complete excavation of the ash by March 2019. Duke Energy was planning to move two million tons of ash via rail and, in parallel, dispose of ash in the on-site landfill from late January 2017 to July 2017. The Company estimated that it could excavate and move between approximately 200,000 to 225,000 tons of ash per month, 93,000 to 118,000 tons of which would be via truck to the landfill and approximately 107,000 tons of which would be via rail to Brickhaven.

However, on April 7, 2016, NCDEQ announced a new policy at a town hall meeting sponsored by the North Carolina Advisory Committee ("Advisory Committee") of the United States Commission on Civil Rights ("USCCR"), followed by a news release announcing a new review and approval process for all CCR landfills. Available at <https://deq.nc.gov/press-release/north-carolina-take-extra-steps-protect-minority-communities>. NCDEQ declared that it would go "beyond state and federal requirements" by conducting an environmental justice review of each Duke Energy coal ash CCR landfill application, including applications for expansions of existing on-site CCR landfills, and ask EPA's Office of Civil Rights, the USCCR, and the Advisory Committee to review and approve the environmental justice analysis before the permit is issued. NCDEQ reiterated this new policy a week later in a letter to the Advisory Committee. As a result of this new and unexpected process, on September 22, 2016, Duke Energy finally secured the Permit to Construct the Sutton landfill, which was one full year after NCDEQ had deemed the application "complete," and almost five months later than the latest date on which the permit was reasonably expected.

As a result of the permit delay, Duke Energy lost the six plus months of parallel (i.e., on-site and off-site) excavation and placement/disposal for which it had planned. If issuance of the Permit to Construct would not have been delayed, the landfill construction would have been ongoing over this entire period of time, which would have created substantial margin on available space and volume to dispose of ash. The loss of this time and the ability to create margin had a significant negative impact on the ability to complete the project by the Deadline. Compounding this delay, Hurricane Matthew

¹ North Carolina General Statutes Section 130A-309.203 directs NCDEQ to expedite permit reviews for permits necessary to complete basin closure activities under CAMA—60 days after the comment period on the draft permit decision closes.

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struck eastern North Carolina on October 8, 2016, further delaying the mobilization of landfill construction, limiting access to the work site, and interrupting rail transport of ash to Brickhaven for 20 days due to railway flooding.

As a result of these unforeseen complications in the landfill permitting process, coupled with historic impacts to the region and Duke Energy's operations from Hurricane Matthew, Duke Energy's excavation schedule was delayed by over six months. However, throughout 2017, Duke Energy continuously evaluated actions and implemented them where the Company determined it was safe and commercially reasonable to do so. Following is a summary of the options the Company evaluated and the economically reasonable measures it undertook to address challenges and limitations and achieve schedule recovery:

- Duke Energy added a third conveyor to increase its margin on rail production. Accelerating the completion of Phase I provided crucial time to transition to Phase II while Duke Energy awaited construction of the on-site landfill to be completed.
- Duke Energy mobilized Contractor B—the contractor performing Phase II of ash excavation—to the site prior to Contractor A completing Phase I to support removal of non-ash material from the 1971 Basin, which accelerated Phase II of basin excavation.
- Due to mild weather and the Company's implementation of parallel activities, construction of Cell 3 of the landfill was completed well in advance of the scheduled September 1, 2017, completion date. As a result of this reduction in the landfill construction schedule, Duke Energy was in a position to start disposing of ash in the landfill upon receipt of the Permit to Operate. NCDEQ issued the permit on July 6, 2017, and the Company promptly started moving ash into the landfill on the following day, representing a 55-day acceleration of the schedule.
- Duke Energy evaluated parallel shipments of ash to Brickhaven and to the on-site landfill but rejected this action primarily based on logistical and contractual constraints. At that time (mid-2017), the Company could only process between approximately 200,000 to 225,000 tons of ash per month irrespective of where it was ultimately placed or disposed of.
- As the project schedule progressed, the landfill continued to be critical path due to the need to get additional cells permitted and operating. Duke Energy took efforts to expedite the landfill construction schedule and was able to complete Cells 5 and 6 a year ahead of schedule, thereby completely removing the landfill

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from critical path. In addition, the necessary permits to operate all six cells were secured. Critically, Duke Energy also secured the necessary permits to treat the landfill leachate on-site. This is significant because of the volume of leachate generated by the landfill—as more air space opened up, the volume of precipitation infiltrating into the ash and water draining from the ash itself increased, thus increasing the amount of leachate that needed to be treated.² By constructing Phase 2 of the site's wastewater treatment facility, getting the system installed to transfer the landfill leachate to that facility, and securing the necessary discharge permit, Duke Energy was able to simultaneously operate three cells instead of one, thereby allowing it to increase production substantially.

- The Company evaluated the feasibility of applying additional resources in order to increase the production rate, including expanding to night operations. Leveraging its experience, Duke Energy increased its dredging excavation activities up to 20 hours per day, six days a week using two 10-hour shifts or extended shifts.
- A new large dredge was assembled, commissioned, and placed into service in January 2018. Several measures were put into place to continuously improve performance, as follows: (1) A one-week outage was scheduled in late April 2018 to address design and breakdown issues and warranty work on the new dredge; (2) a second smaller dredge was placed into service in mid-April; (3) a third dredge was made available for use as a backup; (4) operating personnel and supervision were staffed up to support increased production; and (5) additional rigor was added to Job Hazard Analysis and Pre-job Briefs, along with increased supervisory oversight. These measures resulted in improved dredge performance. Duke Energy continues to monitor and review performance for additional improvement opportunities.³

During Duke Energy's dam decommissioning application discussions with the state, the Company was unexpectedly required by the Department to maintain a 50-foot buffer on the dikes until issuance of a decommissioning permit. The state's decision to limit Duke Energy to a minimum of a 50-foot buffer of ash on the dikes of the 1971 Basin further challenged Duke Energy's ability to meet the Deadline, despite exercising best efforts. The buffer requirement prevented Duke Energy from excavating all of the ash

² Trucking and treating leachate is the alternate method of managing leachate, but the extent to which this can be done is dependent on the capacity of local vendors and municipalities. The limit is approximately 40,000 gallons per day, which would allow for only one landfill cell to be open at a time.

³ Although the operation of three dredges was evaluated, the Company rejected this option due to safety concerns associated with the number of cables, anchors, and pipes that would be introduced.

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from the basin dikes until after a dam decommissioning permit could be secured authorizing Duke Energy to remove the dikes. The result was that over 125,000 tons of material remained in the buffer zone of the dikes—material that was originally scheduled to be excavated as Duke Energy cut into the basin. Because Duke Energy was compelled to leave the material in the buffer zone of the dikes, ash was trapped on the dikes, which were surrounded by water. This not only prevented the Company from more efficiently achieving its production goals as planned, but required going back to excavate the material off the dikes from the buffer zone in a less efficient manner, thereby extending schedule.

Although it is not possible to recover the loss of margin occasioned by the delay in securing the necessary permit to decommission the dikes, Duke Energy saved substantial time by plotting the coordinates of the bottom of the 1971 Basin by taking 240 sample borings prior to digging below the groundwater table. Based on those sample borings, the Company determined the lower extent of the ash, thereby allowing it to dredge down directly to those coordinates. Duke Energy then developed as-built drawings certifying that it excavated to those coordinates to establish excavation had been completed. If the Company would not have taken this action, it would have been required to go into the basin on a barge and take 100-foot grid samples, which would have taken significant time. Moreover, if Duke Energy would have found samples that indicated the existence of ash, it would have had to go back to do further excavation. By getting the borings done ahead of time and delineating the GPS coordinates of the contours of the bottom of the basin, the Company saved significant amounts of time.

To further challenge excavation operations, in late June 2018, while continuing to dredge in the 1971 Basin, both dredges encountered trees and stumps (remnants of a Cyprus forest) in three areas estimated to total approximately five acres, which challenged production by requiring an average of 45 non-productive hours per week to clean dredge cutter heads. Neither dredge type could make sufficient progress in those areas due to continuous clogging of the dredge pumps. However, Duke Energy promptly took interim action to redeploy dredge resources to other locations in the basin to maintain production while developing alternatives to effectively remove stumps and debris without compromising production and the dredge schedule. The Company determined to bridge out over two of the three areas to allow for the utilization of mechanical excavation to remove the stumps and CCR material from these areas (approximately 139,000 cubic yards of material). With respect to the third area (approximately 50,000 cubic yards of material), because there was no nearby land access to the area, bridging was rejected as an option. Other options Duke Energy considered included, amphibious excavation, barge excavation, and continued dredging at a reduced rate. To help inform its decision, the Company obtained additional bathymetric and aerial survey data. After evaluating the available options, all of which

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would result in schedule delay, Duke Energy determined that dredging through the area would be the most technically feasible option and would result in the least impact on schedule. Although this was the most commercially reasonable option, it, nevertheless, resulted in a schedule loss of three weeks.

In 2018, weather continued to contribute to Duke Energy's inability to meet the Deadline. As in 2017, Sutton experienced above-average levels of precipitation in 2018. Through October 2018, the Wilmington area received historical levels of rainfall. Although average total precipitation in Wilmington in the months of April through September is 35.22 inches, actual rainfall over this six-month period in 2018 was 74.8 inches.⁴ Thus, over this six-month period in 2018, Wilmington received 39.58 inches more rainfall than is normally the case. Under the extremely wet conditions presented, ash could not be dried to the level required for transportation and placement in the landfill.

Sutton, which was directly in the Hurricane Florence's path, experienced the full force of the storm's winds and rainfall. By September 11, 2018, precipitation intensity charts showed 25 to 30 inches of predicted rainfall in a concentrated portion of the coastal area just north of Wilmington. Duke Energy took numerous planning and engineering actions before the hurricane to prepare the site and minimize potential storm impacts, including staffing Sutton during the storm, pre-staging equipment, actively reducing water levels in the ponds before the storm arrived, and placing structural materials on-site to respond quickly if repairs were needed.

Rainfall began at Sutton on September 13, with 5.7 inches falling as measured by gauges at the site. On September 14, Sutton received an additional 11.5 inches of rainfall in three hours, between 6:00 a.m. and 9:00 a.m.⁵ This rainfall significantly exceeded the 25-year, 24-hour storm event design capacity of the run-on/run-off berm for landfill Cells 4 and 5. On September 16, a second peak rain event occurred between the hours of 12:00 a.m. and 6:00 a.m., with the site receiving an additional 4.2 inches of rainfall. Cumulative rainfall received by 8:00 a.m. on September 16 was approximately 30.1 inches.

On September 17, the site response team's priorities were to ensure the site was stable and prepared to handle another rain event by cleaning out ditches, installing

⁴ In fact, new rainfall records were set in each of the months of May and September 2018. See <https://w2.weather.gov/climate/index.php?wfo=ilm>.

⁵ The flooding Cape Fear River triggered the shutdown of the entire plant, including its natural gas-fired operations—and evacuation of plant staff. The storm resulted in 1.8 million Duke Energy customers losing power.

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check dams, pumping contact water to the ash basins, restoring power to the site to support wastewater processing equipment operations, and developing a recovery plan to resume ash excavation. On that same day, the construction contractor remobilized and began to manage water in the landfill. The Department performed an inspection on September 28 after repairs had been completed and gave permission for landfill operations and placement of ash in the landfill to resume. Excavation and placement of ash resumed on September 29—only 16 days after the storm began impacting Sutton.

III. Substantial Compliance with all Other CAMA Requirements and Deadlines

In compliance with CAMA, in 2015, Duke Energy embarked on an aggressive plan to close all ash basins across its North Carolina fleet, which is a complex task requiring significant planning, coordination with state regulators, and dedication of resources. In North Carolina, the Company has 31 coal ash basins subject to the requirements of CAMA, which imposes on Duke Energy, among other things, stringent structural stability, closure, post-closure care, groundwater monitoring, and corrective action requirements for CCR surface impoundments, as well as permanent water supply obligations.⁶

In July 2016, the North Carolina legislature amended CAMA to require Duke Energy to rectify any deficiencies identified by, and to comply with the requirements of, any dam safety order issued by the state for CCR surface impoundments. *See* N.C.G.S. § 130A-309-213(d)(1)b. On August 22, 2016, pursuant to N.C.G.S. § 143-215.32, NCDEQ issued Dam Safety Order 16-01 (“DSO”) requiring certain repairs to impoundment dams at nine facility’s subject to CAMA. Consistent with the requirements of the DSO, Duke Energy promptly undertook the required repairs and sent the Department a letter dated June 1, 2018, notifying it that the Company had fully complied with the requirements of the DSO in accordance with N.C.G.S. §§ 130A-309-213(d)(1)b. and 143-215.32. Specifically, Duke Energy completed all of the repair plans specified by, and timely submitted all of the completion reports to, NCDEQ. The Department conducted as-built inspections for each item and issued Certificates of Final Approval indicating that the required work had been completed as designed. In addition, the annual inspection of each dam has been completed, and the Company has received Notice of Inspection Reports documenting that no deficiencies are present.⁷ Finally, on October 10, NCDEQ

⁶ Twenty-six of these basins are also regulated under the federal CCR rule.

⁷ The Sutton surface impoundments were not subject to the DSO. Nevertheless, the October 17, 2017, inspection report from the state indicates “the inspections revealed the dams to be well maintained and in good order.” Similarly, the most recent annual inspection of the Sutton 1971 and 1984 Basin dams

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made official notification to the Environmental Management Commission that Duke Energy had complied with all dam safety requirements, as required by N.C.G.S. § 130A-309-213(d)(1)b.

With respect to the permanent water supply requirements imposed under CAMA, Duke Energy provided each eligible and consenting resident with an alternative drinking water supply (i.e., connection to a public water system or a filtration system) by the deadline set out in N.C.G.S. § 130A-309-211(c1). On October 12, 2018, NCDEQ issued a press release announcing that “permanent replacement water supplies have been provided to all eligible households near Duke Energy coal ash facilities in North Carolina . . . by the deadline of October 15, 2018 set forth in the Coal Ash Management Act.” Available at <https://deq.nc.gov/news/press-releases/2018/10/12/release-deq-completes-permanent-replacement-water-supplies-coal-ash>.

Consistent with the requirements of N.C.G.S. § 130A-309-211, Duke Energy submitted the groundwater assessments to NCDEQ by the applicable CAMA deadline. In addition, the Company has submitted for six sites and continues to prepare for other sites updated comprehensive site assessments. Updated groundwater corrective action plans are also being submitted. These documents will be submitted to NCDEQ in accordance with the schedule provided to Duke Energy by the Department.⁸ The Company is also preparing site-specific coal ash impoundment closure plans in accordance with the requirements of N.C.G.S. § 130A-309-214(a)(4). These closure plans will be submitted to the Department no later than the applicable deadline set out in CAMA.

Finally, Duke Energy has substantially complied with all other requirements and deadlines established under CAMA, including its annual inspection, annual reporting, and ash beneficiation requirements.

Conclusion

The latest bathymetric survey data show that Duke Energy has dredged approximately 760,000 cubic yards from the 1971 Basin and that there are approximately 240,000 cubic yards of dredge material remaining. In addition, there are

occurred on August 29, 2018; no concerns or issues were reported by NCDEQ that would necessitate issuance of a Notice of Deficiency or Notice of Violation.

⁸ Although not required under CAMA, Duke Energy completed installation of the accelerated remediation system required under Paragraph II.A. of that certain Agreement to Settle and for Release of Claims entered into among NCDEQ and Duke Energy on September 29, 2015.

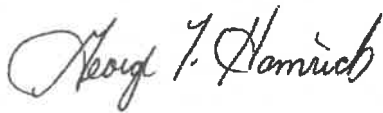
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987,500 cubic yards remaining in the 1984 Basin. By August 1, 2019, Duke Energy estimates it will have excavated and moved for placement or disposal approximately 94 percent of the total ash to be excavated and moved from the Sutton impoundments.

As detailed above, the Company's commitment to the application of best available technology found to be economically reasonable to meet the Deadline has resulted in significant schedule recovery, despite the many challenges and limitations with which Duke Energy was presented throughout the excavation process. Despite these good faith efforts to meet the Deadline, Duke Energy estimates that it requires an additional six months. Accordingly, the Company respectfully requests that the Department grant Duke Energy a variance to extend the Deadline to **February 1, 2020**, to close the Sutton surface impoundments. Although this application requests a six-month variance, Duke Energy is committed to continuing to undertake best efforts to evaluate opportunities and implement commercially reasonable measures to meet the Deadline.

If you have any questions, please do not hesitate to contact Randy Hart at randy.hart@duke-energy.com or (980) 373-5630. We appreciate your time and consideration.

Respectfully submitted,



George T. Hamrick
Senior Vice President, Coal Combustion Products

NCDEQ cc: Sheila C. Holman (sheila.holman@ncdenr.gov)
William F. Lane (bill.lane@ncdenr.gov)

Duke Energy cc: ccprecords@duke-energy.com; Randy Hart



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Senior Vice President
Coal Combustion Products*

*400 S. Tryon Street, ST06A
Charlotte, NC 28202*

*Phone: 980-373-8113
Email: george.hamrick@duke-energy.com*

December 14, 2018

VIA ELECTRONIC MAIL

Ms. Sheila Holman
Assistant Secretary for Environment
North Carolina Department of Environmental Quality
217 W Jones St
Raleigh, NC 27603

RE: Sutton Variance Application: Response to Request for Supplemental Information

Dear Ms. Holman:

Thank you for your letter dated December 12, 2018, requesting supplemental information regarding Duke Energy's Application for Variance to Extend Closure Date for Sutton Plant CCR Surface Impoundments dated November 16, 2018 ("Variance Application"). Specifically, you requested additional information regarding the current and projected process rates for ash excavation, assumptions made in calculating these rates, and technologies evaluated, and why they were ultimately selected or rejected. You also asked Duke Energy to discuss whether the Sutton Plant has met the requirements and deadlines set out in the Coal Ash Management Act, as amended ("CAMA"). This letter responds to the North Carolina Department of Environmental Quality's ("NCDEQ") request for supplemental information. In addition, Duke Energy provides information regarding the status of Duke Energy's compliance with N.C.G.S. § 130A-309.216 regarding the installation of ash beneficiation projects at three Duke Energy sites in North Carolina. Although this information was not requested by NCDEQ or applicable to the Sutton Plant, we thought it might be helpful as you evaluate the Variance Application.

Rates of Excavation, Assumptions, and Technologies Evaluated

Sutton is forecasted to have excavated 4,900,000 tons of ash by the end of 2018. Based on the estimated volume of material in each of the 1971 and 1984 Basins, there will be approximately 1,400,000 tons remaining to be excavated in 2019 to meet final compliance criteria. Over the past three years, the excavation rate for the project has averaged approximately 130,000 tons per month. Since the on-site landfill was put into operation, the excavation rate has averaged approximately 150,000 tons per month. The current excavation plan assumes that Duke Energy will continue to excavate at a rate of 150,000 tons per month. At the end of July 2019, Duke Energy is forecasting to have approximately 350,000 tons remaining to be excavated. Using the original

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amount of 6,655,200 tons in the basins, this equates to approximately 94 percent complete. After closure by removal has been completed, post-excavation validation sampling is further required. The sampling is scheduled to take about one month to complete the field and lab work. As detailed in Section II of Duke Energy's November 16 Variance Application, throughout its history, the project has been challenged with regulatory, weather, operational, and other unforeseen challenges, which have significantly impacted the monthly production rate despite Duke Energy's application of best efforts.

Although the excavation rate of 150,000 tons that is currently assumed will not be sufficient to achieve closure by the August 1, 2019 deadline established under CAMA, this number reflects the actions Duke Energy undertook to gain schedule, as set forth in the Variance Application. The technologies/actions Duke Energy considered and either adopted or rejected are summarized in the chart below.

Technologies Evaluated	Status
Send parallel shipments of ash to Brickhaven and on-site landfill after securing delayed permit	<i>Rejected – Logistical and contractual constraints</i>
Add third conveyor	Adopted – Allowed Duke Energy to increase its margin on rail production
Early mobilization of Phase II contractor prior to Phase I contractor's completion of work	Adopted – Supported early mobilization and removal of non-ash material from 1971 Basin, thereby accelerating Phase II of basin excavation
Accelerate construction of Cell 3 of on-site landfill	Adopted – Allowed landfill to be filled earlier than scheduled at 150,000 tons per month and eliminated project down time with rail operations being complete
Expedite construction of Cells 5, 6, and 7 of on-site landfill	Adopted – Removed landfill from critical path
Simultaneous operation of multiple landfill cells	Adopted – Substantially increased production
Increase dredging excavation activities up to 20 hours per day, six days per week	Adopted – Substantially increased production
Place additional dredge into service	Adopted – Substantially increased production
Simultaneous operation of three dredges	<i>Rejected – Safety concerns associated with number of cables, anchors, and pipes</i>
Plot GPS coordinates of bottom of 1971 Basin	Adopted – Saved significant time by confirming lower extent of ash and avoiding need to go back and do additional excavation and post-excavation sampling time estimates
Redeploy dredge resources to other basin locations while developing alternatives to remove stumps and debris	Adopted – Avoided loss of production and dredge schedule
Take measures in advance of Hurricane Florence reaching landfall to prepare site	Adopted – Minimized potential storm impacts, thus allowing for prompt return to ash excavation and disposal operations

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The Sutton site received 5.67 inches of rainfall in November 2018, which impacted eight working days of production, or 64,000 to 80,000 tons of CCR material. Through the first nine days of December 2018, the site has received an additional 3.08 inches of precipitation. In total, as of December 9, a total of 97.67 inches of rain has fallen on the site. This has caused 93 lost working days in 2018, equivalent to 697,500 tons of production.

In addition to delays associated with poor weather, recent dredging production from the 1971 Basin deep ash borrow area has been impaired by the lodging of rocks in the cutter head and dredge pump. A bottom sonar survey identified three rock outcroppings varying from 50 to 250 feet in length. An engineering evaluation will consider this data to determine how Duke Energy should modify the final dredging depths to account for the rock formations/outcroppings. To minimize any schedule delays, the large dredge has been moved to another area in the basin.

These problems demonstrate that despite Duke Energy's continuous application of best efforts, production delays occur because of factors entirely out of Duke Energy's control. They further highlight the fact that estimated excavation rates are influenced by many external factors. Therefore, it would not be prudent to conclude that the project will recover 350,000 tons of shortfall in the first seven months of 2019. In light of the extended variance application process set out in CAMA, which essentially provides a single opportunity to apply for a variance¹, it is critical that the variance request include adequate margin to accommodate additional schedule delays despite Duke Energy's application of best available technology found to be economically reasonable.

Substantial Compliance with Other CAMA Requirements and Deadlines Applicable to the Sutton Plant

- N.C.G.S. § 130A-309-213(d)(1)b. (dam stability) – Although the CCR surface impoundments at the Sutton Plant were not subject to Dam Safety Order 16-01, the October 17, 2017 inspection report from NCDEQ indicates “the inspections revealed the dams to be well maintained and in good order.” Similarly, the most recent annual inspection of the Sutton 1971 and 1984 Basin dams occurred on August 29, 2018; no concerns or issues were reported by NCDEQ that would necessitate issuance of a Notice of Deficiency or Notice of Violation.
- N.C.G.S. § 130A-309-211(c1) (provision of permanent water supply) – Although subject to the statutory requirement to establish permanent replacement water supplies for eligible households, it was determined that no connection was needed at the Sutton Plant. NCDEQ sent its concurrence with this determination to Duke Energy on August 10, 2018.

¹ North Carolina General Statutes Section 130A-309.215(a1) provides that Duke Energy may not apply for a variance “earlier than one year prior to the applicable deadline.”

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- N.C.G.S. § 130A-309-211(a) (comprehensive site assessment) – The comprehensive site assessment for the Sutton Plant was submitted to NCDEQ via cover letter dated August 4, 2015.
- N.C.G.S. § 130A-309-211(b) (corrective action plan) – The corrective action plan was submitted in two parts. Part 1 was dated November 2, 2015, and Part 2 was dated February 1, 2016.²

Compliance with N.C.G.S. § 130A-309.216 (ash beneficiation projects)

North Carolina General Statutes Section 130A-309.216 requires Duke Energy to install and operate three large-scale coal ash beneficiation projects to produce reprocessed ash for use in the concrete industry. Duke Energy selected the Buck and H.F. Lee Plants prior to the January 1, 2017 deadline set out in subsection (a) of Section 130A-309.216, and selected the Cape Fear Plant prior to the deadline established under subsection (b) of Section 130A-309.216. Construction of the beneficiation unit at the Buck Plant began in November 2018 and will require 18 to 24 months to complete. Construction of the beneficiation unit at the H.F. Lee Plant is targeted to begin in February 2019, pending receipt of all required permits. Construction is expected to take approximately 18 to 24 months. Finally, construction of the beneficiation unit at Cape Fear is targeted to begin in May 2019, pending receipt of all required permits. Construction is expected to take approximately 18 to 24 months.

Conclusion

As explained in the Variance Application, Duke Energy is committed to continuing to undertake best efforts to evaluate opportunities and implement commercially reasonable measures to meet the August 1, 2019 closure deadline established by CAMA, including taking advantage of good weather days and continuing to move material into the landfill 60 hours or more per week, as weather allows. Nevertheless, Duke Energy respectfully requests that NCDEQ grant it a variance to extend until February 1, 2020, the deadline to close the CCR surface impoundments at the Sutton Plant.

² Outside of CAMA, Duke Energy submitted a Sutton comprehensive site assessment supplement dated August 31, 2016, and an updated comprehensive site assessment dated January 30, 2018.

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If you have any questions, please do not hesitate to contact Randy Hart at randy.hart@duke-energy.com or (980) 373-5630. We appreciate your time and consideration.

Respectfully submitted,

A handwritten signature in cursive script, reading "George T. Hamrick", written over a horizontal line.

George T. Hamrick
Senior Vice President, Coal Combustion Products

NCDEQ cc: William F. Lane (bill.lane@ncdenr.gov)
Ed Mussler (ed.mussler@ncdenr.gov)

Duke Energy cc: ccprerecords@duke-energy.com; Randy Hart

Attachment B

From: [Martin, Sharon L.](mailto:Martin.Sharon.L@ncdenr.gov)
To: jrider@nhcgov.com
Subject: Library copy of Public Notice of Duke Energy Request for Variance on Sutton Coal Ash Closure deadline
Date: Friday, December 14, 2018 4:49:00 PM
Attachments: [SuttonVariance public notice -12142018.pdf](#)
[Sutton Station Application for Grant of Variance to Close Impoundments_20181116.pdf](#)

Mr. Rider,

Thank you for speaking with me today. Attached are the public notice of the public meeting and comment period as well as the request for variance. Please post as necessary. Thank you so much for your help in this matter, and please let me know if there's ever anything you need.

Thank you,
Sharon Martin
Public Information Officer



Sharon Martin
Public Information Officer, Division of Air Quality
North Carolina Department of Environmental Quality
919.707.8446 (Office)
919.675.4912 (Mobile)
Sharon.Martin@ncdenr.gov

Email correspondence to and from this address is subject to the North Carolina Public Records Law and may be disclosed to third parties.

**NOTICE FOR PUBLIC MEETING AND PUBLIC COMMENT PERIOD
ON REQUEST FOR VARIANCE TO EXTEND CLOSURE DEADLINE
Duke Energy Sutton Plant**

Duke Energy has made a request to the North Carolina Department of Environmental Quality (DEQ) for a variance to extend the Coal Ash Management Act closure deadline by six months for the Sutton Coal Ash facility located at:

801 Sutton Steam Plant Road
Wilmington, NC 28401

This notice serves as a Notice of Public Meeting and Opportunity for Public Comment for this request. The public meeting will be held at the Cape Fear Community College on January 14, 2019 in the Union Station Building.

A copy of the variance request is posted on the DEQ website at deq.nc.gov/Sutton-Variance.

Interested persons are invited to provide comment on the variance request. Written comments may be sent to:

Ellen Lorscheider
1646 Mail Service Center
Raleigh, North Carolina 27699 1646
Phone/Fax: (919)707-8200

The comment period began on December 14, 2018 and ends on February 4, 2019. Written comments may also be submitted during the public comment period via email at the following address:

publiccomments@ncdenr.gov

Please type "Sutton Variance Request" in the subject line.

After weighing all relevant comments received, DEQ will decide whether to grant the request.



George T. Hamrick
Senior Vice President
Coal Combustion Products

400 S. Tryon Street, ST06A
Charlotte, NC 28202

Phone: 980-373-8113
Email: george.hamrick@duke-energy.com

November 16, 2018

VIA UPS OVERNIGHT DELIVERY AND ELECTRONIC MAIL

Mr. Michael S. Regan
Secretary
North Carolina Department of Environmental Quality
217 W Jones St
Raleigh, NC 27603

RE: Application for Grant of Variance to Extend Deadline to Close Sutton Plant CCR Surface Impoundments (N.C.G.S. § 130A-309.215)

Dear Secretary Regan:

North Carolina General Statutes Section 130A-309.215(a) authorizes the Secretary of the North Carolina Department of Environmental Quality ("NCDEQ" or "Department") to "grant a variance to extend any deadline under [the Coal Ash Management Act ("CAMA")] on the Secretary's own motion, or that of an impoundment owner, on the basis that compliance with the deadline cannot be achieved by application of best available technology found to be economically reasonable at the time and would produce serious hardship without equal or greater benefits to the public." Pursuant to N.C.G.S. § 130A-309.215(a1), where a variance is requested by an impoundment owner, the impoundment owner must within one year prior to the applicable deadline, request a variance including, at a minimum, information regarding (A) the site; (B) applicable requirements; (C) applicable deadlines for which a variance is sought; (D) site-specific circumstances supporting the need for the variance; and (E) detailed information demonstrating that "(i) the owner has substantially complied with all other requirements and deadlines established by [CAMA]; (ii) the owner has made good faith efforts to comply with the applicable deadline for closure of the impoundment; and (iii) that compliance with the deadline cannot be achieved by application of best available technology found to be economically reasonable at the time and would produce serious hardship without equal or greater benefits to the public."

Consistent with the requirements of subsection (a1) of N.C.G.S. § 130A-309.215, Duke Energy Progress, LLC ("Duke Energy" or "Company") hereby submits this application for a variance to extend by six months the CAMA closure deadline applicable to the coal combustion residuals ("CCR") surface impoundments at Duke Energy's Sutton Plant ("Sutton") in Wilmington, North Carolina. Section I of this application

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addresses elements A, B, and C above; Section II addresses elements D, (E)(ii), and (E)(iii); and Section III addresses element (E)(i). As detailed in Section II below, NCDEQ's grant of the variance is warranted, because despite Duke Energy's application of best available technology found to be economically reasonable, compliance with the applicable CAMA deadline cannot be achieved due to myriad factors, including the impacts of several permitting delays, two major hurricanes, and other unforeseeable challenges and limitations beyond the Company's control.

I. Site; Applicable Requirements and Applicable Deadline

Sections 3.(b)(4) and 3.(c) of CAMA (Sess. L. 2014-122) require that the CCR surface impoundments at Sutton be closed by removal of CCR by no later than August 1, 2019 ("Deadline"). For the reasons discussed in detail below, despite Duke Energy's good faith efforts to apply best available technology found to be economically reasonable, Duke Energy has determined that it may not be able to meet the Deadline without producing serious hardship without equal or greater benefits to the public.

II. Site-specific Circumstances Demonstrating Why Compliance with CAMA's Deadline Cannot be Achieved Despite Duke Energy's Good Faith Efforts and Application of Best Available Technology

Throughout the basin excavation process, Duke Energy has encountered numerous challenges that have cumulatively resulted in the current schedule delay at Sutton and have impacted the Company's ability to close the Sutton CCR surface impoundments by the Deadline. During this period, Duke Energy has consistently exercised best efforts to minimize any delays in meeting the Deadline and has taken important steps to overcome the various challenges and limitations presented in an effort to recover schedule.

Under the standard set out in N.C.G.S. § 130A-309.215, whether application of a given technology would be commercially or economically reasonable requires that the costs of such technology be balanced against its benefits to the public. Following this fundamental principle over the course of the basin closure project, Duke Energy has consistently looked for and evaluated measures to safely and reasonably minimize any delays to the extent possible, considering at all times, the risks and benefits associated with each of the options considered.

In October 2014, the Company developed the initial Sutton Excavation Plan and held the Phase I excavation bidding event for excavation of the first two million tons of CCR for rail transport, which was determined to be the amount of ash that would need

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to be transported by rail to meet the Deadline. The contractor Duke Energy selected under this bidding event ("Contractor A") was chosen not only because it had bid the lowest price per ton, but also because it had completeness of technical support, engineering competence, and extensive wet ash basin experience. Due to CAMA's aggressive completion date of August 1, 2019, the complexity of CCR excavation at Sutton, and the expected timeline to construct an on-site landfill, the Brickhaven structural fill in Chatham County, North Carolina was selected as the initial CCR placement site for ash from the Sutton impoundments.

On November 13, 2014, Duke Energy submitted the initial Sutton Excavation Plan to the Department to cover the first 12 to 18 months (Phase I) of ash basin excavation activities. In general, the scope of work included site preparation, initiation of basin dewatering, ash basin preparation, construction of the on-site landfill, and ash removal from the basins. Under the initial Excavation Plan, Duke Energy would begin placing ash in the Brickhaven structural fill—a beneficial use of CCR pursuant to N.C.G.S. § 130A-309.201(1), (11), and (14). Ash would be transported from the site via rail car and also trucked to Brickhaven. Although the quantity trucked was small relative to the quantities transported by rail, this action demonstrated Duke Energy's commitment to commence ash excavation and placement operations as soon as feasible. Rail operations would consist of 85 car unit trains, with rail cars averaging 90 tons per car. The monthly goal was to deliver 14 loaded trains to Brickhaven per month, working seven days per week, or approximately 107,000 tons per month.

While transporting ash to Brickhaven, Duke Energy developed simultaneously an on-site landfill in order to meet the Deadline. Based on an engineering feasibility study commissioned by Duke Energy, it was determined that an on-site landfill would be the least-cost option to dispose of the ash and would have the least environmental impact. Moreover, it was determined to be the most expedient method of ash removal from the basins, consistent with the requirements of CAMA. North Carolina's solid waste rules, which prohibit the commencement of construction activities without having first secured the necessary permits, on-site landfill construction could not begin until issuance of the Permit to Construct.

On August 7, 2015, Duke Energy submitted its application for a Permit to Construct the on-site landfill to dispose of five million tons of coal ash from the Sutton impoundments (Phase II). On September 3, 2015, NCDEQ sent a letter to Duke Energy notifying the Company that the landfill application had been deemed "complete." NCDEQ sent a follow-up letter on October 7, 2015, requesting supplemental information, which Duke Energy provided on December 10, 2015. NCDEQ then initiated a 60-day public comment period, which ran from February 11 to April 15, 2016. The Company reasonably expected that the permit would issue soon after the conclusion

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of the comment period because (i) the public meeting was not heavily attended or contentious, (ii) NCDEQ Solid Waste Division staff had been reviewing the application since it was submitted on August 7, 2015, and (iii) it historically took the Department only a few weeks after expiration of the comment period to issue such permits.¹

Duke Energy completed the updated 2015 Sutton Excavation Plan in November 2015 and revised the milestone dates, which reflected a reasonable expectation that it would secure the Permit to Construct in early 2016, thereby supporting a schedule to complete excavation of the ash by March 2019. Duke Energy was planning to move two million tons of ash via rail and, in parallel, dispose of ash in the on-site landfill from late January 2017 to July 2017. The Company estimated that it could excavate and move between approximately 200,000 to 225,000 tons of ash per month, 93,000 to 118,000 tons of which would be via truck to the landfill and approximately 107,000 tons of which would be via rail to Brickhaven.

However, on April 7, 2016, NCDEQ announced a new policy at a town hall meeting sponsored by the North Carolina Advisory Committee ("Advisory Committee") of the United States Commission on Civil Rights ("USCCR"), followed by a news release announcing a new review and approval process for all CCR landfills. Available at <https://deq.nc.gov/press-release/north-carolina-take-extra-steps-protect-minority-communities>. NCDEQ declared that it would go "beyond state and federal requirements" by conducting an environmental justice review of each Duke Energy coal ash CCR landfill application, including applications for expansions of existing on-site CCR landfills, and ask EPA's Office of Civil Rights, the USCCR, and the Advisory Committee to review and approve the environmental justice analysis before the permit is issued. NCDEQ reiterated this new policy a week later in a letter to the Advisory Committee. As a result of this new and unexpected process, on September 22, 2016, Duke Energy finally secured the Permit to Construct the Sutton landfill, which was one full year after NCDEQ had deemed the application "complete," and almost five months later than the latest date on which the permit was reasonably expected.

As a result of the permit delay, Duke Energy lost the six plus months of parallel (i.e., on-site and off-site) excavation and placement/disposal for which it had planned. If issuance of the Permit to Construct would not have been delayed, the landfill construction would have been ongoing over this entire period of time, which would have created substantial margin on available space and volume to dispose of ash. The loss of this time and the ability to create margin had a significant negative impact on the ability to complete the project by the Deadline. Compounding this delay, Hurricane Matthew

¹ North Carolina General Statutes Section 130A-309.203 directs NCDEQ to expedite permit reviews for permits necessary to complete basin closure activities under CAMA—60 days after the comment period on the draft permit decision closes.

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struck eastern North Carolina on October 8, 2016, further delaying the mobilization of landfill construction, limiting access to the work site, and interrupting rail transport of ash to Brickhaven for 20 days due to railway flooding.

As a result of these unforeseen complications in the landfill permitting process, coupled with historic impacts to the region and Duke Energy's operations from Hurricane Matthew, Duke Energy's excavation schedule was delayed by over six months. However, throughout 2017, Duke Energy continuously evaluated actions and implemented them where the Company determined it was safe and commercially reasonable to do so. Following is a summary of the options the Company evaluated and the economically reasonable measures it undertook to address challenges and limitations and achieve schedule recovery:

- Duke Energy added a third conveyor to increase its margin on rail production. Accelerating the completion of Phase I provided crucial time to transition to Phase II while Duke Energy awaited construction of the on-site landfill to be completed.
- Duke Energy mobilized Contractor B—the contractor performing Phase II of ash excavation—to the site prior to Contractor A completing Phase I to support removal of non-ash material from the 1971 Basin, which accelerated Phase II of basin excavation.
- Due to mild weather and the Company's implementation of parallel activities, construction of Cell 3 of the landfill was completed well in advance of the scheduled September 1, 2017, completion date. As a result of this reduction in the landfill construction schedule, Duke Energy was in a position to start disposing of ash in the landfill upon receipt of the Permit to Operate. NCDEQ issued the permit on July 6, 2017, and the Company promptly started moving ash into the landfill on the following day, representing a 55-day acceleration of the schedule.
- Duke Energy evaluated parallel shipments of ash to Brickhaven and to the on-site landfill but rejected this action primarily based on logistical and contractual constraints. At that time (mid-2017), the Company could only process between approximately 200,000 to 225,000 tons of ash per month irrespective of where it was ultimately placed or disposed of.
- As the project schedule progressed, the landfill continued to be critical path due to the need to get additional cells permitted and operating. Duke Energy took efforts to expedite the landfill construction schedule and was able to complete Cells 5 and 6 a year ahead of schedule, thereby completely removing the landfill

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from critical path. In addition, the necessary permits to operate all six cells were secured. Critically, Duke Energy also secured the necessary permits to treat the landfill leachate on-site. This is significant because of the volume of leachate generated by the landfill—as more air space opened up, the volume of precipitation infiltrating into the ash and water draining from the ash itself increased, thus increasing the amount of leachate that needed to be treated.² By constructing Phase 2 of the site's wastewater treatment facility, getting the system installed to transfer the landfill leachate to that facility, and securing the necessary discharge permit, Duke Energy was able to simultaneously operate three cells instead of one, thereby allowing it to increase production substantially.

- The Company evaluated the feasibility of applying additional resources in order to increase the production rate, including expanding to night operations. Leveraging its experience, Duke Energy increased its dredging excavation activities up to 20 hours per day, six days a week using two 10-hour shifts or extended shifts.
- A new large dredge was assembled, commissioned, and placed into service in January 2018. Several measures were put into place to continuously improve performance, as follows: (1) A one-week outage was scheduled in late April 2018 to address design and breakdown issues and warranty work on the new dredge; (2) a second smaller dredge was placed into service in mid-April; (3) a third dredge was made available for use as a backup; (4) operating personnel and supervision were staffed up to support increased production; and (5) additional rigor was added to Job Hazard Analysis and Pre-job Briefs, along with increased supervisory oversight. These measures resulted in improved dredge performance. Duke Energy continues to monitor and review performance for additional improvement opportunities.³

During Duke Energy's dam decommissioning application discussions with the state, the Company was unexpectedly required by the Department to maintain a 50-foot buffer on the dikes until issuance of a decommissioning permit. The state's decision to limit Duke Energy to a minimum of a 50-foot buffer of ash on the dikes of the 1971 Basin further challenged Duke Energy's ability to meet the Deadline, despite exercising best efforts. The buffer requirement prevented Duke Energy from excavating all of the ash

² Trucking and treating leachate is the alternate method of managing leachate, but the extent to which this can be done is dependent on the capacity of local vendors and municipalities. The limit is approximately 40,000 gallons per day, which would allow for only one landfill cell to be open at a time.

³ Although the operation of three dredges was evaluated, the Company rejected this option due to safety concerns associated with the number of cables, anchors, and pipes that would be introduced.

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from the basin dikes until after a dam decommissioning permit could be secured authorizing Duke Energy to remove the dikes. The result was that over 125,000 tons of material remained in the buffer zone of the dikes—material that was originally scheduled to be excavated as Duke Energy cut into the basin. Because Duke Energy was compelled to leave the material in the buffer zone of the dikes, ash was trapped on the dikes, which were surrounded by water. This not only prevented the Company from more efficiently achieving its production goals as planned, but required going back to excavate the material off the dikes from the buffer zone in a less efficient manner, thereby extending schedule.

Although it is not possible to recover the loss of margin occasioned by the delay in securing the necessary permit to decommission the dikes, Duke Energy saved substantial time by plotting the coordinates of the bottom of the 1971 Basin by taking 240 sample borings prior to digging below the groundwater table. Based on those sample borings, the Company determined the lower extent of the ash, thereby allowing it to dredge down directly to those coordinates. Duke Energy then developed as-built drawings certifying that it excavated to those coordinates to establish excavation had been completed. If the Company would not have taken this action, it would have been required to go into the basin on a barge and take 100-foot grid samples, which would have taken significant time. Moreover, if Duke Energy would have found samples that indicated the existence of ash, it would have had to go back to do further excavation. By getting the borings done ahead of time and delineating the GPS coordinates of the contours of the bottom of the basin, the Company saved significant amounts of time.

To further challenge excavation operations, in late June 2018, while continuing to dredge in the 1971 Basin, both dredges encountered trees and stumps (remnants of a Cyprus forest) in three areas estimated to total approximately five acres, which challenged production by requiring an average of 45 non-productive hours per week to clean dredge cutter heads. Neither dredge type could make sufficient progress in those areas due to continuous clogging of the dredge pumps. However, Duke Energy promptly took interim action to redeploy dredge resources to other locations in the basin to maintain production while developing alternatives to effectively remove stumps and debris without compromising production and the dredge schedule. The Company determined to bridge out over two of the three areas to allow for the utilization of mechanical excavation to remove the stumps and CCR material from these areas (approximately 139,000 cubic yards of material). With respect to the third area (approximately 50,000 cubic yards of material), because there was no nearby land access to the area, bridging was rejected as an option. Other options Duke Energy considered included, amphibious excavation, barge excavation, and continued dredging at a reduced rate. To help inform its decision, the Company obtained additional bathymetric and aerial survey data. After evaluating the available options, all of which

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would result in schedule delay, Duke Energy determined that dredging through the area would be the most technically feasible option and would result in the least impact on schedule. Although this was the most commercially reasonable option, it, nevertheless, resulted in a schedule loss of three weeks.

In 2018, weather continued to contribute to Duke Energy's inability to meet the Deadline. As in 2017, Sutton experienced above-average levels of precipitation in 2018. Through October 2018, the Wilmington area received historical levels of rainfall. Although average total precipitation in Wilmington in the months of April through September is 35.22 inches, actual rainfall over this six-month period in 2018 was 74.8 inches.⁴ Thus, over this six-month period in 2018, Wilmington received 39.58 inches more rainfall than is normally the case. Under the extremely wet conditions presented, ash could not be dried to the level required for transportation and placement in the landfill.

Sutton, which was directly in the Hurricane Florence's path, experienced the full force of the storm's winds and rainfall. By September 11, 2018, precipitation intensity charts showed 25 to 30 inches of predicted rainfall in a concentrated portion of the coastal area just north of Wilmington. Duke Energy took numerous planning and engineering actions before the hurricane to prepare the site and minimize potential storm impacts, including staffing Sutton during the storm, pre-staging equipment, actively reducing water levels in the ponds before the storm arrived, and placing structural materials on-site to respond quickly if repairs were needed.

Rainfall began at Sutton on September 13, with 5.7 inches falling as measured by gauges at the site. On September 14, Sutton received an additional 11.5 inches of rainfall in three hours, between 6:00 a.m. and 9:00 a.m.⁵ This rainfall significantly exceeded the 25-year, 24-hour storm event design capacity of the run-on/run-off berm for landfill Cells 4 and 5. On September 16, a second peak rain event occurred between the hours of 12:00 a.m. and 6:00 a.m., with the site receiving an additional 4.2 inches of rainfall. Cumulative rainfall received by 8:00 a.m. on September 16 was approximately 30.1 inches.

On September 17, the site response team's priorities were to ensure the site was stable and prepared to handle another rain event by cleaning out ditches, installing

⁴ In fact, new rainfall records were set in each of the months of May and September 2018. See <https://w2.weather.gov/climate/index.php?wfo=ilm>.

⁵ The flooding Cape Fear River triggered the shutdown of the entire plant, including its natural gas-fired operations—and evacuation of plant staff. The storm resulted in 1.8 million Duke Energy customers losing power.

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check dams, pumping contact water to the ash basins, restoring power to the site to support wastewater processing equipment operations, and developing a recovery plan to resume ash excavation. On that same day, the construction contractor remobilized and began to manage water in the landfill. The Department performed an inspection on September 28 after repairs had been completed and gave permission for landfill operations and placement of ash in the landfill to resume. Excavation and placement of ash resumed on September 29—only 16 days after the storm began impacting Sutton.

III. Substantial Compliance with all Other CAMA Requirements and Deadlines

In compliance with CAMA, in 2015, Duke Energy embarked on an aggressive plan to close all ash basins across its North Carolina fleet, which is a complex task requiring significant planning, coordination with state regulators, and dedication of resources. In North Carolina, the Company has 31 coal ash basins subject to the requirements of CAMA, which imposes on Duke Energy, among other things, stringent structural stability, closure, post-closure care, groundwater monitoring, and corrective action requirements for CCR surface impoundments, as well as permanent water supply obligations.⁶

In July 2016, the North Carolina legislature amended CAMA to require Duke Energy to rectify any deficiencies identified by, and to comply with the requirements of, any dam safety order issued by the state for CCR surface impoundments. See N.C.G.S. § 130A-309-213(d)(1)b. On August 22, 2016, pursuant to N.C.G.S. § 143-215.32, NCDEQ issued Dam Safety Order 16-01 (“DSO”) requiring certain repairs to impoundment dams at nine facility’s subject to CAMA. Consistent with the requirements of the DSO, Duke Energy promptly undertook the required repairs and sent the Department a letter dated June 1, 2018, notifying it that the Company had fully complied with the requirements of the DSO in accordance with N.C.G.S. §§ 130A-309-213(d)(1)b. and 143-215.32. Specifically, Duke Energy completed all of the repair plans specified by, and timely submitted all of the completion reports to, NCDEQ. The Department conducted as-built inspections for each item and issued Certificates of Final Approval indicating that the required work had been completed as designed. In addition, the annual inspection of each dam has been completed, and the Company has received Notice of Inspection Reports documenting that no deficiencies are present.⁷ Finally, on October 10, NCDEQ

⁶ Twenty-six of these basins are also regulated under the federal CCR rule.

⁷ The Sutton surface impoundments were not subject to the DSO. Nevertheless, the October 17, 2017, inspection report from the state indicates “the inspections revealed the dams to be well maintained and in good order.” Similarly, the most recent annual inspection of the Sutton 1971 and 1984 Basin dams

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made official notification to the Environmental Management Commission that Duke Energy had complied with all dam safety requirements, as required by N.C.G.S. § 130A-309-213(d)(1)b.

With respect to the permanent water supply requirements imposed under CAMA, Duke Energy provided each eligible and consenting resident with an alternative drinking water supply (i.e., connection to a public water system or a filtration system) by the deadline set out in N.C.G.S. § 130A-309-211(c1). On October 12, 2018, NCDEQ issued a press release announcing that “permanent replacement water supplies have been provided to all eligible households near Duke Energy coal ash facilities in North Carolina . . . by the deadline of October 15, 2018 set forth in the Coal Ash Management Act.” Available at <https://deq.nc.gov/news/press-releases/2018/10/12/release-deq-completes-permanent-replacement-water-supplies-coal-ash>.

Consistent with the requirements of N.C.G.S. § 130A-309-211, Duke Energy submitted the groundwater assessments to NCDEQ by the applicable CAMA deadline. In addition, the Company has submitted for six sites and continues to prepare for other sites updated comprehensive site assessments. Updated groundwater corrective action plans are also being submitted. These documents will be submitted to NCDEQ in accordance with the schedule provided to Duke Energy by the Department.⁸ The Company is also preparing site-specific coal ash impoundment closure plans in accordance with the requirements of N.C.G.S. § 130A-309-214(a)(4). These closure plans will be submitted to the Department no later than the applicable deadline set out in CAMA.

Finally, Duke Energy has substantially complied with all other requirements and deadlines established under CAMA, including its annual inspection, annual reporting, and ash beneficiation requirements.

Conclusion

The latest bathymetric survey data show that Duke Energy has dredged approximately 760,000 cubic yards from the 1971 Basin and that there are approximately 240,000 cubic yards of dredge material remaining. In addition, there are

occurred on August 29, 2018; no concerns or issues were reported by NCDEQ that would necessitate issuance of a Notice of Deficiency or Notice of Violation.

⁸ Although not required under CAMA, Duke Energy completed installation of the accelerated remediation system required under Paragraph II.A. of that certain Agreement to Settle and for Release of Claims entered into among NCDEQ and Duke Energy on September 29, 2015.

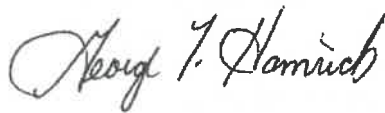
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987,500 cubic yards remaining in the 1984 Basin. By August 1, 2019, Duke Energy estimates it will have excavated and moved for placement or disposal approximately 94 percent of the total ash to be excavated and moved from the Sutton impoundments.

As detailed above, the Company's commitment to the application of best available technology found to be economically reasonable to meet the Deadline has resulted in significant schedule recovery, despite the many challenges and limitations with which Duke Energy was presented throughout the excavation process. Despite these good faith efforts to meet the Deadline, Duke Energy estimates that it requires an additional six months. Accordingly, the Company respectfully requests that the Department grant Duke Energy a variance to extend the Deadline to **February 1, 2020**, to close the Sutton surface impoundments. Although this application requests a six-month variance, Duke Energy is committed to continuing to undertake best efforts to evaluate opportunities and implement commercially reasonable measures to meet the Deadline.

If you have any questions, please do not hesitate to contact Randy Hart at randy.hart@duke-energy.com or (980) 373-5630. We appreciate your time and consideration.

Respectfully submitted,



George T. Hamrick
Senior Vice President, Coal Combustion Products

NCDEQ cc: Sheila C. Holman (sheila.holman@ncdenr.gov)
William F. Lane (bill.lane@ncdenr.gov)

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December 14, 2018

VIA ELECTRONIC MAIL

Ms. Sheila Holman
Assistant Secretary for Environment
North Carolina Department of Environmental Quality
217 W Jones St
Raleigh, NC 27603

RE: Sutton Variance Application: Response to Request for Supplemental Information

Dear Ms. Holman:

Thank you for your letter dated December 12, 2018, requesting supplemental information regarding Duke Energy's Application for Variance to Extend Closure Date for Sutton Plant CCR Surface Impoundments dated November 16, 2018 ("Variance Application"). Specifically, you requested additional information regarding the current and projected process rates for ash excavation, assumptions made in calculating these rates, and technologies evaluated, and why they were ultimately selected or rejected. You also asked Duke Energy to discuss whether the Sutton Plant has met the requirements and deadlines set out in the Coal Ash Management Act, as amended ("CAMA"). This letter responds to the North Carolina Department of Environmental Quality's ("NCDEQ") request for supplemental information. In addition, Duke Energy provides information regarding the status of Duke Energy's compliance with N.C.G.S. § 130A-309.216 regarding the installation of ash beneficiation projects at three Duke Energy sites in North Carolina. Although this information was not requested by NCDEQ or applicable to the Sutton Plant, we thought it might be helpful as you evaluate the Variance Application.

Rates of Excavation, Assumptions, and Technologies Evaluated

Sutton is forecasted to have excavated 4,900,000 tons of ash by the end of 2018. Based on the estimated volume of material in each of the 1971 and 1984 Basins, there will be approximately 1,400,000 tons remaining to be excavated in 2019 to meet final compliance criteria. Over the past three years, the excavation rate for the project has averaged approximately 130,000 tons per month. Since the on-site landfill was put into operation, the excavation rate has averaged approximately 150,000 tons per month. The current excavation plan assumes that Duke Energy will continue to excavate at a rate of 150,000 tons per month. At the end of July 2019, Duke Energy is forecasting to have approximately 350,000 tons remaining to be excavated. Using the original

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amount of 6,655,200 tons in the basins, this equates to approximately 94 percent complete. After closure by removal has been completed, post-excavation validation sampling is further required. The sampling is scheduled to take about one month to complete the field and lab work. As detailed in Section II of Duke Energy's November 16 Variance Application, throughout its history, the project has been challenged with regulatory, weather, operational, and other unforeseen challenges, which have significantly impacted the monthly production rate despite Duke Energy's application of best efforts.

Although the excavation rate of 150,000 tons that is currently assumed will not be sufficient to achieve closure by the August 1, 2019 deadline established under CAMA, this number reflects the actions Duke Energy undertook to gain schedule, as set forth in the Variance Application. The technologies/actions Duke Energy considered and either adopted or rejected are summarized in the chart below.

Technologies Evaluated	Status
Send parallel shipments of ash to Brickhaven and on-site landfill after securing delayed permit	<i>Rejected – Logistical and contractual constraints</i>
Add third conveyor	Adopted – Allowed Duke Energy to increase its margin on rail production
Early mobilization of Phase II contractor prior to Phase I contractor's completion of work	Adopted – Supported early mobilization and removal of non-ash material from 1971 Basin, thereby accelerating Phase II of basin excavation
Accelerate construction of Cell 3 of on-site landfill	Adopted – Allowed landfill to be filled earlier than scheduled at 150,000 tons per month and eliminated project down time with rail operations being complete
Expedite construction of Cells 5, 6, and 7 of on-site landfill	Adopted – Removed landfill from critical path
Simultaneous operation of multiple landfill cells	Adopted – Substantially increased production
Increase dredging excavation activities up to 20 hours per day, six days per week	Adopted – Substantially increased production
Place additional dredge into service	Adopted – Substantially increased production
Simultaneous operation of three dredges	<i>Rejected – Safety concerns associated with number of cables, anchors, and pipes</i>
Plot GPS coordinates of bottom of 1971 Basin	Adopted – Saved significant time by confirming lower extent of ash and avoiding need to go back and do additional excavation and post-excavation sampling time estimates
Redeploy dredge resources to other basin locations while developing alternatives to remove stumps and debris	Adopted – Avoided loss of production and dredge schedule
Take measures in advance of Hurricane Florence reaching landfall to prepare site	Adopted – Minimized potential storm impacts, thus allowing for prompt return to ash excavation and disposal operations

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The Sutton site received 5.67 inches of rainfall in November 2018, which impacted eight working days of production, or 64,000 to 80,000 tons of CCR material. Through the first nine days of December 2018, the site has received an additional 3.08 inches of precipitation. In total, as of December 9, a total of 97.67 inches of rain has fallen on the site. This has caused 93 lost working days in 2018, equivalent to 697,500 tons of production.

In addition to delays associated with poor weather, recent dredging production from the 1971 Basin deep ash borrow area has been impaired by the lodging of rocks in the cutter head and dredge pump. A bottom sonar survey identified three rock outcroppings varying from 50 to 250 feet in length. An engineering evaluation will consider this data to determine how Duke Energy should modify the final dredging depths to account for the rock formations/outcroppings. To minimize any schedule delays, the large dredge has been moved to another area in the basin.

These problems demonstrate that despite Duke Energy's continuous application of best efforts, production delays occur because of factors entirely out of Duke Energy's control. They further highlight the fact that estimated excavation rates are influenced by many external factors. Therefore, it would not be prudent to conclude that the project will recover 350,000 tons of shortfall in the first seven months of 2019. In light of the extended variance application process set out in CAMA, which essentially provides a single opportunity to apply for a variance¹, it is critical that the variance request include adequate margin to accommodate additional schedule delays despite Duke Energy's application of best available technology found to be economically reasonable.

Substantial Compliance with Other CAMA Requirements and Deadlines Applicable to the Sutton Plant

- N.C.G.S. § 130A-309-213(d)(1)b. (dam stability) – Although the CCR surface impoundments at the Sutton Plant were not subject to Dam Safety Order 16-01, the October 17, 2017 inspection report from NCDEQ indicates “the inspections revealed the dams to be well maintained and in good order.” Similarly, the most recent annual inspection of the Sutton 1971 and 1984 Basin dams occurred on August 29, 2018; no concerns or issues were reported by NCDEQ that would necessitate issuance of a Notice of Deficiency or Notice of Violation.
- N.C.G.S. § 130A-309-211(c1) (provision of permanent water supply) – Although subject to the statutory requirement to establish permanent replacement water supplies for eligible households, it was determined that no connection was needed at the Sutton Plant. NCDEQ sent its concurrence with this determination to Duke Energy on August 10, 2018.

¹ North Carolina General Statutes Section 130A-309.215(a1) provides that Duke Energy may not apply for a variance “earlier than one year prior to the applicable deadline.”

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- N.C.G.S. § 130A-309-211(a) (comprehensive site assessment) – The comprehensive site assessment for the Sutton Plant was submitted to NCDEQ via cover letter dated August 4, 2015.
- N.C.G.S. § 130A-309-211(b) (corrective action plan) – The corrective action plan was submitted in two parts. Part 1 was dated November 2, 2015, and Part 2 was dated February 1, 2016.²

Compliance with N.C.G.S. § 130A-309.216 (ash beneficiation projects)

North Carolina General Statutes Section 130A-309.216 requires Duke Energy to install and operate three large-scale coal ash beneficiation projects to produce reprocessed ash for use in the concrete industry. Duke Energy selected the Buck and H.F. Lee Plants prior to the January 1, 2017 deadline set out in subsection (a) of Section 130A-309.216, and selected the Cape Fear Plant prior to the deadline established under subsection (b) of Section 130A-309.216. Construction of the beneficiation unit at the Buck Plant began in November 2018 and will require 18 to 24 months to complete. Construction of the beneficiation unit at the H.F. Lee Plant is targeted to begin in February 2019, pending receipt of all required permits. Construction is expected to take approximately 18 to 24 months. Finally, construction of the beneficiation unit at Cape Fear is targeted to begin in May 2019, pending receipt of all required permits. Construction is expected to take approximately 18 to 24 months.

Conclusion

As explained in the Variance Application, Duke Energy is committed to continuing to undertake best efforts to evaluate opportunities and implement commercially reasonable measures to meet the August 1, 2019 closure deadline established by CAMA, including taking advantage of good weather days and continuing to move material into the landfill 60 hours or more per week, as weather allows. Nevertheless, Duke Energy respectfully requests that NCDEQ grant it a variance to extend until February 1, 2020, the deadline to close the CCR surface impoundments at the Sutton Plant.

² Outside of CAMA, Duke Energy submitted a Sutton comprehensive site assessment supplement dated August 31, 2016, and an updated comprehensive site assessment dated January 30, 2018.

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If you have any questions, please do not hesitate to contact Randy Hart at randy.hart@duke-energy.com or (980) 373-5630. We appreciate your time and consideration.

Respectfully submitted,

A handwritten signature in cursive script, reading "George T. Hamrick", written over a horizontal line.

George T. Hamrick
Senior Vice President, Coal Combustion Products

NCDEQ cc: William F. Lane (bill.lane@ncdenr.gov)
Ed Mussler (ed.mussler@ncdenr.gov)

Duke Energy cc: ccprerecords@duke-energy.com; Randy Hart

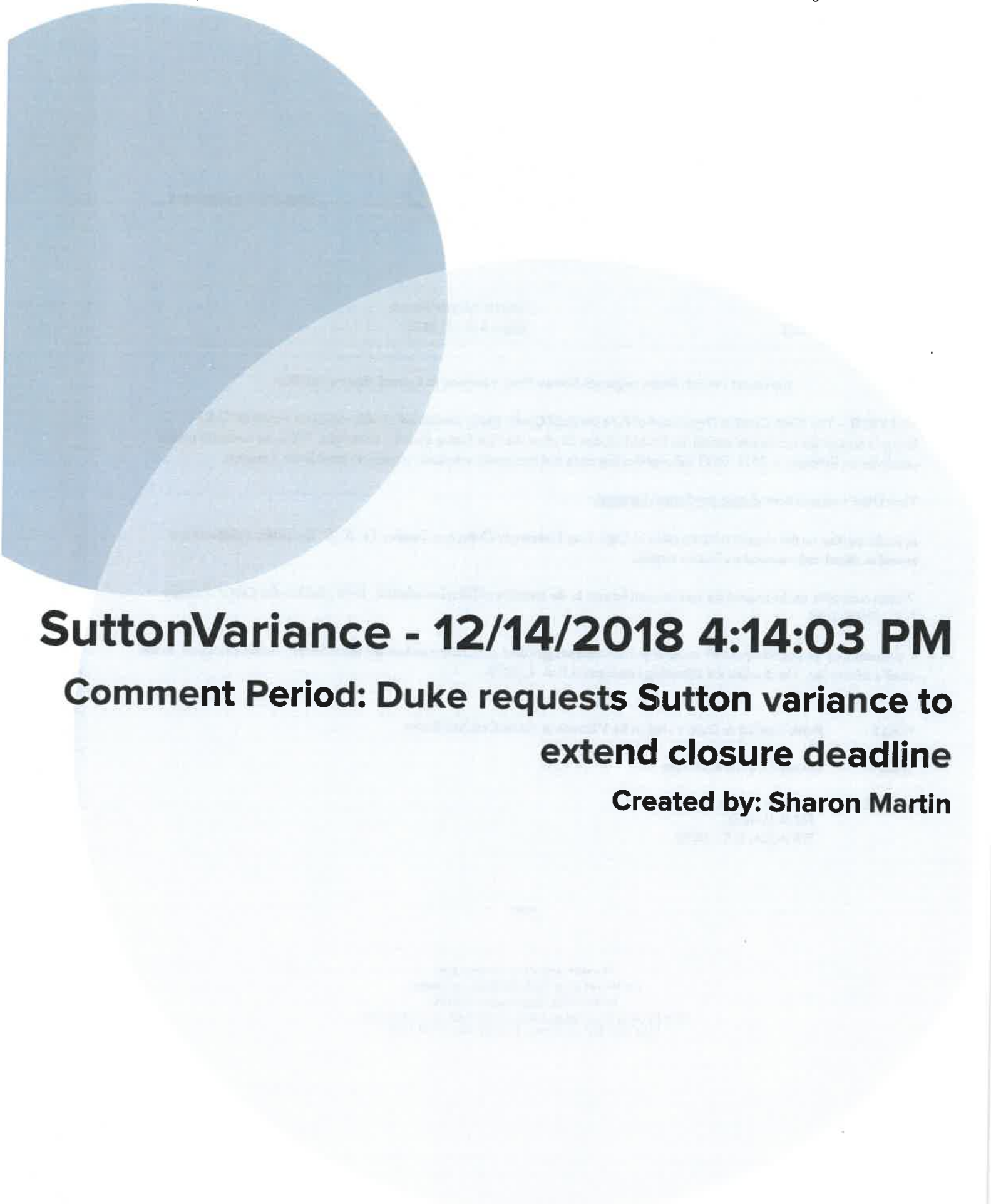
Attachment C

Postings to the N.C. Department of Environmental Quality's Website

The North Carolina Department of Environmental Quality (NCDEQ) posted Duke Energy's request for a variance and notice of public meeting and comment on NCDEQ's website on the following dates and at the following website addresses:

- **December 14, 2018 NCDEQ Press Release:** "Comment Period and Public Meeting on Duke Energy Request for Sutton Plant Variance to Extend Closure Deadline" available at <https://deq.nc.gov/news/press-releases/2018/12/14/comment-period-and-public-meeting-duke-energy-request-sutton-plant>
- **December 14, 2018 NCDEQ Public Notices and Hearings:** "Notice of Comment Period and Public Meeting on Duke Energy Request for Variance to Extend Sutton Closure Deadline" available at <https://deq.nc.gov/news/events/notice-comment-period-and-public-meeting-duke-energy-request-variance-extend-sutton>
- **January 14, 2019 NCDEQ Public Notices and Hearings:** "Public Meeting on Duke Energy Request for Variance on Sutton Closure Deadline" available at <https://deq.nc.gov/news/events/public-meeting-duke-energy-request-variance-sutton-closure-deadline>
- **February 4, 2019 NCDEQ Public Notices and Hearings:** "Comment Period Ends on Duke Energy Request for Variance on Sutton Closure Deadline" available at <https://deq.nc.gov/news/events/comment-period-ends-duke-energy-request-variance-sutton-closure-deadline>

Attachment D



SuttonVariance - 12/14/2018 4:14:03 PM

Comment Period: Duke requests Sutton variance to extend closure deadline

Created by: Sharon Martin

Comment Period: Duke requests Sutton variance to extend closure deadline

Copy of Email

Roy Cooper, Governor



Michael S. Regan, Secretary

Release: IMMEDIATE
Date: December 14, 2018

Contact: Megan Thorpe
Phone: 919-707-8670

Comment Period: Duke requests Sutton Plant variance to extend closure deadline

RALEIGH – The North Carolina Department of Environmental Quality today announced a public comment period for Duke Energy's request for variance to extend the CAMA closure deadline for their Sutton Plant by six months. When the comment period concludes on February 4, 2019, DEQ will consider that input and then make a decision whether to grant Duke's request.

View Duke's request here: deq.nc.gov/Sutton-Variance.

A public meeting on this request will take place at Cape Fear Community College on January 14, 2019. The public and media are invited to attend and comment on Duke's request.

Written comments on the request for variance can be sent to the attention of Ellen Lorscheider, 1646 Mail Service Center, Raleigh, N.C. 27699-1646.

Comments may also be submitted by email to: publiccomments@ncdenr.gov. Please include the term "Sutton Variance Request" in the email's subject line. The deadline for submitting comments is Feb. 4, 2019.

WHAT: Public Meeting on Duke's request for Variance at Sutton Coal Ash facility

WHEN: January 14, 2019, at 6:00 pm

WHERE: Cape Fear Community College
502 N. Front St.,
Wilmington, N.C., 28360

###

Website: <http://www.ncdenr.gov>
Facebook: <http://www.facebook.com/ncdeq>
Twitter: <http://twitter.com/NCDEQ>
RSS Feed: <http://portal.ncdenr.org/web/opa/news-releases-rss>
1601 Mail Service Center, Raleigh, NC 27699-1601

Comment Period: Duke requests Sutton variance to extend closure deadline

Email Details

Subject

Comment Period: Duke requests Sutton variance to extend closure deadline

Sender Name

Megan Thorpe

Sender Email

Megan.Thorpe@ncdenr.gov

Created:

Fri, 14 Dec 2018 16:27:36 Eastern Standard Time

Submitted:

Fri, 14 Dec 2018 16:27:37 Eastern Standard Time

Sent:

Fri, 14 Dec 2018 16:27:37 Eastern Standard Time

Recipient Lists

Contacts:

Asheville Media; DENR Internal; DENR PIOs; Division of Waste Management; Fayetteville Media; Interested Parties; Little Washington; Louise; Major Media; Mooresville; Raleigh Media; Wilmington; Winston-Salem Media

List of Media Contact Recipients

Name	Outlet	Status	Links Clicked
		Not Opened	0
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Comment Period: Duke requests Sutton variance to extend closure deadline

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Docket No. E-7, Sub 1214

Docket No. E-7, Sub 1214

Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Docket No. E-7, Sub 1214

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Docket No. E-7, Sub 1214

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Docket No. E-7, Sub 1214

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Docket No. E-Z, Sub 1214

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Docket No. E-7, Sub 1214

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Comment Period: Duke requests Sutton variance to extend closure deadline

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Doug Heyl		Opened	0
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		Not Opened	0
Mr. Michael Abernathy	The Times News Burlington, NC	Not Opened	0
Michael Abraczinskas		Not Opened	0
Sarah Adair		Opened	0
Cathy Akroyd		Not Opened	0
Jennifer Allen		Opened	0
Kerri Allen		Opened	0
Greg Andeck		Not Opened	0
David Anderson		Opened	0
AP DESK		Not Opened	0
AP Raleigh		Not Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

WSOC TV Assignment Desk		Not Opened	0
Nancy Avery		Not Opened	0
Karl Baker		Not Opened	0
Greg Barnes		Opened	0
Mr. Mark Barrett State, Federal Government & Politics Reporter	Asheville Citizen-Times	Not Opened	0
Todd Benz General Manager	The Courier-Times	Not Opened	0
Shannon Best Media Director	Sampson Independent	Not Opened	0
BladenJournalNewsDesk		Not Opened	0
Ms. Loretta Boniti Senior Political Reporter	Spectrum News Raleigh	Not Opened	0
Lynn Bonner		Not Opened	0
Ms. Lynn Bonner Politics Reporter	The News & Observer	Not Opened	0
Ms. Pat Bradford Publisher & Editor	Wrightsville Beach Magazine	Not Opened	0
Russ Bradley		Not Opened	0
Mr. Cullen Browder Anchor & Reporter	WRAL-TV	Not Opened	0
Jeanne Brown		Not Opened	0
Jared Brumbaugh		Not Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

Cal Bryant Editor	Roanoke-Chowan News-Herald	Not Opened	0
Ron Bryant		Not Opened	0
Tim Buckland		Not Opened	0
Kevin Burk		Not Opened	0
Jenny Callison	Wilmington Journal	Not Opened	0
Scott Calvert		Not Opened	0
John Camp	ABC 11 Eyewitness News Extra - WTVD-TV	Not Opened	0
Christine Carroll Editor	Richmond County Daily Journal	Not Opened	0
Chrysta Carroll		Not Opened	0
Chrysta Carroll	Bladen Journal	Not Opened	0
Gerard Carroll		Opened	0
Charles Carter		Opened	0
Tony Caudle		Not Opened	0
Dan Charles		Not Opened	0
Sterling Cheatham		Not Opened	0
Catherine Clabby		Not Opened	0
Cobey Culton		Not Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

Chris Coudriet		Not Opened	0
Michael Cramer		Not Opened	0
Mike Cronin		Not Opened	0
Valerie Crowder		Opened	0
Linda Culpepper		Not Opened	0
Emery Dalesio		Not Opened	0
Amin Davis		Not Opened	0
Candice Davis HR	The Citizen Times	Not Opened	0
Mike Davis		Opened	0
Shannon Deaton		Not Opened	0
John Deem Editor	Statesville Record & Landmark	Not Opened	0
Marion Deerhake		Opened	0
Debra Derr		Opened	0
Donald Dixon		Opened	0
Tyler Dukes		Not Opened	0
Stephanie Ebbs		Opened	0
Beth Eckert		Not Opened	0
Charlotte Edens		Opened	0
Charles Elam		Not Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

Kelsey Ellis		Not Opened	0
Quintin Ellison Editor	Sylva Herald & Ruralite	Not Opened	0
Kimberly Fail		Not Opened	0
Travis Fain		Not Opened	0
Mr. Travis Fain Statehouse Reporter	WRAL-TV	Not Opened	0
Crystal Feldman		Not Opened	0
Jim Fletcher		Not Opened	0
Mr. Steve Garland Advertising Sales Manager	Taylorsville Times	Not Opened	0
Mitch Gillespie		Opened	0
Steve Ginley		Not Opened	0
Gail Goodman		Opened	0
Larry Goodwin		Opened	0
Leslie Griffith		Opened	0
Vaughn Hagerty		Opened	0
Christina Haley		Opened	0
Lindsey Hallock		Opened	0
Ann Hardy		Opened	0
Cris Harrelson		Not Opened	0
Maria Hegsted		Not Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

Doug Heyl		Not Opened	0
Mark Hibbs		Opened	0
Sheila Holman		Opened	0
Shana Hoover Advertising/Marketing Director	The Wilson Times	Opened	0
Zachary Horner	The Sanford Herald	Not Opened	0
Kim Horton		Not Opened	0
Sandra Hurley Publisher	Mount Airy News	Not Opened	0
Emilie Ikeda		Not Opened	0
Melody Isaak		Not Opened	0
Rusty Jacobs		Not Opened	0
Mr. Craig Jarvis Business Reporter	The News & Observer	Opened	0
Becky Johnson	The Mountaineer	Not Opened	0
Paul Johnson		Not Opened	0
Chris Jones		Not Opened	0
Mark Jurkowitz Publisher	Outer Banks Sentinel	Not Opened	0
Mr. Dan Kane Investigative Reporter	The News & Observer	Not Opened	0
Steve Keen		Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

Donna King		Not Opened	0
Richard King		Not Opened	0
Jamie Kritzer		Not Opened	0
Ms. Laura LaFleur		Not Opened	0
Ms. Laura LaFleur		Not Opened	0
Laura LaFleur		Not Opened	0
Bill Lane		Opened	1
Coby LaRue Publisher	The Alleghany News	Opened	0
Leigh Lawrence		Opened	0
Teresa Laws General Manager	Ashe Post & Times (West Jefferson, NC)	Opened	0
Dr. Suzanne Lazorick		Opened	0
Kristine Leggett		Not Opened	0
Connie Leinback Editor/ Publisher	Ocracoke Observer	Not Opened	0
Laura Leonard		Opened	0
Laura Leslie	WRAL-TV	Opened	0
Jim Lister		Opened	0
Melissa Long		Not Opened	0
Ellen Lorscheider		Not Opened	0
John Lucey		Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

Janet Mack		Not Opened	0
Chris Mackey		Not Opened	0
Angela Marshall		Not Opened	0
Lance Martin Editor	RRSpin (Roanoke Rapids, NC)	Not Opened	0
Sharon Martin		Opened	0
Lynn Matheson		Not Opened	0
Tom Mayor Editor	Mountain Times	Not Opened	0
Jim McCleskey		Opened	0
Mr. Gareth McGrath Local Editor	StarNews	Not Opened	0
Stanley Meiburg		Opened	0
Anderson Miller		Not Opened	0
Eric Millsap Regional Editor	Hickory Daily Record	Not Opened	0
Beau Minnick		Not Opened	0
Jeff Moore		Opened	0
jerome Moore		Opened	0
Molly Moore		Not Opened	0
Jordan Morley		Not Opened	0
James Morrisson		Not Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

Gary Morrow		Opened	0
Carolyn Moser		Opened	0
Katie Mosher		Not	0
Communications Director		Opened	
Jennifer Mundt		Opened	0
Bridget Munger		Opened	0
Mr. John Murawski	The News & Observer	Not	0
Business Reporter		Opened	
Ed Mussler		Opened	1
John Nichols		Not	0
		Opened	
John Nicholson		Opened	0
Sheila Nicholson		Not	0
		Opened	
Joe Nolan		Not	0
		Opened	
North State Journal		Not	0
		Opened	
Shrikar Nunna		Opened	0
Alaina Oakes		Not	0
		Opened	
Nick Ochsner		Opened	0
Governors Office		Not	0
		Opened	
Elizabeth Ouzts		Opened	0
Elizabeth Ouzts		Not	0
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Sarah Ovaska-Few		Not	0
		Opened	

Comment Period: Duke requests Sutton variance to extend closure deadline

Jenni Owen		Not Opened	0
Jodie Owen		Not Opened	0
Tim Owens		Not Opened	0
Charles Petersen		Opened	0
Kendra Pierre-Louis		Opened	0
Michael Pjetraj		Not Opened	0
Mark Plemmons Editor	Independent Tribune	Not Opened	0
Ely Portillo		Opened	0
Adam Powell Editor	The News of Orange County	Opened	0
Kevin Powell General Manager	Tryon Daily Bulletin	Not Opened	0
Tammy Proctor		Opened	0
Candace Prusiewicz		Not Opened	0
Bill Puette		Not Opened	0
Rachael Raney Publisher	The Sanford Herald	Opened	0
Michael Regan		Not Opened	0
Regina		Not Opened	0
William Richardson		Not Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

William Richardson		Not Opened	0
Mr. Deon Roberts Business Reporter	The Charlotte Observer	Not Opened	0
Gary Robertson		Not Opened	0
Fritz Rohde		Not Opened	0
Kirk Ross		Not Opened	0
Krik Ross		Opened	0
Albert Rubin		Not Opened	0
Leslie Rudd		Not Opened	0
Editor Sanford Herald		Not Opened	0
News Desk Sanford Herald		Not Opened	0
Michael Scott		Not Opened	0
Eliza Sease		Not Opened	0
Jamie Shell Editor	Avery Journal-Times	Not Opened	0
Christy Simmons		Opened	1
Butch Smith		Not Opened	0
Erin Smith		Opened	0
Janet Joye Smith		Not Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

Patricia Smith		Not Opened	0
Ruth Ravitz Smith		Opened	0
Tricia Smith		Not Opened	0
John D. Solomon		Opened	0
Mike Soraghan		Not Opened	0
Lisa Sorg		Opened	1
Lorea A Stallard		Not Opened	0
Laura Strickler		Not Opened	0
Megan Suggs	Statesville Record & Landmark	Not Opened	0
Kristi Swartz		Not Opened	0
Hiroko Tabuchi	The New York Times	Not Opened	0
Malissa Talbert		Not Opened	0
Lucy Talley Publisher	The Shelby Star	Not Opened	0
Noelle Talley		Not Opened	0
Noelle Talley		Not Opened	0
Noelle Talley	Governor Roy Cooper	Not Opened	0
Jeremy Tarr		Not Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

Phillip Tarte		Opened	0
Jeff Thompson		Opened	0
Joyce Thompson Administration	The Times News Burlington, NC	Not Opened	0
Megan Thorpe		Not Opened	0
William Toler Editor	The Anson Record	Not Opened	0
Mike Trainor		Not Opened	0
WBTV TV	WBTV-TV	Opened	0
WILM TV	WILM-TV	Not Opened	0
WSPA TV	WSPA-TV	Opened	0
WWAY TV	WWAY-TV	Not Opened	0
Therese Vick		Not Opened	0
Curt Vincent General Manager/ Editor	Bladen Journal	Not Opened	0
W. Curt Vincent Editor	The Laurinburg Exchange	Not Opened	0
Toby Vinson		Opened	0
Adam Wagner		Opened	1
Adam Wagner		Not Opened	0
Glen Walker		Not Opened	0
Lisa Wall Editor	The News-Herald (Morganton, NC)	Not Opened	0

Comment Period: Duke requests Sutton variance to extend closure deadline

Michael Ware		Not Opened	0
Dan Way		Not Opened	0
Mr. Dan Way Associate Editor	Carolina Journal	Not Opened	0
Sam Weber		Not Opened	0
Mykel Wedig		Opened	0
Sadie Weiner		Not Opened	0
Elizabeth Werner		Opened	1
Rex Whaley		Not Opened	0
Richard Whisnant		Not Opened	0
Nancy Wickle Editor/ Publisher	The Daily Dispatch	Opened	0
Julie Wilsey		Not Opened	0
Bryce Wilson Station Manager	The Goldsboro Daily News	Not Opened	0
Vince Winkel	WHQR-FM	Not Opened	0
Alan Wooten		Opened	0
Sarah Young		Opened	1
Ana Zivanovic-Nenandovic		Not Opened	0

Attachment E

AFFIDAVIT OF PUBLICATION**STATE OF NORTH CAROLINA
COUNTY OF NEW HANOVER**

**NOTICE FOR PUBLIC MEETING AND
PUBLIC COMMENT PERIOD
ON REQUEST FOR VARIANCE TO
EXTEND CLOSURE DEADLINE**

Duke Energy Sutton Plant
Duke Energy has made a request to
the North Carolina Department of
Environmental Quality (DEQ) for a
variance to extend the Coal Ash
Management Act closure deadline
by six months for the Sutton Coal
Ash facility located at 801 Sutton
Steam Plant Road, Wilmington, NC
28401.

This notice serves as a Notice of
Public Meeting and Opportunity for
Public Comment for this request.
The public meeting will be held at 6
p.m. Jan. 14, 2019 at Cape Fear
Community College, McLeod Build-
ing Room S-002, 411 Front Street,
Wilmington, N.C.

A copy of the variance request is
posted on the DEQ website at
deq.nc.gov/Sutton-Variance. Inter-
ested persons are invited to provide
comment on the variance request.
Written comments may be sent to:
Ellen Lorscheider
1646 Mail Service Center
Raleigh, North Carolina 27699 1646
Phone/Fax: (919)707-8200

The comment period began on Dec.
14, 2018 and ends on Feb. 4, 2019.
Written comments may also be
submitted during the public com-
ment period via email at the follow-
ing address:
publiccomments@ncdenr.gov.
Please type "Sutton Variance Re-
quest" in the subject line. After
weighing all relevant comments re-
ceived, DEQ will decide whether to
grant the request.

Before the undersigned, a Notary Public of Said County and State,

Jarimy Springer

Who, being duly sworn or affirmed, according to the law, says that he/she is

Accounting Specialist

of THE STAR-NEWS, a corporation organized and doing business under the Laws of the State of
North Carolina, and publishing a newspaper known as STAR-NEWS in the City of Wilmington

**NOTICE FOR PUBLIC MEETING AND PUBLIC COMMENT PERIOD ON REQUEST FOR
VARIANCE TO EXTEND CLOSURE DEADLINE Duke Energy Sutton Plant Duke Energy
has made a request to the North Carolina Department of Environmental Quality DEQ for a
variance to extend the Coal**

was inserted in the aforesaid newspaper in space, and on dates as follows:

12/20 1x, s12/27 1x, s1/3 1x

And at the time of such publication Star-News was a newspaper meeting all the requirements and
qualifications prescribed by Sec. No. 1-597 G.S. of N.C.

Jarimy Springer

Title: **Accounting Specialist**

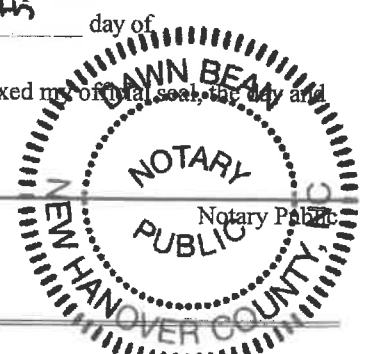
Sworn or affirmed to, and subscribed before me this 15th day of

February, A.D., 2019

In Testimony Whereof, I have hereunto set my hand and affixed my official seal, the day and
year aforesaid.

Dawn Bean

My commission expires 4th day of Nov., 2023



Upon reading the foregoing affidavit with the advertisement thereto annexed it is adjudged by the Court that the said
publication was duly and properly made and that the summons has been duly and legally served on the defendant(s).

This _____ day of _____, _____

MAIL TO:

Clerk of Superior Court

Attachment F

If you do not wish to speak, you may submit written comments to publiccomments@ncdenr.gov by February 4, 2019.

	PRINT NAME	AFFILIATION (Resident, Elected Official, Other)	E-MAIL (if you wish to receive updates)	DO YOU WISH TO SPEAK? (✓)
101				
102				
103				
104				
105				
106				
107				
108				
109				
110				
111				
112				
113				
114				
115				
116				
117				
118				
119				
120				
121				

Attachment G

HEARING OFFICER'S SPEECH January 14, 2019

I would like to call this public hearing to order.

My name is Jim Gregson. I am the Deputy Director of the Division of Water Resources, Department of Environmental Quality, for the State of North Carolina.

This hearing is being held in accordance with North Carolina General Statute 130A-309.214 in response to an application on the part of Duke Energy for a variance to extend the deadline to close the Sutton Plant CCR Surface Impoundments, in accordance with North Carolina General Statute 130A-309.215.

On November 16, 2018 the North Carolina Department of Environmental Quality received an application from Duke Energy for Variance to Extend the Deadline to Close the Sutton Plan CCR Surface Impoundments. Additional information regarding the application was received from Duke Energy on December 14, 2018.

The application requests that the Department issue a variance to extend the CAMA closure deadline for the Sutton Plant CCR Impoundments by six months; from August 1, 2019 to February 1, 2020.

The Department reviewed the submitted application and in accordance with the law;

- Opened a public comment period that started on December 14, 2018. The public comment period will end on February 4, 2019 at 5:00 PM,
- Announced this public hearing would be held to gather public comment, and
- Provided public notice in the Wilmington area newspapers [Megan, please edit]

In addition to comments gathered here tonight, written comments on the request for variance can be sent to the attention of;

Jim Gregson
1646 Mail Service Center
Raleigh, N.C. 27699-1646.

Comments may also be submitted by email to:

publiccomments@ncdenr.gov

Please include the term "Sutton Variance Request" in the email's subject line. The deadline for submitting comments is Feb. 4, 2019.

As hearing officer, it is my responsibility to listen to your comments and assist in the preparation of a report, which summarizes the information presented tonight and provides recommendations on the request for a variance. To aid in preparing the report, audio of tonight's hearing is being recorded. In addition, I ask that you provide me with a written copy of your comments if possible. Comments should be relevant to the issue of the request for a Variance to Extend the Deadline to Close Sutton Plant CCR Surface Impoundments to be considered in the Department's final decision.

At this time, I will provide an overview of how the hearing will be conducted:

1. I will call on speakers in the order they signed up.
2. Each speaker will be limited to 5 minutes.
3. There will be no cross-examination of speakers or division staff.
4. All public comments will be directed to me as the hearing officer.

5. I ask that everyone respect the right of others to speak without interruption.

At this time, I will give a brief summary of the closure requirements for the coal ash impoundments at Sutton Steam Station. Section 3(b) of the Coal Ash Management Act, Session Law 2014-122 deemed the coal combustion residuals surface impoundments at Sutton Steam Station as high risk. Sections 3(b)(4) and 3(c) of Session Law 2014-122 further required that the surface impoundments be closed by excavation no later than August 1, 2019.

The Coal Ash Management Act allows for a variance in the deadlines imposed under the law. The General Assembly authorized the Secretary of the Department of Environmental Quality to grant a variance on the basis that compliance with the deadline cannot be achieved by application of best available technology found to be economically reasonable at the time and would produce serious hardship without equal or greater benefits to the public. The owner of the impoundment must provide the site-specific circumstances that support the need for the variance. The owner must also provide information showing that the owner has substantially complied with all other requirements and deadlines established by CAMA, that the owner has made good faith efforts to comply with the applicable deadline, and that compliance with the deadline cannot be achieved by application of best available technology found to be economically reasonable at the time and would produce serious hardship without equal or greater benefits to the public. The application by Duke Energy requests an extension of 6 months to complete the closure of the coal combustion residuals surface impoundments at Sutton Steam Station.

The variance request cites a number of issues and circumstances that has resulted in Duke Energy's inability to complete the excavation and closure of the impoundments at Sutton Steam Station. These include delays due to Hurricane Matthew in 2016, permit delays for the on-site landfill, weather delays in 2017, record rain in July of 2018, and Hurricane Florence in September 2018.

After review of this variance request, DEQ's preliminary evaluation is that a 3 to 6 month extension is appropriate, and is here tonight to take comment on the potential granting of the variance.

Now, we will hear from audience members who wish to speak in the order that they registered.

The department may only consider technical and scientific information related to the request for Variance to Extend Deadline to Close Sutton Plant CCR Surface Impoundments when making recommendations the variance. Other issues concerning this facility, or the issue of coal combustion residuals as a whole are beyond the scope of this public hearing.

When your name is called, please come to the podium, state your name and indicate any group you may be representing or affiliated with. To ensure that we hear from all who wish to speak, there will be a 5-minute time limit for providing comments. Staff will keep track of the time and raise a sign to indicate when you have 1-minute remaining and when you have 30 seconds remaining to finish your comments. Please keep your comments concise and limit them to the issue of the variance request for the deadline to complete the excavation of coal combustion residuals from impoundments at the Sutton Steam Station. I appreciate your cooperation in complying with these requests.

(Call out names.)

That concludes tonight's line-up of speakers. Staff will be available for questions or comments after the hearing.

I would like to thank you all for attending tonight's hearing. Your input is greatly appreciated. Remember that you will have until 5:00 pm on Monday, February 4th, 2019 to submit comments on this variance request.

After careful study of all comments received and the requirements of state laws, the department will make a decision on this variance application for the Sutton CCR Impoundments.

This hearing is closed.

Attachment H

Gregson, Jim

From: Louanne Kaye <louannekaye@ymail.com>
Sent: Friday, February 01, 2019 1:47 PM
To: SVC_DENR.publiccomments
Subject: [External] Coal Ash Wilmington area

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to report.spam@nc.gov

This clean up has been prolonged for TOO long

Louanne Kaye Wilmington

Gregson, Jim

From: Bruce Santhuff <Bruce@Spaloo.com>
Sent: Saturday, January 26, 2019 12:07 PM
To: SVC_DENR.publiccomments
Subject: [External] Sutton Variance Request

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to report.spam@nc.gov

Not sure why Duke would need more than 5 years to clean up the coal ash ponds. What did they do for the last 4 years? It was a mistake that these coal ash basins were located in flood-prone zones and water way areas to begin with! What is the guarantee that they will not ask for another extension or that more coal ash will contaminate our water system before the next hurricane season?

Thank you,
Bruce
Bruce Santhuff



Virus-free. www.avast.com

Gregson, Jim

From: Janet Rodrick <jan.rodrick@gmail.com>
Sent: Friday, January 25, 2019 4:00 PM
To: SVC_DENR.publiccomments
Subject: [External] Duke Energy Variance request

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to report.spam@nc.gov

Good Morning,

Duke Energy should not be granted any variances that would delay or prevent them from having to clean up coal ash and more right away.

It is a crying shame that they have even tried to make thus request and that it is up for consideration!!!

Where is the consideration for the citizens/taxpayers to our right for clean water, clean air, and to have companies that don't follow the legal rules to be punished!!!???

Please consider the future for all of us that will be living with this disgusting and disgraceful mess that Duke Energy has knowingly created!!

Just because you may not be receiving many letters of complaint does not mean that the citizens are not upset about having their water& air quality be destroyed, Rather they are busy trying to live their lives in hope that our elected officials will ALWAYS do the right thing by its people!

PLEASE DO NOT GRANT ANY MORE FAVORS TO DUKE ENERGY!

They must be held accountable right away

Thank you for your consideration,

Sincerely

Janet Rodrick

Gregson, Jim

From: angela ohare <ohare4ts@hotmail.com>
Sent: Friday, January 25, 2019 3:26 PM
To: SVC_DENR.publiccomments
Subject: [External] Sutton variance request.

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to report.spam@nc.gov

Please see to it that these coal stores get removed and cleaned up before damage is caused to our waterways and environment. Thank you.

Sent from [Mail](#) for Windows 10

Gregson, Jim

From: Karen Hamilton <khamilton2188@yahoo.com>
Sent: Friday, January 25, 2019 9:42 AM
To: SVC_DENR.publiccomments
Cc: Karen Hamilton
Subject: [External] Fwd: Duke energy clean up Sutton Variance Request

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to reportspam@nc.gov

Sent from my iPad

Begin forwarded message:

From: Karen Hamilton <khamilton2188@yahoo.com>
Date: January 25, 2019 at 9:38:25 AM EST
To: publiccomments@ncdenr.gov
Subject: Duke energy clean up

Duke energy needs to clean up the coal ash in North Carolina. They have had five years to do this and have failed to complete the project. Clean water and a healthy environment for our children and grandchildren are imperative. Duke Energy's money and political power in this state should not excuse them from these detrimental conditions they continue to allow.

I am just a concerned citizen and not affiliated with any group.
Karen Hamilton 2188 Scotts Hill Loop Rd Wilmington, NC 28411
Sent from my iPad

Gregson, Jim

From: Karen Hamilton <khamilton2188@yahoo.com>
Sent: Friday, January 25, 2019 9:38 AM
To: SVC_DENR.publiccomments
Subject: [External] Duke energy clean up

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to report.spam@nc.gov<<mailto:report.spam@nc.gov>>

Duke energy needs to clean up the coal ash in North Carolina. They have had five years to do this and have failed to complete the project. Clean water and a healthy environment for our children and grandchildren are imperative. Duke Energy's money and political power in this state should not excuse them from these detrimental conditions they continue to allow.

I am just a concerned citizen and not affiliated with any group.

Karen Hamilton 2188 Scotts Hill Loop Rd Wilmington, NC 28411 Sent from my iPad

Gregson, Jim

From: Sue Skoda <sue.mort1228@yahoo.com>
Sent: Thursday, January 24, 2019 4:01 PM
To: SVC_DENR.publiccomments
Subject: [External] Sutton Variance Request

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to report.spam@nc.gov

Hello Ellen Lorscheider,

I read the article "Duke could get coal ash extension" in the Star News on January 16. I had no idea and there was no advertisement regarding the Monday's hearing open to the public.

I am writing to comment that the extension should NOT be granted to February 1 of 2020. The reasons being that Duke had 5 years, under the 2014 Coal Ash Management Act, to close the "high priority" basins at Sutton and did not do so in a planned timely or emergent manner. They are well aware that our state is in the hurricane belt and major storms would impact this clean up at any time and yet, they waited until the storms came.

It's unfortunate that the weather was not cooperative with two hurricanes but, the longer these basins are left, the more contamination of our water, air and overall environment. Yes, another hurricane can impact us again this season and that is why these closures need to happen as soon as possible. This should not be debatable but closures mandated for the safety and welfare of our people and environment.

I strongly encourage the DEQ to examine that this variance request should not be allowed. Who can say that they will not ask for another extension in February 2020 thus again, risking the lives, health and welfare of everyone.

Thank you for the opportunity to express my strong health and community values. I hope that DEQ will do the right thing for the safety of its people and not a corporation.

Sue Skoda, RN, MSN

AFFIDAVIT OF WILLIAM R. FEDORKA

STATE OF SOUTH CAROLINA §
 §
COUNTY OF LEXINGTON §

On this date personally appeared before me the undersigned authority William R. Fedorka who, having been placed under oath, testified as follows:

1. "My name is William R. Fedorka. I am over 21 years of age. I suffer from no legal disability and I have personal knowledge of all facts stated herein.
2. I am a Vice President of The SEFA Group, Inc., a South Carolina corporation ("SEFA"). I have been employed by SEFA since 2005.
3. SEFA owns and operates a STAR fly ash beneficiation facility located at the Winyah Generating Station operated by Santee Cooper in Georgetown, SC (the "Winyah STAR"). The Winyah STAR was commissioned for operations in April, 2015.
4. As originally designed, the Winyah STAR was intended to generate 250,000 tons per year of beneficiated fly ash under normal operations. As a result of modifications to dryer systems, the current design parameters for normal operations have increased to 275,000 tons per year of beneficiated ash.
5. Based on an assumed average loss on ignition ("LOI") factor of 9% for dried feed ash introduced to the Winyah STAR, the annual feed ash tons to be processed by the Winyah STAR would be approximately 275,000 tons under the original 250,000 ton design specification and approximately 300,000 tons under the revised 275,000 ton design specification.
6. As originally designed, the Winyah STAR specifications assumed that 33% of the ash to be processed in the facility would be supplied directly from operations at the Winyah Generating Station and 67% of the ash to be processed in the facility would be supplied from impoundments located at the Winyah Generating Station or elsewhere in the Santee Cooper system.

7. For 2019, approximately 20% of the ash processed in the Winyah STAR was supplied directly from operations at the Winyah Generating Station, and 80% of the ash processed in the Winyah STAR was supplied from impoundments located at the Winyah Generating Station.

8. The Winyah STAR was constructed at a then-existing facility which used a beneficiation technology different from STAR technology. Significant infrastructure from the previous facility unrelated to the beneficiation technology was retained and reused in the Winyah STAR. Retained infrastructure included a storage dome, a load out silo, truck load outs, a baghouse, ID fan, gas coolers, control room and elements of electrical equipment. The reuse of existing infrastructure lowered the overall cost of construction of the Winyah STAR.

Further affiant sayeth naught."



WILLIAM R. FEDORKA

SUBSCRIBED AND SWORN TO BEFORE ME on the 24 day of April,
2020, to certify which witness my hand and official seal.



Notary Public, State of South Carolina



City of Eden

Public Staff Redirect 23
Public Staff 57

Department of Public Utilities – Wastewater Treatment

October 23, 2018

Michael Lanning
GM II – Regulated Stations
864 S. Edgewood Rd.
Eden, N.C. 27288

Subject: Dan River Steam Station-IUP #1013-Revision
Approval of increase in daily flow.

Dear Mr. Lanning,

On October 15, 2018, Duke Energy Carolinas LLC (Duke Energy) requested approval of an increase in the daily flow of 0.5 MGD to 0.6 MGD.

After review of the Effluent limits and monitoring requirements and past Effluent data that Duke Energy has submitted, the City of Eden grants approval for this increase in flow effective this date. However, we had to decrease the limits for Molybdenum and Arsenic in order to stay consistent with the poundage that is being contributed. These changes will be revised in the current permit. Thank you for your patience.

Should you have any questions, please contact me at 336-627-1009 ext.103 or email cpowell@edennc.us.

Sincerely,

A handwritten signature in black ink that reads 'Chris Powell'.

Chris Powell
Pretreatment Supervisor

Cc: Brad Corcoran, City Manager
Terry Shelton, Public Utilities Director
Melinda Ward, Wastewater Plant Superintendent
Dana Newcomb, ORC



City of Eden

Department of Public Utilities – Wastewater Treatment

Permit No. 1013
Leachate from Landfill & Ash Basin

To Discharge Wastewater under the Industrial Pretreatment Program

In compliance with the provisions of North Carolina General Statute 143-215.1, any applicable federal categorical pretreatment regulations, all other lawful standards, and regulations promulgated and adopted by the North Carolina Environmental Management Commission and the City of Eden Sewer Use Ordinance, Chapter 16-150. The following Industry, hereafter referred to by name or as the permittee:

Industry name, permittee:
Duke Energy, Dan River Combined Cycle Station
Facility Located at Street Address
864 South Edgewood Road
City State, Zip
Eden, North Carolina 27288

Is hereby authorized to discharge wastewater from the facility located at the above listed address into the sanitary sewer collection system and the wastewater treatment facility of the Control Authority and/or Municipality listed below:

IUP Control Authority and/or Municipality WWTP name:
City of Eden's Mebane Bridge WWTP
NPDES Number:
NC0025071
WWTP Address:
204 Mebane Bridge Road
City, State, Zip
Eden, NC 27288

In accordance with effluent limitations, monitoring requirements, and all other conditions set forth in Parts I, II, and III of this Industrial User Pretreatment Permit (IUP).

Effective date, this permit and the authorization to discharge shall become effective at midnight on this date:
October 23, 2018
Expiration date, this permit and the authorization to discharge shall expire at midnight on this date:
February 28, 2019

Signed this the 23rd day of October 2018.

A handwritten signature in cursive script that reads 'Melinda S. Ward'.

Melinda S. Ward
Wastewater Superintendent
By Authority of the City Council of the City of Eden

PART I

Specific Conditions

IUP, PART I, OUTLINE:

- A.) IUP Basic Information
- B.) IUP Modification History
- C.) Authorization Statement
- D.) Description of Discharges
- E.) Schematic and Monitoring Locations
- F.) Effluent Limits & Monitoring Requirements
- G.) Definitions and Limit Page(s) notes

A. IUP Basic Information:

Receiving Control Authority & WWTP name: City of Eden WWTP	POTW NPDES #: NC0025071
IUP Name: Duke Energy, Dan River Combined Cycle Station	IUP Number: 1013
IUP Effective date: October 23, 2018	Pipe Numbers, list all regulated pipes: 001
IUP Expiration date: February 28, 2019	IUP 40 CFR #: 423.16

B. IUP History:

Effective Date	Renewal or Modification	Description of changes over previous IUP.
5/22/2016	Permit issued	None
1/25/2017	Expiration Date Changed	February 28, 2018
7/12/2017	Permit Modification	Molybdenum limit changed from 0.1 mg/L to 1.0 mg/L
2/7/2018	Permit Modification	Granted approval of an Ultra Filtration System for the removal of arsenic effective immediately. Added additional information about bag filter
3/1/18	Permit Renewal	Removed some parameters, changed limits from daily max to monthly average, and increased daily flow.
4/25/18	Permit Modification	Granted Approval of a second Ultra Filtration System.
10/23/18	Permit Modification	Increased daily flow from 0.5 MGD to 0.6 MGD, decreased limits for Arsenic and Molybdenum. Updated flow diagram.

C.) Authorization Statement:

- 1.) The Permittee is hereby authorized to discharge wastewater in accordance with the effluent limitations, monitoring requirements, and all other conditions set forth in this Industrial User Pretreatment Permit (IUP) into the sewer collection system and wastewater treatment facility of the City of Eden.
- 2.) The Permittee is hereby authorized to continue operation of and discharge wastewater from the following treatment or pretreatment facilities. These facilities must correspond to the treatment units listed on both the application and inspection forms.

IU Treatment Units	
List all Treatment Units:	Descriptions:
- Ultra Filtration System (2)	-Pretreatment system designed for the removal of Arsenic from the water generated from the dewatering wells in the primary basin.
-Bag Filter	-Filters out sediment.

- 3.) The Permittee is hereby authorized to, if required by the City of Eden and after receiving Authorization to Construct (A to C) from the City of Eden, construct and operate additional pretreatment units as needed to meet final effluent limitations.

D.) Description of IUP Discharge:

1. Describe the discharge(s) from all regulated pipes.

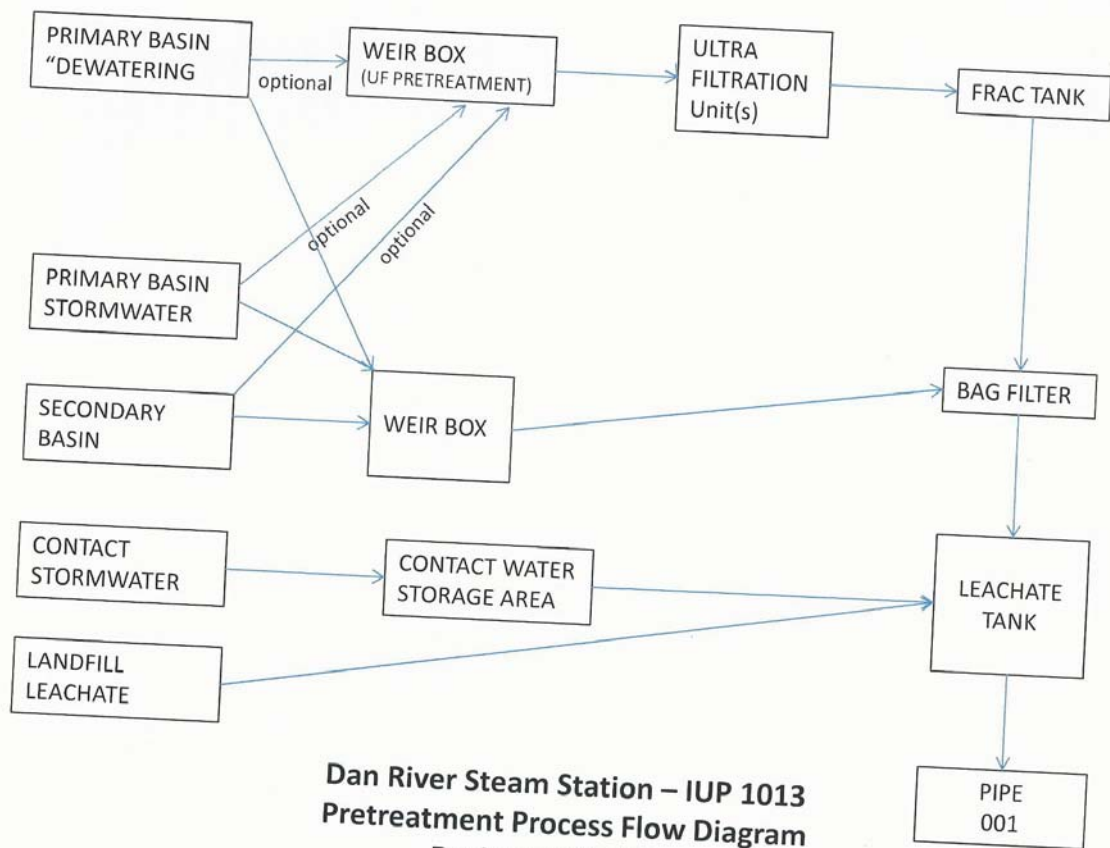
Pipe # <u>001</u> , Description of Discharge: Discharge is from the existing ash basin, the contact storm water from the northeast side of the property, which includes the area around the ash stacks and powerhouse, as well as leachate from the new landfill for the existing coal ash.
--

E.) Schematic and Monitoring Locations:

The facility schematic and description of monitoring location given below must show enough detail such that someone unfamiliar with the facility could readily find and identify the monitoring location and connection to the sewer. Include and identify all regulated pipes.

PIPE DESCRIPTION

Discharge of wastewater generated by all industrial processes from all sources at the facility. The drawing shows the location of Discharge Pipe 001.



Dan River Steam Station – IUP 1013
Pretreatment Process Flow Diagram
Revision 8/20/2018

**IUP, Part 1 Section F:
Effluent Limits and Monitoring Requirements
Categorical 423.16 – Combustion Residual Leachate from Landfills, Pretreatment Standards
Existing Source (PSES)**

The Permittee may discharge from Pipe 001 effective immediately and lasting until the expiration of this permit for all existing sources. This discharge shall be limited and monitored as specified below.

		Concentration Limits			Monitoring Frequency		Sample Collection Method (C or G)	Required Laboratory Detection Level
		Daily Max	Monthly Average	Units	By Industry	By POTW		
1	Flow	0.6		MGD	Daily	1/6 months	Meter	
2	BOD	Monitor		mg/L	Monthly	1/6 months	Composite	2 mg/L
3	TSS	Monitor		mg/L	Monthly	1/6 months	Composite	2 mg/L
4	pH	6-11		SU	Weekly	1/6 months	Grab	
5	Temperature	40		C	Monthly	1/6 months	Grab	
OTHER PARAMETERS: Please List Alphabetically								
6	Arsenic		0.2	mg/L	1/Monthly	1/6 months	Composite	0.01 mg/L
7	Antimony		0.10	mg/L	1/Monthly	1/6 months	Composite	0.001 mg/L
8	Cadmium		Monitor	mg/L	1/Monthly	1/6 months	Composite	0.001 mg/L
9	Chromium		Monitor	mg/L	1/Monthly	1/6 months	Composite	0.005 mg/L
10	Lead		Monitor	mg/L	1/Monthly	1/6 months	Composite	0.005 mg/L
11	Mercury *		Monitor	ng/L	1/Monthly	1/6 months	Grab	2.5 ng/L
12	Molybdenum		0.5	mg/L	1/Monthly	1/6 months	Composite	0.005 mg/L
13	Nickel		Monitor	mg/L	1/Monthly	1/6 months	Composite	0.005 mg/L
14	Selenium		Monitor	mg/L	1/Monthly	1/6 months	Composite	0.01mg/L
15	Zinc		Monitor	mg/L	1/Monthly	1/6 months	Composite	0.01 mg/L

* Low Level Mercury Analytical Method: EPA 1631E

** No PCBs are allowed in discharge at any time.

G.) Definitions and Limit Pages notes:

In addition to the definitions in the City of Eden's Sewer Use Ordinance, the following definitions and requirements apply:

- Composite Sample:**
Unless defined differently below, a composite sample for the monitoring requirements of this IUP, is defined as the automatic or manual collection of one grab sample of constant volume, not less than 100 ml, collected every hour during the entire discharge period on the sampling day. Sampling day shall be a typical production, and discharge day.
- Daily Monitoring Frequency**
Daily Monitoring Frequency as specified in this IUP shall mean each day of discharge.
- Grab Sample**
Grab sample for the monitoring requirements of this IUP is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
- Instantaneous measurement**
An Instantaneous measurement for the monitoring requirements of this IUP is defined as a single reading, observation, or measurement.

PART II

General Conditions

Outline of PART II,

- | | |
|--|--|
| 1. Representative Sampling | 16. Federal and/or State Laws |
| 2. Reporting | 17. Penalties |
| 3. Test Procedures | 18. Need to Halt or Reduce |
| 4. Additional Monitoring by Permittee | 19. Transferability |
| 5. Duty to comply | 20. Property Rights |
| 6. Duty to Mitigate | 21. Severability |
| 7. Facilities Operation, Bypass | 22. Modification, Revocation, Termination |
| 8. Removed substances | 23. Reapplication |
| 9. Upset Conditions | 24. Dilution Prohibition |
| 10. Right of Entry | 25. Reports of Changed Conditions |
| 11. Availability of Records | 26. Construction of pretreatment facilities |
| 12. Duty to provide information | 27. Reopener |
| 13. Signatory Requirements | 28. Categorical Reopener |
| 14. Toxic Pollutants | 29. General Prohibitive Standards |
| 15. Civil and Criminal Liability | 30. Reports of Potential Problems |

1. **Representative Sampling**

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to, and approval by, the permit issuing authority.

2. **Reporting**

- a.) Monitoring results obtained by the permittee shall be reported on forms specified by the City of Eden, postmarked no later than the twentieth day of the month following the month in which the samples were taken. If no discharge occurs during a reporting period (herein defined as each calendar month) in which a sampling event was to have occurred, a form with the phrase "no discharge" shall be submitted. Copies of these and all other reports required herein shall be submitted to the Municipality and shall be sent to the following address:

City of Eden
Melinda S. Ward, Wastewater Superintendent
P. O. Box 70
Eden, NC 27289

- b.) If the sampling performed by the permittee indicates a violation, the permittee shall notify the Control Authority and/or Municipality within 24 hours of becoming aware of the violation. The permittee shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Control Authority and/or Municipality within 30 days after becoming aware of the violation.
- c.) If no self-monitoring is required by this IUP, and the sampling performed by the City of Eden indicates a violation, the City shall notify the permittee within 24 hours of becoming aware of the violation, and the permittee shall sample for the applicable parameter and submit the results of this analysis within 30 days after the POTW became aware of the violation.

3. **Test Procedures**

Test procedures for the analysis of pollutants shall be performed in accordance with the techniques prescribed in 40 CFR part 136 and amendments thereto unless specified otherwise in the monitoring conditions of this permit.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be submitted to the City of Eden. The City may require more frequent monitoring or the monitoring of other pollutants not required in this permit by written notification.

5. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the City of Eden's Sewer Use Ordinance and is grounds for possible enforcement action.

6. Duty to Mitigate - Prevention of Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health, the POTW, the waters receiving the POTW's discharge, or the environment.

7. Facilities Operation, Bypass

The permittee shall at all times maintain in good working order and operate as efficiently as possible, all control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Bypass of treatment facilities is prohibited except when approved in advance by the City of Eden. Bypass approval shall be given only when such bypass is in compliance with 40 CFR 403.17.

8. Removed Substances

Solids, sludge's, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from such materials from entering the sewer system. The permittee is responsible for assuring its compliance with any requirements regarding the generation, treatment, storage, and/or disposal of "Hazardous waste" as defined under the Federal Resource Conservation and Recovery Act.

9. Upset Conditions

An "upset" means an exceptional incident in which there is an unintentional and temporary noncompliance with the effluent limitations of this permit because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed or inadequate treatment facilities, lack of preventative maintenance, or careless or improper operations.

An upset may constitute an affirmative defense for action brought for the noncompliance. The permittee has the burden of proof to provide evidence and demonstrate that none of the factors specifically listed above were responsible for the noncompliance.

10. Right of Entry

The permittee shall allow the staff of the State of North Carolina Department of Environment and Natural Resources, Division of Water Resources, the Regional Administrator of the Environmental Protection Agency, the City of Eden, and/or their authorized representatives, upon the presentation of credentials:

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

2. At reasonable times to have access to and copy records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

11. Availability of Records and Reports

The permittee shall retain records of all monitoring information, including all calibration and maintenance records as well as copies of reports and information used to complete the application for this permit for at least five (5) years. All records that pertain to matters that are subject to any type of enforcement action shall be retained and preserved by the permittee until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

Except for data determined to be confidential under the Sewer Use Ordinance, all reports prepared in accordance with terms of this permit shall be available for public inspection at the City of Eden. As required by the Sewer Use Ordinance, effluent data shall not be considered confidential.

12. Duty to Provide Information

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

13. Signatory Requirements

All reports or information submitted pursuant to the requirements of this permit must be signed and certified by the Authorized Representative as defined under the Sewer Use Ordinance. If the designation of an Authorized Representative is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, or overall responsibility for environmental matters for the company, a new authorization satisfying the requirements of this section must be submitted to the Wastewater Superintendent prior to or together with any reports to be signed by an authorized representative.

14. Toxic Pollutants

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Federal Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit may be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

15. Civil and Criminal Liability

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

16. Federal and/or State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable Federal and/or State law or regulation.

17. Penalties

The Sewer Use Ordinance of the City of Eden provides that any person who violates a permit condition is subject to a civil penalty not to exceed \$25,000 dollars per day of such violation.

Under state law, (NCGS 143-215.6B), under certain circumstances it is a crime to violate terms, conditions, or requirements of pretreatment permits. It is a crime to knowingly make any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance. These crimes are enforced at the prosecutorial discretion of the local District Attorney.

18. Need to Halt or Reduce not a Defense

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

19. Transferability

This permit shall not be reassigned or transferred or sold to a new owner, new user, different premises, or a new or changed operation without approval of the City.

20. Property Rights

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

21. Severability

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

22. Permit Modification, Revocation, Termination

This permit may be modified, revoked and reissued or terminated with cause in accordance to the requirements of the City of Eden's Sewer Use Ordinance and North Carolina General Statute or implementing regulations.

23. Re-Application for Permit Renewal

The permittee is responsible for filing an application for reissuance of this permit at least 180 days prior to its expiration date.

24. Dilution Prohibition

The permittee shall not increase the use of potable or process water or in any other way attempt to dilute the discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in this permit.

25. Reports of Changed Conditions

The permittee shall give notice to the City of Eden of any planned significant changes to the permittee's operations or system which might alter the nature, quality, or volume of its wastewater at least 180 days before the change. The permittee shall not begin the changes until receiving written approval from the City. Also see Part II, 30 below for additional reporting requirements for spill/slug issues.

Significant changes may include but are not limited to

- (a) increases or decreases to production;
- (b) increases in discharge of previously reported pollutants;
- (c) discharge of pollutants not previously reported to the City; or
- (d) New or changed chemicals.

26. Construction

No construction of pretreatment facilities or additions thereto shall be begun until Final Plans and Specifications have been submitted to the City of Eden and written approval and an Authorization to Construct (A to C) have been issued.

27. Reopener

The permit shall be modified or, alternatively, revoked and reissued to comply with any applicable effluent standard or limitation for the control of any pollutant shown to contribute to toxicity of the WWTP effluent or any pollutant that is otherwise limited by the POTW discharge permit. The permit as modified or reissued under this paragraph may also contain any other requirements of State or Federal pretreatment regulations then applicable.

28. Categorical Reopener

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 302(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

- 1.) Contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
- 2.) Controls any pollutant not limited in this permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

29. General Prohibitive Standards

The permittee shall comply with the general prohibitive discharge standards in 40 CFR 403.5 (a) and (b) of the Federal pretreatment regulations.

30. Potential Problems

The permittee shall provide protection from accidental and slug discharges of prohibited materials and other substances regulated by this permit. The permittee shall also notify the POTW immediately of any changes at its facility affecting the potential for spills and other accidental discharge, discharge of a non-routine, episodic nature, a non-customary batch discharge, or a slug load as defined in the Sewer Use Ordinance.

Additionally, the permittee shall notify by telephone the City of Eden immediately of all discharges that could cause problems to the POTW including any slug loadings as defined in the Sewer Use Ordinance. If the permittee experiences such a discharge, they shall inform the City immediately upon the first awareness of the commencement of the discharge. Notification shall include location of the discharge, type of waste, concentration and volume if known and corrective actions taken by the permittee. A written follow-up report thereof shall be filed by the permittee within five (5) days, unless waived by the City.

PART III

Special Conditions

1. Slug/Spill Control Measures

Submit Slug/Spill Control Plan in accordance with SUO [Section 16-133]; Implement Upon POTW Approval. The permittee shall provide updates to the City as required by Part II, 30, of this IUP. Modifications to the measures shall be approved by the City prior to installation/implementation. If a measure fails, the City shall be notified within 24 hours.

2. Sludge Management Plan

Ninety days prior to the initial disposal of sludge generated by any pretreatment facility, the permittee shall submit a sludge management plan to the Control Authority.

3. Flow Measurement Requirements

The permittee shall maintain appropriate discharge flow measurement devices and methods consistent with approved scientific practices to ensure the accuracy and reliability of measurements of the volume of monitored discharges. Devices installed shall be a continuous recording flow meter capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes. The devices shall be installed, calibrated, and maintained to ensure accuracy. At the time of issuance of the permit, this method consists of ultrasound discharge flow meter for Pipe 001. The meter shall be calibrated every year and documentation submitted to the City within 15 days. Modifications to the flow metering equipment shall be approved by the City prior to installation. If a required flow measurement device fails, the City shall be notified within 24 hours.

4. Certified Laboratory Analysis

Pollutant analysis shall be performed by a North Carolina Division of Water Resources Certified Laboratory that is certified in the analysis of the pollutant in wastewater.

5. Certified Operator

Pursuant to Chapter 90A-44 of North Carolina General Statutes, and upon classification of the facility by the Certification Commission, the permittee shall employ a certified wastewater pretreatment plant operator in responsible charge (ORC) of the wastewater treatment facilities. Such operator must hold a certification of the type and grade equivalent to, or greater than the classification assigned to the wastewater treatment facilities by the Certification Commission. The permittee must also employ a certified backup operator of the appropriate type and grade to comply with the conditions of Title 15A, Chapter 8A .0202. The ORC of the facility must visit the wastewater facility as required; must properly manage and document daily operation and maintenance of the facility; and must comply with all other conditions of Title 15A, Chapter 8A .0202. The permittee shall submit a letter designating the operator in responsible charge to the Certification Commission or their designee within thirty days after facility classification.

6. Operation and Maintenance of Pretreatment Facilities

The permittee shall establish an operation and maintenance program for all pretreatment facilities sufficient to satisfy at a minimum the manufacturers' instructions and recommendations for all equipment. The City reserves the right to establish stricter operation and maintenance schedules of equipment if it deems necessary for the proper operations of the equipment. The permittee shall maintain a copy of the manufacturer's instructions at the facility permitted herein and shall maintain records of operation and maintenance events taken place sufficient to show compliance with such instructions.

7. Payment of User Charges

The permittee shall pay all user charges for City sewer services promptly upon receipt of regular bills as required in the City of Eden Code of Ordinance.

8. Code of Ordinance

The permittee shall comply with all sections of Chapter 16 of the City's Code of Ordinance unless otherwise specified in this permit.

IUP Synopsis

A. IUP Basic Information

Receiving POTW name: Mebane Bridge WWTP	POTW NPDES#: NC0025071
IUP name: Duke Power, Dan River Combined Cycle Station	IUP Number: 1013
IUP Effective date: October 23, 2018	Pipe Numbers, list all regulated pipes: 001
IUP expiration date: February 28, 2019	IUP 40 CFR#: 423.16

B. IUP Survey & Application form

Attached is a completed copy of the Industrial User Wastewater Survey & Application Form.

C. IU Inspection form

Attached is a copy of an Industrial User Inspection Form to be completed by the City within the next 12 months.

D. RATIONALE FOR LIMITATIONS:

As listed on the IUP Limits Pages, PART I, Section F of the IUP.

Review of IU Monitoring Data, with no Over Allocation situation:

The following pollutants were assigned numerical limits in this IUP based on a review of monitoring data for the permittee of stored wastewater to determine what ranges of concentrations could be discharged. To account for sample variability a factor was applied to the monitoring data to determine the permit limit. No parameters were above the 5% MAHL. Permit limits assigned by the City of Eden do not result in an Over Allocation situation for any pollutants.

Arsenic Antimony Molybdenum



Water Resources
ENVIRONMENTAL QUALITY

PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

S. JAY ZIMMERMAN

Director

May 5, 2016

Ms. Melinda Ward
Wastewater Superintendent
City of Eden
191 Mebane Bridge Road
Eden, NC 27288-5346

Subject: Pretreatment Review of Industrial User Pretreatment Permit
Program: City of Eden
NPDES Permit No: NC0025071
Rockingham County

Dear Ms. Ward:

The Pretreatment, Emergency Response, and Collection Systems (PERCS) Unit of the Division of Water Resources has reviewed the draft copy of Industrial User Pretreatment Permit (IUP) submitted by the City of Eden for the following Significant Industrial User (SIU). The draft IUP was initially received by the Division on March 14, 2016, followed by several revisions received on May 4, 2016.

IUP #	SIU
1013	Duke Energy, Dan River Combined Cycle Station

The review indicates that the IUP is adequate and the minimum requirements of 15A NCAC 2H .0905 and .0916 and 40 CFR 403.8(f)(1)(iii) are met. Please forward the signed copy of issued IUP, along with copy of transmittal letter to the industry and updated allocation table.

Federal and State pretreatment regulations require the local delegated pretreatment program to effectively control and document the discharge of wastewater from Significant/Categorical Industrial Users to the POTW. It is the POTW's responsibility to ensure that these objectives are consistently met.

Thank you for your continued cooperation with the Pretreatment Program. If you have any questions or comments, please contact Monti Hassan at (919) 807-6314 [email: Monti.Hassan@ncdenr.gov] or Deborah Gore, Unit Supervisor at (919) 807-6383 [email: Deborah.Gore@ncdenr.gov].

Sincerely,

A handwritten signature in black ink that reads 'Monti Hassan'.

Monti Hassan
Division of Water Resources

MH/eden.iup.new.022
CC: Monti Hassan, PERCS Unit
George Smith, Winston-Salem Regional Office
Central Files



CITY of EDEN, North Carolina

Permit No. 1013 Leachate from Landfill & Ash Basin

To Discharge Wastewater Under the Industrial Pretreatment Program

In compliance with the provisions of North Carolina General Statute 143-215.1, any applicable federal categorical pretreatment regulations, all other lawful standards, and regulations promulgated and adopted by the North Carolina Environmental Management Commission and the City of Eden Sewer Use Ordinance, Chapter 16-150. The following Industry, hereafter referred to by name or as the permittee:

Industry name, permittee:
Duke Energy, Dan River Combined Cycle Station
Facility Located at Street Address
864 South Edgewood Road
City State, Zip
Eden, North Carolina 27288

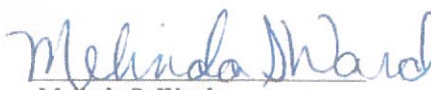
is hereby authorized to discharge wastewater from the facility located at the above listed address into the sanitary sewer collection system and the wastewater treatment facility of the Control Authority and/or Municipality listed below:

IUP Control Authority and/or Municipality WWTP name:
City of Eden's Mebane Bridge WWTP
NPDES Number:
NC0025071
WWTP Address:
204 Mebane Bridge Road
City, State, Zip
Eden, NC 27288

in accordance with effluent limitations, monitoring requirements, and all other conditions set forth in Parts I, II, and III of this Industrial User Pretreatment Permit (IUP).

Effective date, this permit and the authorization to discharge shall become effective at midnight on this date.
May 22, 2016
Expiration date, this permit and the authorization to discharge shall expire at midnight on this date
August 31, 2017

Signed this the 20th day of May 2016.


Melinda S. Ward
Wastewater Superintendent
By Authority of the City Council
of the City of Eden

PERMIT 1013
PAGE 2

PART I
Specific Conditions

IUP, PART I, OUTLINE:

- A.) IUP Basic Information
- B.) IUP Modification History
- C.) Authorization Statement
- D.) Description of Discharges
- E.) Schematic and Monitoring Locations
- F.) Effluent Limits & Monitoring Requirements
- G.) Definitions and Limit Page(s) notes

A. IUP Basic Information:

Receiving Control Authority & WWTP name: City of Eden WWTP	POTW NPDES #: NC0025071
IUP Name: Duke Energy, Dan River Combined Cycle Station	IUP Number: 1013
IUP Effective date: May 22, 2016	Pipe Numbers, list all regulated pipes: 001
IUP Expiration date: August 31, 2017	IUP 40 CFR #: 423.16

B. IUP History:

Effective Date	Renewal or Modification	Description of changes over previous IUP.
5/22/2016	Permit issued	None

C.) Authorization Statement:

- 1.) The Permittee is hereby authorized to discharge wastewater in accordance with the effluent limitations, monitoring requirements, and all other conditions set forth in this Industrial User Pretreatment Permit (IUP) into the sewer collection system and wastewater treatment facility of the City of Eden.
- 2.) The Permittee is hereby authorized to continue operation of and discharge wastewater from the following treatment or pretreatment facilities. These facilities must correspond to the treatment units listed on both the application and inspection forms.

IU Treatment Units	
List all Treatment Units:	Descriptions:
None	

- 3.) The Permittee is hereby authorized to, if required by the City of Eden and after receiving Authorization to Construct (A to C) from the City of Eden, construct and operate additional pretreatment units as needed to meet final effluent limitations.

D.) Description of IUP Discharge:

1. Describe the discharge(s) from all regulated pipes.

Pipe # 001, Description of Discharge: Discharge is from the existing ash basin, the contact storm water from the northeast side of the property, which includes the area around the ash stacks and powerhouse, as well as leachate from the new landfill for the existing coal ash.
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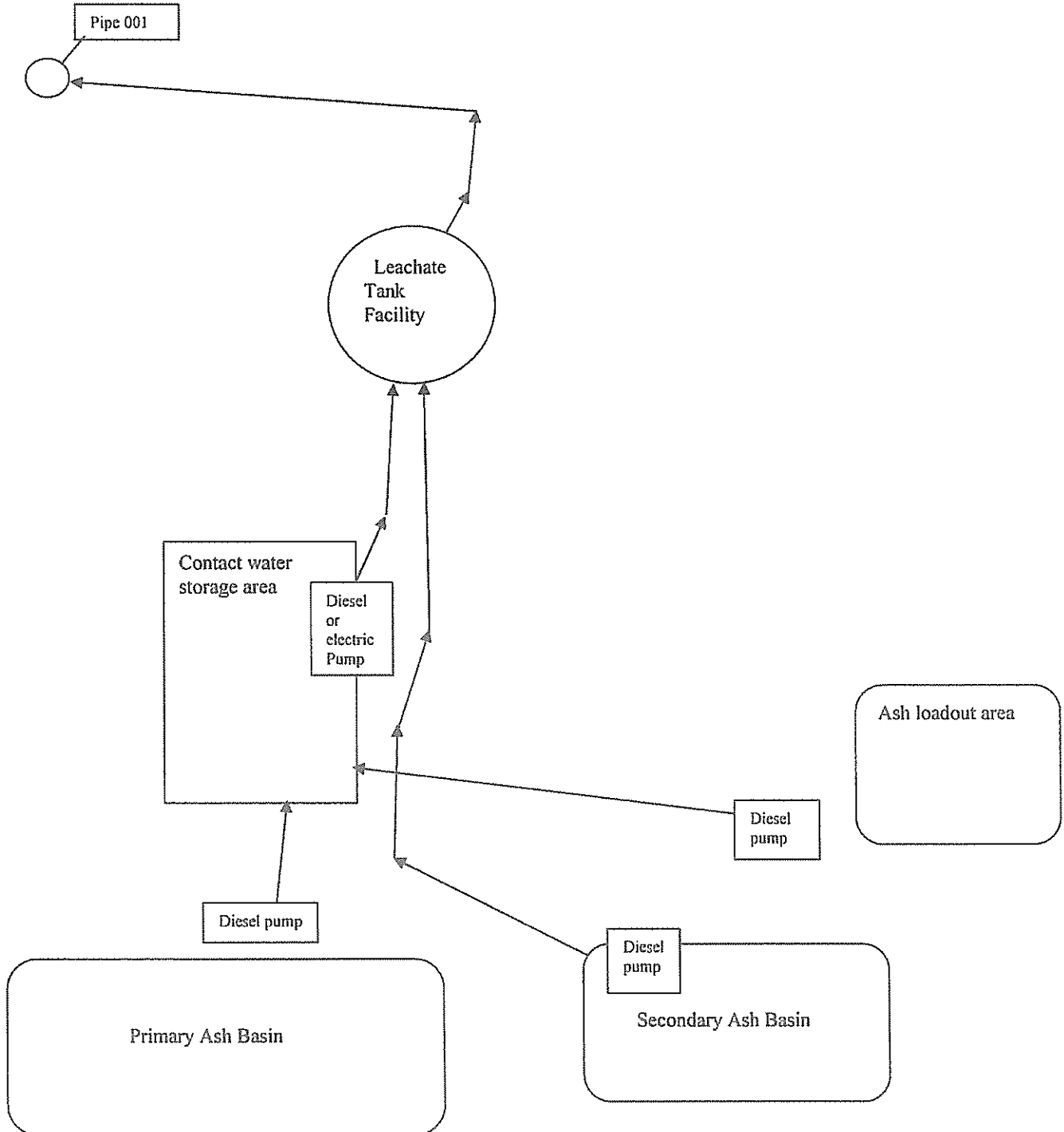
E.) Schematic and Monitoring Locations:

The facility schematic and description of monitoring location given below must show enough detail such that someone unfamiliar with the facility could readily find and identify the monitoring location and connection to the sewer. Include and identify all regulated pipes.

PERMIT 1013
PAGE 4

PIPE DESCRIPTION

Discharge of wastewater generated by all industrial processes from all sources at the facility. The drawing shows the location of Discharge Pipe 001.



PERMIT 1013
PAGE 5**IUP, Part 1 Section F:****Effluent Limits and Monitoring Requirements****Categorical 423.16 – Combustion Residual Leachate from Landfills, Pretreatment Standards Existing Source (PSES)**

The Permittee may discharge from Pipe 001 effective immediately and lasting until the expiration of this permit for all existing sources. This discharge shall be limited and monitored as specified below.

		Concentration Limits			Monitoring Frequency		Sample Collection Method (C or G)	Required Laboratory Detection Level
		Daily Max	Monthly Average	Units	By Industry	By POTW		
1	Flow	0.3		MGD	Daily	1/6 months	Meter	
2	BOD	Monitor		mg/L	Monthly	1/6 months	Composite	2 mg/L
3	TSS	Monitor		mg/L	Monthly	1/6 months	Composite	2 mg/L
4	pH	6-11		SU	Weekly	1/6 months	Grab	
5	Temperature	40		C	Monthly	1/6 months	Grab	

OTHER PARAMETERS: Please List Alphabetically

6	Ammonia	Monitor		mg/L	*1/Monthly	1/6 months	Composite	0.1 mg/L
7	Arsenic	0.30		mg/L	*1/Monthly	1/6 months	Composite	0.01 mg/L
8	Antimony	0.10		mg/L	*1/Monthly	1/6 months	Composite	0.001 mg/L
9	Cadmium	0.10		mg/L	*1/Monthly	1/6 months	Composite	0.001 mg/L
10	Chromium	1.34		mg/L	*1/Monthly	1/6 months	Composite	0.005 mg/L
11	Copper	1.36		mg/L	*1/Monthly	1/6 months	Composite	0.005 mg/L
12	Cyanide	0.24		mg/L	*1/Monthly	1/6 months	Grab	0.008 mg/L
13	Lead	0.21		mg/L	*1/Monthly	1/6 months	Composite	0.005 mg/L
14	Mercury**	117		ng/L	*1/Monthly	1/6 months	Grab	2.5 ng/L
15	Molybdenum	0.10		mg/L	*1/Monthly	1/6 months	Composite	0.005 mg/L
16	Nickel	0.18		mg/L	*1/Monthly	1/6 months	Composite	0.005 mg/L
17	Selenium	0.37		mg/L	*1/Monthly	1/6 months	Composite	0.01 mg/L
18	Silver	0.43		mg/L	*1/Monthly	1/6 months	Composite	0.005 mg/L
19	Sulfide	92.5		mg/L	*1/Monthly	1/6 months	Grab	0.10 mg/L
20	Zinc	2.61		mg/L	*1/Monthly	1/6 months	Composite	0.01 mg/L
21	PCB ***	Monitor		µg/L	1/5 years			0.5 µg/L
22	624/625	Monitor		mg/L	1/5 years			

* The first sampling event of the sample requirement is to take place in the first week of discharge.

** Low Level Mercury Analytical Method: EPA 1631E

*** No PCBs are allowed in discharge at any time.

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PAGE 6

G.) Definitions and Limit Pages notes:

In addition to the definitions in the City of Eden's Sewer Use Ordinance, the following definitions and requirements apply:

1. **Composite Sample:**
Unless defined differently below, a composite sample for the monitoring requirements of this IUP, is defined as the automatic or manual collection of one grab sample of constant volume, not less than 100 ml, collected every hour during the entire discharge period on the sampling day. Sampling day shall be a typical production, and discharge day.
2. **Daily Monitoring Frequency**
Daily Monitoring Frequency as specified in this IUP shall mean each day of discharge.
3. **Grab Sample**
Grab sample for the monitoring requirements of this IUP is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
4. **Instantaneous measurement**
An Instantaneous measurement for the monitoring requirements of this IUP is defined as a single reading, observation, or measurement.

PART II

General Conditions

Outline of PART II,

- | | |
|---------------------------------------|---|
| 1. Representative Sampling | 16. Federal and/or State Laws |
| 2. Reporting | 17. Penalties |
| 3. Test Procedures | 18. Need to Halt or Reduce |
| 4. Additional Monitoring by Permittee | 19. Transferability |
| 5. Duty to comply | 20. Property Rights |
| 6. Duty to Mitigate | 21. Severability |
| 7. Facilities Operation, Bypass | 22. Modification, Revocation, Termination |
| 8. Removed substances | 23. Reapplication |
| 9. Upset Conditions | 24. Dilution Prohibition |
| 10. Right of Entry | 25. Reports of Changed Conditions |
| 11. Availability of Records | 26. Construction of pretreatment facilities |
| 12. Duty to provide information | 27. Reopener |
| 13. Signatory Requirements | 28. Categorical Reopener |
| 14. Toxic Pollutants | 29. General Prohibitive Standards |
| 15. Civil and Criminal Liability | 30. Reports of Potential Problems |

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other wastestream, body of water, or substance. Monitoring points shall not be changed without notification to, and approval by, the permit issuing authority.

2. Reporting

- a.) Monitoring results obtained by the permittee shall be reported on forms specified by the City of Eden, postmarked no later than the twentieth day of the month following the month in which the samples were taken. If no discharge occurs during a reporting period (herein defined as each calendar month) in which a sampling event was to have occurred, a form with the phrase "no discharge" shall be submitted. Copies of these and all other reports required herein shall be submitted to the Municipality and shall be sent to the following address:

City of Eden
Melinda S. Ward, Wastewater Superintendent
P. O. Box 70
Eden, NC 27289

- b.) If the sampling performed by the permittee indicates a violation, the permittee shall notify the Control Authority and/or Municipality within 24 hours of becoming aware of the violation. The permittee shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Control Authority and/or Municipality within 30 days after becoming aware of the violation.
- c.) If no self-monitoring is required by this IUP, and the sampling performed by the City of Eden indicates a violation, the City shall notify the permittee within 24 hours of becoming aware of the violation, and the permittee shall sample for the applicable parameter and submit the results of this analysis within 30 days after the POTW became aware of the violation.

PERMIT 1013

PAGE 8

3. Test Procedures

Test procedures for the analysis of pollutants shall be performed in accordance with the techniques prescribed in 40 CFR part 136 and amendments thereto unless specified otherwise in the monitoring conditions of this permit.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be submitted to the City of Eden. The City may require more frequent monitoring or the monitoring of other pollutants not required in this permit by written notification.

5. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the City of Eden's Sewer Use Ordinance and is grounds for possible enforcement action.

6. Duty to Mitigate - Prevention of Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health, the POTW, the waters receiving the POTW's discharge, or the environment.

7. Facilities Operation, Bypass

The permittee shall at all times maintain in good working order and operate as efficiently as possible, all control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Bypass of treatment facilities is prohibited except when approved in advance by the City of Eden. Bypass approval shall be given only when such bypass is in compliance with 40 CFR 403.17.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from such materials from entering the sewer system. The permittee is responsible for assuring its compliance with any requirements regarding the generation, treatment, storage, and/or disposal of "Hazardous waste" as defined under the Federal Resource Conservation and Recovery Act.

9. Upset Conditions

An "upset" means an exceptional incident in which there is an unintentional and temporary noncompliance with the effluent limitations of this permit because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed or inadequate treatment facilities, lack of preventative maintenance, or careless or improper operations.

An upset may constitute an affirmative defense for action brought for the noncompliance. The permittee has the burden of proof to provide evidence and demonstrate that none of the factors specifically listed above were responsible for the noncompliance.

10. Right of Entry

The permittee shall allow the staff of the State of North Carolina Department of Environment and Natural Resources, Division of Water Resources, the Regional Administrator of the Environmental Protection Agency, the City of Eden, and/or their authorized representatives, upon the presentation of credentials:

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

2. At reasonable times to have access to and copy records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

11. Availability of Records and Reports

The permittee shall retain records of all monitoring information, including all calibration and maintenance records as well as copies of reports and information used to complete the application for this permit for at least five (5) years. All records that pertain to matters that are subject to any type of enforcement action shall be retained and preserved by the permittee until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

Except for data determined to be confidential under the Sewer Use Ordinance, all reports prepared in accordance with terms of this permit shall be available for public inspection at the City of Eden. As required by the Sewer Use Ordinance, effluent data shall not be considered confidential.

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

13. Signatory Requirements

All reports or information submitted pursuant to the requirements of this permit must be signed and certified by the Authorized Representative as defined under the Sewer Use Ordinance. If the designation of an Authorized Representative is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, or overall responsibility for environmental matters for the company, a new authorization satisfying the requirements of this section must be submitted to the Wastewater Superintendent prior to or together with any reports to be signed by an authorized representative.

14. Toxic Pollutants

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Federal Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit may be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

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

16. Federal and/or State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable Federal and/or State law or regulation.

17. Penalties

The Sewer Use Ordinance of the City of Eden provides that any person who violates a permit condition is subject to a civil penalty not to exceed \$25,000 dollars per day of such violation.

PERMIT 1013

PAGE 10

Under state law, (NCGS 143-215.6B), under certain circumstances it is a crime to violate terms, conditions, or requirements of pretreatment permits. It is a crime to knowingly make any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance. These crimes are enforced at the prosecutorial discretion of the local District Attorney.

18. Need to Halt or Reduce not a Defense

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

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This permit shall not be reassigned or transferred or sold to a new owner, new user, different premises, or a new or changed operation without approval of the City.

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

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

22. Permit Modification, Revocation, Termination

This permit may be modified, revoked and reissued or terminated with cause in accordance to the requirements of the City of Eden's Sewer Use Ordinance and North Carolina General Statute or implementing regulations.

23. Re-Application for Permit Renewal

The permittee is responsible for filing an application for reissuance of this permit at least 180 days prior to its expiration date.

24. Dilution Prohibition

The permittee shall not increase the use of potable or process water or in any other way attempt to dilute the discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in this permit.

25. Reports of Changed Conditions

The permittee shall give notice to the City of Eden of any planned significant changes to the permittee's operations or system which might alter the nature, quality, or volume of its wastewater at least 180 days before the change. The permittee shall not begin the changes until receiving written approval from the City. Also see Part II, 30 below for additional reporting requirements for spill/slug issues.

Significant changes may include but are not limited to

- (a) increases or decreases to production;
- (b) increases in discharge of previously reported pollutants;
- (c) discharge of pollutants not previously reported to the City; or
- (d) new or changed chemicals.

26. Construction

No construction of pretreatment facilities or additions thereto shall be begun until Final Plans and Specifications have been submitted to the City of Eden and written approval and an Authorization to Construct (A to C) have been issued.

27. Reopener

The permit shall be modified or, alternatively, revoked and reissued to comply with any applicable effluent standard or limitation for the control of any pollutant shown to contribute to toxicity of the WWTP effluent or any pollutant that is otherwise limited by the POTW discharge permit. The permit as modified or reissued under this paragraph may also contain any other requirements of State or Federal pretreatment regulations then applicable.

28. Categorical Reopener

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 302(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

- 1.) contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
- 2.) controls any pollutant not limited in this permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

29. General Prohibitive Standards

The permittee shall comply with the general prohibitive discharge standards in 40 CFR 403.5 (a) and (b) of the Federal pretreatment regulations.

30. Potential Problems

The permittee shall provide protection from accidental and slug discharges of prohibited materials and other substances regulated by this permit. The permittee shall also notify the POTW immediately of any changes at its facility affecting the potential for spills and other accidental discharge, discharge of a non-routine, episodic nature, a non-customary batch discharge, or a slug load as defined in the Sewer Use Ordinance.

Additionally, the permittee shall notify by telephone the City of Eden immediately of all discharges that could cause problems to the POTW including any slug loadings as defined in the Sewer Use Ordinance. If the permittee experiences such a discharge, they shall inform the City immediately upon the first awareness of the commencement of the discharge. Notification shall include location of the discharge, type of waste, concentration and volume if known and corrective actions taken by the permittee. A written follow-up report thereof shall be filed by the permittee within five (5) days, unless waived by the City.

PERMIT 1013
PAGE 12

PART III

Special Conditions

1. Slug/Spill Control Measures

Submit Slug/Spill Control Plan in accordance with SUO [Section 16-133]; Implement Upon POTW Approval.

The permittee shall provide updates to the City as required by Part II, 30, of this IUP. Modifications to the measures shall be approved by the City prior to installation/implementation. If a measure fails, the City shall be notified within 24 hours.

2. Sludge Management Plan

Ninety days prior to the initial disposal of sludge generated by any pretreatment facility, the permittee shall submit a sludge management plan to the Control Authority.

3. Flow Measurement Requirements

The permittee shall maintain appropriate discharge flow measurement devices and methods consistent with approved scientific practices to ensure the accuracy and reliability of measurements of the volume of monitored discharges. Devices installed shall be a continuous recording flow meter capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes. The devices shall be installed, calibrated, and maintained to ensure accuracy. At the time of issuance of the permit, this method consists of ultrasound discharge flow meter for Pipe 001. The meter shall be calibrated every year and documentation submitted to the City within 15 days. Modifications to the flow metering equipment shall be approved by the City prior to installation. If a required flow measurement device fails, the City shall be notified within 24 hours.

4. Certified Laboratory Analysis

Pollutant analysis shall be performed by a North Carolina Division of Water Resources Certified Laboratory that is certified in the analysis of the pollutant in wastewater.

5. Certified Operator

Pursuant to Chapter 90A-44 of North Carolina General Statutes, and upon classification of the facility by the Certification Commission, the permittee shall employ a certified wastewater pretreatment plant operator in responsible charge (ORC) of the wastewater treatment facilities. Such operator must hold a certification of the type and grade equivalent to, or greater than the classification assigned to the wastewater treatment facilities by the Certification Commission. The permittee must also employ a certified backup operator of the appropriate type and grade to comply with the conditions of Title 15A, Chapter 8A .0202. The ORC of the facility must visit the wastewater facility as required; must properly manage and document daily operation and maintenance of the facility; and must comply with all other conditions of Title 15A, Chapter 8A .0202. The permittee shall submit a letter designating the operator in responsible charge to the Certification Commission or their designee within thirty days after facility classification.

6. Operation and Maintenance of Pretreatment Facilities

The permittee shall establish an operation and maintenance program for all pretreatment facilities sufficient to satisfy at a minimum the manufacturers' instructions and recommendations for all equipment. The City reserves the right to establish stricter operation and maintenance schedules of equipment if it deems necessary for the proper operations of the equipment. The permittee shall maintain a copy of the manufacturer's instructions at

the facility permitted herein and shall maintain records of operation and maintenance events taken place sufficient to show compliance with such instructions.

7. Payment of User Charges

The permittee shall pay all user charges for City sewer services promptly upon receipt of regular bills as required in the City of Eden Code of Ordinance.

8. Code of Ordinance

The permittee shall comply with all sections of Chapter 16 of the City's Code of Ordinance unless otherwise specified in this permit.

PERMIT 1013
PAGE 14

IUP Synopsis

A. IUP Basic Information

Receiving POTW name: Mebane Bridge WWTP	POTW NPDES#: NC0025071
IUP name: Duke Power, Dan River Combined Cycle Station	IUP Number: 1013
IUP Effective date: May 22, 2016	Pipe Numbers, list all regulated pipes: 001
IUP expiration date: August 31, 2017	IUP 40 CFR#: 423.16

B. IUP Survey & Application form

Attached is a completed copy of the Industrial User Wastewater Survey & Application Form.

C. IU Inspection form

Attached is a copy of an Industrial User Inspection Form to be completed by the City within the next 12 months.

D. RATIONALE FOR LIMITATIONS:

As listed on the IUP Limits Pages, PART I, Section F of the IUP.

Review of IU Monitoring Data, with no Over Allocation situation:

The following pollutants were assigned numerical limits in this IUP based on a review of monitoring data for the permittee of stored wastewater to determine what ranges of concentrations could be discharged. To account for sample variability a factor was applied to the monitoring data to determine the permit limit. No parameters were above the 5% MAHL. Permit limits assigned by the City of Eden do not result in an Over Allocation situation for any pollutants.

Arsenic
Antimony
Cadmium
Chromium
Copper
Cyanide
Lead
Mercury
Molybdenum
Nickel
Selenium
Silver
Sulfide
Zinc

DEC
Roy Cooper No. E-7, Sub 1214
ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
LINDA CULPEPPER
Director



NORTH CAROLINA
Environmental Quality

Public Staff Garrett and Moore Redirect Exhibit No. 2
Page 30 of 55

December 20, 2018

Mr. Paul Draovitch, Senior Vice President
Environmental, Health and Safety
Duke Energy Carolinas, LLC
Mail Code EC13K
P.O. Box 1006
Charlotte, North Carolina 28201-1006

RECEIVED
JAN 02 2019
BY: *P. Draovitch*
C. fuel

Subject: Final NPDES Permit Modification
Permit NC0003468
Dan River Combined Cycle Station
Rockingham County
Grade I PCWPCS

Dear Mr. Draovitch:

Division personnel have reviewed and approved your application for a major modification of the subject permit. Accordingly, we are forwarding the attached NPDES permit modification. This permit modification is issued pursuant to the requirements of North Carolina General Statute 143-215.1 and the Memorandum of Agreement between North Carolina and the U.S. Environmental Protection Agency dated October 15, 2007 (or as subsequently amended).

No major changes were made to the draft major modification sent to you on October 30, 2018.

The final major modification maintains the following significant changes identified in the letter sent on October 30, 2018:

1. Monitoring and limits for BOD and Fecal Coliforms have been eliminated due to the removal of the domestic wastewater from Outfall 001.
2. The Special Conditions for Ash Pond Working Capacity and Ash Pond Closure have been removed since all the ash will be excavated by August 1, 2019.
3. The Outfall 002A is permanently plugged and has been removed from the permit.
4. The Special Condition Groundwater Monitoring Well has been replaced with the Special Condition Compliance Boundary to be consistent with other Duke Permits.

If any parts, measurement frequencies or sampling requirements contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing upon written request within thirty (30) days following receipt of this letter. This request must be in the form of a written petition,



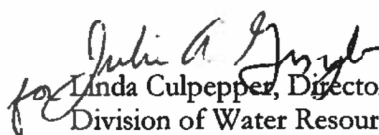
North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1611

conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings (6714 Mail Service Center, Raleigh, North Carolina 27699-6714). Unless such demand is made, this decision shall be final and binding.

Please note that this permit is not transferable except after notice to the Division. The Division may require modification or revocation and reissuance of the permit. This permit does not affect the legal requirements to obtain other permits which may be required by the Division of Water Resources or any other Federal, State, or Local governmental regulations.

If you have any questions concerning this permit, please contact Sergei Chernikov at (919) 707-3606 or via email at sergei.chernikov@ncdenr.gov.

Sincerely,


Linda Culpepper, Director
Division of Water Resources, NCDEQ

Hardcopy: NPDES Files
Central Files
E-copy: DWR/Winston Salem Regional Office/Water Quality
DWR/Aquatic Toxicology Branch/Susan Meadows
EPA Region IV

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER RESOURCES

PERMIT

**TO DISCHARGE WASTEWATER UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provision of North Carolina General Statute 143-215.1, other lawful standards and regulations promulgated and adopted by the North Carolina Environmental Management Commission, and the Federal Water Pollution Control Act, as amended,

Duke Energy Carolinas, LLC

is hereby authorized to discharge wastewater from a facility located at the

Dan River Combined Cycle Station
864 South Edgewood Road
Eden, NC
Rockingham County

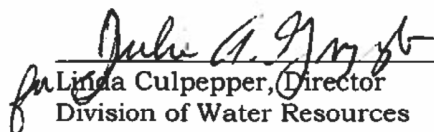
to receiving waters designated as the Dan River in the Roanoke River Basin

in accordance with effluent limitations, monitoring requirements, and other applicable conditions set forth in Parts I, II, and III hereof.

This major modification shall become effective February 1, 2019.

This major modification and authorization to discharge shall expire at midnight on November 30, 2021.

Signed this day December 20, 2018.



Linda Culpepper, Director
Division of Water Resources
By Authority of the Environmental Management Commission

SUPPLEMENT TO PERMIT COVER SHEET

All previous NPDES Permits issued to this facility, whether for operation or discharge are hereby revoked. As of this permit issuance, any previously issued permit bearing this number is no longer effective. Therefore, the exclusive authority to operate and discharge from this facility arises under the permit conditions, requirements, terms, and provisions included herein.

Duke Energy Carolinas, LLC

is hereby authorized to:

1. Continue to discharge the following:
 - Outfall 001: once-through cooling water and cooling tower blowdown from the combined cycle unit, intake screen backwash, and plant collection sumps (low volume wastes);
 - Internal Outfall 001A (discharges to Outfall 001): wastes from the filtered water plant including miscellaneous wash down water and laboratory wastes (low volume waste sources);
 - Outfall 002: an ash basin discharge consisting of low volume wastes, boiler cleaning wastewater, ash disposal, stormwater, boiler blowdown, and metal washing wastewater;
 - Seep Outfalls 102, 103, 104 (Outfall 104 also contains stormwater): 3 potentially contaminated groundwater seeps; and
2. Discharge from said treatment works at the location specified on the attached map into the Dan River (Outfall 001, Outfall 002, and Seep Outfall 104) and Railroad Branch (Seep Outfall 102 and Seep Outfall 103), both receiving streams are classified C waters in the Roanoke River Basin.

Part I**A. (1.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 001) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]**

During the period beginning on the effective date of this permit and lasting until expiration, the permittee is authorized to discharge once-through cooling water, intake screen backwash, cooling tower blowdown, plant collections sumps, and treated domestic wastewater from **Outfall 001**. Such discharges shall be limited and monitored⁵ by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location ¹
Flow, MGD			Daily	Pump Logs	Upstream or Effluent
Temperature,	35.0 °C		Daily	Grab	Effluent
Temperature,		32.0 °C ²	Daily	Grab	Downstream
Temperature, °C ³			Daily	Grab	Upstream, Effluent
Total Iron, mg/L			Quarterly	Grab	Effluent
Total Suspended Solids	30.0 mg/L	100.0 mg/L	2/Month	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	2/Month	Grab	Effluent
pH	6.0 ≤ pH ≤ 9.0		2/Month	Grab	Effluent
Total Residual Chlorine ⁴		28.0 µg/L	2/Month	Grab	Effluent
Total Mercury ⁶	47.0 ng/L		Quarterly	Grab	Effluent

Notes:

1. Sample locations: Upstream – at intake; Downstream – downstream approximately two (2) miles near the NCSR 700 bridge crossing; Effluent - at point downstream of combined wastewaters from the combined cycle turbine unit.
2. In no case should the ambient temperature exceed 32°C as a result of Dan River Steam Station operations. The ambient temperature shall be defined as the daily average downstream water temperature. When the effluent temperature is recorded below 32°C as a daily average, then monitoring and reporting of the downstream water temperature is not required. In cases where the permittee experiences equipment problems and is unable to obtain daily temperatures from the existing temperature monitoring system, temperature monitoring must be reestablished within five working days.
3. The daily average temperature of the effluent shall be such as not to exceed 10°C if the daily average intake temperature is below 2.5°C, and shall not exceed two times the intake temperature (°C) plus 5 if the daily average intake temperature ranges from 2.5°C to 12.8°C. This limitation is in effect only when a single control unit is operating.
4. Total Residual Chlorine compliance is required only if chlorine or chlorine derivative is added to the cooling water. The Division shall consider all effluent TRC values reported below 50 µg/L to be in compliance with the permit. However, the permittee shall continue to record and submit all values reported by a North Carolina certified laboratory (including field certified), even if these values fall below 50 µg/L.
5. Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (18.).
6. The facility shall use EPA method 1631E. Annual average limit.

The mixing zone is defined as the area extending from the power plant intake to the NCSR 700 bridge crossing (downstream approximately two miles).

Based upon studies conducted by the permittee and submitted to the Division, it has been determined pursuant to Section 316(a) of the Clean Water Act that the thermal component of the discharge assures the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in the receiving water.

All domestic wastewater produced at the power plant is to be fully treated through the onsite wastewater treatment system prior to being discharged.

The permittee shall obtain authorization from the Division of Water Resources prior to using any biocide in the cooling water; see condition A. (12.).

There shall be no discharge of floating solids or foam visible in other than trace amounts.

A. (2.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 001A) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the permittee is authorized to discharge wastewater from the filtered water plant including wash down water and laboratory wastes (low volume waste sources) through **Internal Outfall 001A**. Such discharges shall be limited and monitored² by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Average	Measurement Frequency	Sample Type	Sample Location ¹
Total Suspended Solids	30.0 mg/L	100.0 mg/L	2/Month	Grab	Effluent
Oil & Grease	15.0 mg/L	20.0 mg/L	2/Month	Grab	Effluent
pH	6.0 ≤ pH ≤ 9.0		2/Month	Grab	Effluent

Notes:

1. Effluent sample location shall be at point downstream of the oil separator and prior to mixing with outfall 001.
2. Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (18.).

Should no flow occur during a given month, the words "no flow" should be clearly written on the front of the DMR. All samples shall be a representative discharge.

There shall be no discharge of floating solids or foam visible in other than trace amounts.

A. (3.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 002-normal operations/decanting) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the permittee is authorized to discharge effluent from **Outfall 002 (decanting the free water above the settled ash layer that does not involve mechanical disturbance of the ash)** consisting of low volume wastes, boiler cleaning wastewater, ash disposal, stormwater, boiler blowdown, and metal washing wastewater. Such discharges shall be limited and monitored⁵ by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location ¹
Flow, MGD			Daily	Pump Logs or estimate	Effluent
pH ⁸	6.0 ≤ pH ≤ 9.0		Monthly	Grab	Effluent
Total Suspended Solids ⁶	29.0 mg/L	96.0 mg/L	Monthly	Grab	Effluent
Oil and Grease	14.0 mg/L	19.0 mg/L	Monthly	Grab	Effluent
Total Kjeldahl Nitrogen (TKN), mg/L			Annually	Grab	Effluent
Total Nitrogen (TN), mg/L TN = (NO ₂ + NO ₃) + TKN			Annually	Calculated	Effluent
Total Phosphorus, mg/L			Annually	Grab	Effluent
Chronic Toxicity ²			Monthly	Grab	Effluent
Turbidity ³ , NTU			Monthly	Grab	Effluent
Sulfate, mg/L			Monthly	Grab	Effluent
Total Hardness, mg/L			Monthly	Grab	Effluent
Total Arsenic, µg/L			Weekly	Grab	Effluent
Total Chromium, µg/L			Weekly	Grab	Effluent
Total Lead, µg/L			Weekly	Grab	Effluent
Total Copper, µg/L			Weekly	Grab	Effluent
Total Cadmium, µg/L			Weekly	Grab	Effluent
Total Zinc, µg/L			Weekly	Grab	Effluent
Total Dissolved Solids, mg/L			Weekly	Grab	Effluent
Total Mercury ⁴	47.0 ng/L		Weekly	Grab	Effluent
Total Iron ⁷	1.0 mg/L	1.0 mg/L	Weekly	Grab	Effluent
Total Selenium, µg/L			Weekly	Grab	Effluent
Nitrate/nitrite as N			Monthly	Grab	Effluent

Notes:

1. Effluent sampling shall be conducted at the discharge from the ash settling pond prior to mixing with any other waste stream.
2. Chronic Toxicity (*Ceriodaphnia dubia*) at 1.1%; See Special Condition A. (10.).
3. The discharge from this facility shall not cause turbidity in the receiving stream to exceed 50 NTU. If the instream turbidity exceeds 50 NTU due to natural background conditions, the discharge cannot cause turbidity to increase in the receiving stream. Therefore, if the effluent measurement exceeds 50 NTU, the Permittee shall sample upstream and downstream turbidity in the receiving waterbody, within 24 hours, to demonstrate the existing turbidity level in the receiving waterbody was not increased. All data shall be reported on the DMRs. (See 15A NCAC 2B .0211 (21)).
4. The facility shall use EPA method 1631E. Annual average limit.

5. Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (18.).
6. The facility shall continuously monitor TSS concentration when the decanting process commences and the pump shall be shutoff automatically when the one half of the Daily Maximum limit (15 minutes average) is exceeded. Pumping will be allowed to continue if interruption might result in a dam failure or damage. The continuous TSS monitoring only required when the pumps are employed.
7. Monitoring for total iron and its discharge limits apply only if wastewater from a boiler chemical cleaning is generated and discharged to the ash basin.
8. The facility shall continuously monitor pH when the decanting process commences and the decanting pump shall be shutoff automatically when 15 minutes running average pH falls below 6.1 standard units or rises above 8.9 standard units. Pumping will be allowed to continue if interruption might result in a dam failure or damage.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

The facility is allowed to drawdown the wastewater in the ash pond to no less than three feet above the ash.

The level of water in the ash pond should not be lowered more than 1 ft/week, unless approved by the DEQ Dam Safety Program. The facility shall use a floating pump station with free water skimmed from the basin surface using an adjustable weir.

The limits and conditions in Section A. (4.) of the permit apply when water in the ash settling basin is lowered below the three feet trigger mark.

The facility shall treat the wastewater discharged from the ash pond/ponds by the physical-chemical treatment facilities. The facility shall submit plans for the proposed treatment technologies to the Complex NPDES permitting unit and the Winston-Salem Regional Office 2 weeks prior to the commencement of the treated discharge.

The facility shall notify the Complex NPDES Permitting Unit and the Winston-Salem Regional Office 1 week prior to the commencement of the treated discharge.

A. (4.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 002-dewatering) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the commencement date of the dewatering operation and lasting until expiration, the Permittee is authorized to discharge effluent from **Outfall 002 (dewatering-removing the interstitial water)** consisting of low volume wastes, boiler cleaning wastewater, ash disposal, stormwater, boiler blowdown, and metal washing wastewater. Such discharges shall be limited and monitored⁵ by the permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type	Sample Location ¹
Flow		1.5 MGD	Weekly	Pump Logs or estimate	Effluent
pH ⁸	6.0 ≤ pH ≤ 9.0		Weekly	Grab	Effluent
Total Suspended Solids ⁶	29.0 mg/L	96.0 mg/L	Weekly	Grab	Effluent
Oil and Grease	14.0 mg/L	19.0 mg/L	Weekly	Grab	Effluent
Total Kjeldahl Nitrogen (TKN), mg/L			Weekly	Grab	Effluent
Total Nitrogen (TN), mg/L TN = (NO ₂ + NO ₃) + TKN			Weekly	Calculated	Effluent
Total Phosphorus, mg/L			Weekly	Grab	Effluent
Chronic Toxicity ²			Monthly	Grab	Effluent
Turbidity ³ , NTU			Weekly	Grab	Effluent
Sulfate, mg/L			Weekly	Grab	Effluent
Total Hardness, mg/L			Weekly	Grab	Effluent
Total Arsenic, µg/L			Weekly	Grab	Effluent
Total Chromium, µg/L			Weekly	Grab	Effluent
Total Lead, µg/L			Weekly	Grab	Effluent
Total Copper, µg/L			Weekly	Grab	Effluent
Total Cadmium, µg/L			Weekly	Grab	Effluent
Total Zinc, µg/L			Weekly	Grab	Effluent
Total Dissolved Solids, mg/L			Weekly	Grab	Effluent
Total Mercury ⁴	47.0 ng/L		Weekly	Grab	Effluent
Total Iron ⁷	1.0 mg/L	1.0 mg/L	Weekly	Grab	Effluent
Total Selenium, µg/L			Weekly	Grab	Effluent
Nitrate/nitrite as N			Weekly	Grab	Effluent

Notes:

1. Effluent sampling shall be conducted at the discharge from the ash settling pond prior to mixing with any other waste stream.
2. Chronic Toxicity (*Ceriodaphnia dubia*) at 1.1%; See Special Condition A. (10.).
3. The discharge from this facility shall not cause turbidity in the receiving stream to exceed 50 NTU. If the instream turbidity exceeds 50 NTU due to natural background conditions, the discharge cannot cause turbidity to increase in the receiving stream. Therefore, if the effluent measurement exceeds 50 NTU, the Permittee shall sample upstream and downstream turbidity in the receiving waterbody, within 24 hours, to demonstrate the existing turbidity level in the receiving waterbody was not increased. All data shall be reported on the DMRs. (See 15A NCAC 2B .0211 (21)).
4. The facility shall use EPA method 1631E. Annual average limit.
5. Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (18.).

6. The facility shall continuously monitor TSS concentration when the dewatering process commences and the dewatering pump shall be shutoff automatically when the one half of the Daily Maximum limit (15 minutes average) is exceeded. Pumping will be allowed to continue if interruption might result in a dam failure or damage. The continuous TSS monitoring only required when the pumps are employed.
7. Monitoring for total iron and its discharge limits apply only if wastewater from a boiler chemical cleaning is generated and discharged to the ash basin.
8. The facility shall continuously monitor pH when the dewatering process commences and the dewatering pump shall be shutoff automatically when 15 minutes running average pH falls below 6.1 standard units or rises above 8.9 standard units. Pumping will be allowed to continue if interruption might result in a dam failure or damage.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

The level of water in the ash pond should not be lowered more than 1 ft/week, unless approved by the DEQ Dam Safety Program.

The facility shall treat the wastewater discharged from the ash pond/ponds by the physical-chemical treatment facilities. The facility shall submit plans for the proposed treatment technologies to the Complex NPDES permitting unit and the Winston-Salem Regional Office 2 weeks prior to the commencement of the treated discharge.

The facility shall notify the Complex NPDES Permitting Unit and the Winston-Salem Regional Office 1 week prior to the commencement of the treated discharge.

A. (5.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 102) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from outfall 102 – Seep Discharge. Such discharges shall be limited and monitored¹ by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency ²	Sample Type	Sample Location
Flow, MGD			Monthly/Quarterly	Estimate	Effluent
pH ³			Monthly/Quarterly	Grab	Effluent
TSS	30.0 mg/L	100.0 mg/L	Monthly/Quarterly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Monthly/Quarterly	Grab	Effluent
Fluoride, mg/L			Monthly/Quarterly	Grab	Effluent
Total Mercury ⁴ , ng/L			Monthly/Quarterly	Grab	Effluent
Total Barium, mg/L			Monthly/Quarterly	Grab	Effluent
Total Iron, mg/L			Monthly/Quarterly	Grab	Effluent
Total Manganese, µg/L			Monthly/Quarterly	Grab	Effluent
Total Zinc, µg/L			Monthly/Quarterly	Grab	Effluent
Total Arsenic	150.0 µg/L	340.0 µg/L	Monthly/Quarterly	Grab	Effluent
Total Aluminum			Monthly/Quarterly	Grab	Effluent
Total Cadmium, µg/L			Monthly/Quarterly	Grab	Effluent
Total Chromium, µg/L			Monthly/Quarterly	Grab	Effluent
Total Copper, µg/L			Monthly/Quarterly	Grab	Effluent
Total Lead	2.94 µg/L	75.5 µg/L	Monthly/Quarterly	Grab	Effluent
Total Nickel, µg/L			Monthly/Quarterly	Grab	Effluent
Total Selenium, µg/L			Monthly/Quarterly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Monthly/Quarterly	Grab	Effluent
Sulfates, mg/L			Monthly/Quarterly	Grab	Effluent
Chlorides, mg/L			Monthly/Quarterly	Grab	Effluent
TDS, mg/L			Monthly/Quarterly	Grab	Effluent
Total Hardness, mg/L			Monthly/Quarterly	Grab	Effluent
Temperature, °C			Monthly/Quarterly	Grab	Effluent
Conductivity, µmho/cm			Monthly/Quarterly	Grab	Effluent

Notes:

- Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (18.).
- The facility shall conduct monthly sampling from the effective date of the permit. After one year from the effective date of the permit the monitoring will be reduced to quarterly
- The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.
- The facility shall use EPA method 1631E.

If the facility is unable to obtain a seep sample due to the dry or low flow conditions preventing the facility from obtaining a representative sample, then "no flow" should be reported on the DMR. This requirement is established in the Section D of the Standard Conditions and 40 CFR 122.41 (j).

There shall be no discharge of floating solids or visible foam in other than trace amounts.

A. (6.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 103) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from outfall 103 – Seep Discharge. Such discharges shall be limited and monitored¹ by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency ²	Sample Type	Sample Location
Flow, MGD			Monthly/Quarterly	Estimate	Effluent
pH ³			Monthly/Quarterly	Grab	Effluent
TSS	30.0 mg/L	100.0 mg/L	Monthly/Quarterly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Monthly/Quarterly	Grab	Effluent
Fluoride, mg/L			Monthly/Quarterly	Grab	Effluent
Total Mercury ⁴ , ng/L			Monthly/Quarterly	Grab	Effluent
Total Barium, mg/L			Monthly/Quarterly	Grab	Effluent
Total Iron, mg/L			Monthly/Quarterly	Grab	Effluent
Total Manganese, µg/L			Monthly/Quarterly	Grab	Effluent
Total Zinc, µg/L			Monthly/Quarterly	Grab	Effluent
Total Arsenic	150.0 µg/L	340.0 µg/L	Monthly/Quarterly	Grab	Effluent
Total Aluminum			Monthly/Quarterly	Grab	Effluent
Total Cadmium, µg/L			Monthly/Quarterly	Grab	Effluent
Total Chromium, µg/L			Monthly/Quarterly	Grab	Effluent
Total Copper, µg/L			Monthly/Quarterly	Grab	Effluent
Total Lead	2.94 µg/L	75.5 µg/L	Monthly/Quarterly	Grab	Effluent
Total Nickel, µg/L			Monthly/Quarterly	Grab	Effluent
Total Selenium, µg/L			Monthly/Quarterly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Monthly/Quarterly	Grab	Effluent
Sulfates, mg/L			Monthly/Quarterly	Grab	Effluent
Chlorides, mg/L			Monthly/Quarterly	Grab	Effluent
TDS, mg/L			Monthly/Quarterly	Grab	Effluent
Total Hardness, mg/L			Monthly/Quarterly	Grab	Effluent
Temperature, °C			Monthly/Quarterly	Grab	Effluent
Conductivity, µmho/cm			Monthly/Quarterly	Grab	Effluent

Notes:

- Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (18.).
- The facility shall conduct monthly sampling from the effective date of the permit. After one year from the effective date of the permit the monitoring will be reduced to quarterly
- The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.
- The facility shall use EPA method 1631E.

If the facility is unable to obtain a seep sample due to the dry or low flow conditions preventing the facility from obtaining a representative sample, then "no flow" should be reported on the DMR. This requirement is established in the Section D of the Standard Conditions and 40 CFR 122.41 (j).

There shall be no discharge of floating solids or visible foam in other than trace amounts.

A. (7.) EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (Outfall 104) [15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

During the period beginning on the effective date of this permit and lasting until expiration, the Permittee is authorized to discharge from outfall 104 – Seep Discharge and stormwater discharge. Such discharges shall be limited and monitored¹ by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	LIMITS		MONITORING REQUIREMENTS		
	Monthly Average	Daily Maximum	Measurement Frequency ²	Sample Type	Sample Location
Flow, MGD			Monthly/Quarterly	Estimate	Effluent
pH ³			Monthly/Quarterly	Grab	Effluent
TSS	30.0 mg/L	100.0 mg/L	Monthly/Quarterly	Grab	Effluent
Oil and Grease	15.0 mg/L	20.0 mg/L	Monthly/Quarterly	Grab	Effluent
Fluoride, mg/L			Monthly/Quarterly	Grab	Effluent
Total Mercury ⁴ , ng/L			Monthly/Quarterly	Grab	Effluent
Total Barium, mg/L			Monthly/Quarterly	Grab	Effluent
Total Iron, mg/L			Monthly/Quarterly	Grab	Effluent
Total Manganese, µg/L			Monthly/Quarterly	Grab	Effluent
Total Zinc, µg/L			Monthly/Quarterly	Grab	Effluent
Total Arsenic, µg/L			Monthly/Quarterly	Grab	Effluent
Total Cadmium, µg/L			Monthly/Quarterly	Grab	Effluent
Total Chromium, µg/L			Monthly/Quarterly	Grab	Effluent
Total Copper, µg/L			Monthly/Quarterly	Grab	Effluent
Total Lead, µg/L			Monthly/Quarterly	Grab	Effluent
Total Nickel, µg/L			Monthly/Quarterly	Grab	Effluent
Total Selenium, µg/L			Monthly/Quarterly	Grab	Effluent
Nitrate/nitrite as N, mg/L			Monthly/Quarterly	Grab	Effluent
Sulfates, mg/L			Monthly/Quarterly	Grab	Effluent
Chlorides, mg/L			Monthly/Quarterly	Grab	Effluent
TDS, mg/L			Monthly/Quarterly	Grab	Effluent
Total Hardness, mg/L			Monthly/Quarterly	Grab	Effluent
Temperature, °C			Monthly/Quarterly	Grab	Effluent
Conductivity, µmho/cm			Monthly/Quarterly	Grab	Effluent

Notes:

- Starting on December 21, 2016, begin submitting Discharge Monitoring Reports electronically using NC DWR's eDMR application system. Please See Special Condition A. (18.).
- The facility shall conduct monthly sampling from the effective date of the permit. After one year from the effective date of the permit the monitoring will be reduced to quarterly
- The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.
- The facility shall use EPA method 1631E.

If the facility is unable to obtain a seep sample due to the dry or low flow conditions preventing the facility from obtaining a representative sample, then "no flow" should be reported on the DMR. This requirement is established in the Section D of the Standard Conditions and 40 CFR 122.41 (j).

There shall be no discharge of floating solids or visible foam in other than trace amounts.

A. (8.) TOXICITY RE-OPENER CONDITION

[15A NCAC 02B .0200 et seq.]

This permit shall be modified, or revoked and reissued, to incorporate additional toxicity limitations and monitoring requirements in the event that toxicity testing or other studies conducted on the effluent or receiving stream indicate that detrimental effects may be expected in the receiving stream as a result of this discharge.

A. (9.) SPECIAL CONDITIONS

[NCGS 143-215.3 (a) (2) and NCGS 143-215.66]

The following special conditions are applicable to all outfalls regulated by this permit:

- a) There shall be no discharge of polychlorinated biphenyl compounds such as those once commonly used for transformer fluid.
- b) Nothing contained in this permit shall be construed as a waiver by the permittee of any right to a hearing it may have pursuant to State or Federal laws or regulations.
- c) Discharge of any waste resulting from the combustion of toxic or hazardous waste to any waste stream which ultimately discharges to waters of the United States is prohibited, unless specifically authorized in this permit.
- d) The permittee shall report all visible discharges of floating materials (such as an oil slick) to the Director when submitting DMRs.
- e) "Upset," means an exceptional incident in which there is an unintentional and temporary non-compliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or improper operations.
- f) All flows shall be reported on monthly DMRs. Should no flow occur during a given month, the words "no flow" should be clearly written on the front of the DMR.
- g) EPA methods 200.7 or 200.8 (or the most current versions) shall be used for analyses of all metals except for total mercury.
- h) All effluent samples for all external outfalls shall be taken at the most accessible location after the final treatment but prior to discharge to waters of the U.S. (40 CFR 122.41(j)).
- i) The term *low volume waste sources* means wastewater from all sources except those for which specific limitations are otherwise established in this part (40 CFR 423.11 (b)).
- j) The term *chemical metal cleaning waste* means any wastewater resulting from cleaning any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning (40 CFR 423.11 (c)).
- k) The term *metal cleaning waste* means any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning (40 CFR 423.11 (d)).
- l) For all outfalls where the flow measurement is to be "estimated" the estimate can be done by using calibrated V-notch weir, stop-watch and graduated cylinder, or other method approved by the Division.
- m) The concentration of asbestos in any wastewater shall not exceed 7 million fibers per liter.

A. (10.) CHRONIC TOXICITY LIMIT (Monthly, Outfall 002)

[15A NCAC 02B .0400 et seq., 02B .0500 et seq.]

The effluent discharge shall at no time exhibit observable inhibition of reproduction or significant mortality to *Ceriodaphnia dubia* at an effluent concentration of 1.1 %.

The permit holder shall perform at a minimum, monthly monitoring using test procedures outlined in the "North Carolina *Ceriodaphnia* Chronic Effluent Bioassay Procedure," Revised December 2010, or

subsequent versions or "North Carolina Phase II Chronic Whole Effluent Toxicity Test Procedure" (Revised- December 2010) or subsequent versions. Effluent sampling for this testing must be obtained during representative effluent discharge and shall be performed at the NPDES permitted final effluent discharge below all treatment processes.

If the test procedure performed as the first test of any month results in a failure or ChV below the permit limit, then multiple-concentration testing shall be performed at a minimum, in each of the two following months as described in "North Carolina Phase II Chronic Whole Effluent Toxicity Test Procedure" (Revised-December 2010) or subsequent versions.

All toxicity testing results required as part of this permit condition will be entered on the Effluent Discharge Monitoring Form (MR-1) for the months in which tests were performed, using the parameter code **TGP3B** for the pass/fail results and **THP3B** for the Chronic Value. Additionally, DWR Form AT-3 (original) is to be sent to the following address:

Attention: North Carolina Division of Water Resources
Water Sciences Section/Aquatic Toxicology Branch
1621 Mail Service Center
Raleigh, North Carolina 27699-1621

Completed Aquatic Toxicity Test Forms shall be filed with the Water Sciences Section no later than 30 days after the end of the reporting period for which the report is made.

Test data shall be complete, accurate, include all supporting chemical/physical measurements and all concentration/response data, and be certified by laboratory supervisor and ORC or approved designate signature. Total residual chlorine of the effluent toxicity sample must be measured and reported if chlorine is employed for disinfection of the waste stream.

Should there be no discharge of flow from the facility during a month in which toxicity monitoring is required, the permittee will complete the information located at the top of the aquatic toxicity (AT) test form indicating the facility name, permit number, pipe number, county, and the month/year of the report with the notation of "No Flow" in the comment area of the form. The report shall be submitted to the Water Sciences Section at the address cited above.

Should the permittee fail to monitor during a month in which toxicity monitoring is required, monitoring will be required during the following month. Assessment of toxicity compliance is based on the toxicity testing month.

Should any test data from this monitoring requirement or tests performed by the North Carolina Division of Water Resources indicate potential impacts to the receiving stream, this permit may be re-opened and modified to include alternate monitoring requirements or limits.

NOTE: Failure to achieve test conditions as specified in the cited document, such as minimum control organism survival, minimum control organism reproduction, and appropriate environmental controls, shall constitute an **invalid test** and will require immediate follow-up testing to be completed no later than the last day of the month following the month of the initial monitoring.

A. (11.) BIOCIDES CONDITION [NCGS 143-215.1]

The permittee shall not use any biocides except those approved in conjunction with the permit application. The permittee shall notify the Director in writing not later than ninety (90) days prior to instituting use of any additional biocide used in cooling systems which may be toxic to aquatic life other than those previously reported to the Division of Water Resources. Such notification shall include completion of Biocide Worksheet Form 101 and a map locating the discharge point and

receiving stream. Completion of Biocide Worksheet Form 101 is not necessary for those outfalls containing toxicity testing. Division approval is not necessary for the introduction of new biocides into outfalls currently tested for whole effluent toxicity.

A. (12.) CLEAN WATER ACT SECTION 316(a) THERMAL VARIANCE

[40 CFR 125, Subpart H]

The thermal variance granted under Section 316(a) terminates on expiration of this NPDES permit. Should the permittee wish a continuation of its 316(a) thermal variance beyond the term of this permit, reapplication for such continuation shall be submitted in accordance with 40 CFR Part 125, Subpart H and Section 122.21(1) (6) not later than 180 days prior to permit expiration. Reapplication shall include a basis for continuation such as a) plant operating conditions and load factors are unchanged and are expected to remain so for the term of the reissued permit; b) there are no changes to plant discharges or other discharges in the plant site area which could interact with the thermal discharges; and c) there are no changes to the biotic community of the receiving water body which would impact the previous variance determination.

The next 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. EPA shall be provided an opportunity to review the plan prior to the commencement of the study.

Copies of all the study plans, study results, and any other applicable materials should be submitted to:

- 1) Electronic Version Only (pdf and CD)
Division of Water Resources
WQ Permitting Section - NPDES
1617 Mail Service Center
Raleigh, NC 27699-1617
- 2) Electronic Version (pdf and CD) and Hard Copy
Division of Water Resources
Water Sciences Section
1621 Mail Service Center
Raleigh, NC 27699-1621

A. (13.) CLEAN WATER ACT SECTION 316(B)

[40 CFR 125.95]

The permittee shall comply with the Cooling Water Intake Structure Rule per 40 CFR 125.95. The permittee shall submit all the materials required by the Rule with the next renewal application.

A. (14.) STRUCTURAL INTEGRITY INSPECTIONS OF ASH POND DAM

[15A NCAC 02K.0208]

The facility shall meet the dam design and dam safety requirements per 15A NCAC 2K.

A. (15.) INSTREAM MONITORING

[15A NCAC 02B.0500 ET SEQ.]

The facility shall conduct semiannual instream monitoring (4000 ft. upstream and 10,000 ft. downstream of the Outfall 002 and in the Railroad Branch 50 ft. upstream of the first seep and 50 ft.

downstream of the last seep) for dissolved arsenic, dissolved selenium, dissolved mercury (method 1631E), dissolved chromium, dissolved lead, dissolved cadmium, dissolved copper, total hardness, and dissolved zinc. The monitoring results shall be submitted with the NPDES permit renewal application and reported on the DMRs.

A. (16.) APPLICABLE STATE LAW (STATE ENFORCEABLE ONLY)

[NCGS 143-215.1(b)]

This facility shall meet the requirements of Senate Bill 729 (Coal Ash Management Act). This permit may be reopened to include new requirements imposed by Senate Bill 729.

A. (17.) DOMESTIC WASTEWATER TREATMENT PLANT

[NCGS 143-215.1(b)]

The domestic wastewater treatment facility shall be properly operated and maintained at all times. Its effluent must meet secondary limits for domestic wastewater, and not cause contravention of any water quality standards.

A. (18.) ELECTRONIC REPORTING OF DISCHARGE MONITORING REPORTS

[G.S. 143-215.1(b)]

Federal regulations require electronic submittal of all discharge monitoring reports (DMRs) and program reports. The final NPDES Electronic Reporting Rule was adopted and became effective on December 21, 2015.

NOTE: This special condition supplements or supersedes the following sections within Part II of this permit (*Standard Conditions for NPDES Permits*):

- Section B. (11.) Signatory Requirements
- Section D. (2.) Reporting
- Section D. (6.) Records Retention
- Section E. (5.) Monitoring Reports

1. Reporting Requirements [Supersedes Section D. (2.) and Section E. (5.) (a)]

The permittee shall report discharge monitoring data electronically using the NC DWR's Electronic Discharge Monitoring Report (eDMR) internet application.

Monitoring results obtained during the previous month(s) shall be summarized for each month and submitted electronically using eDMR. The eDMR system allows permitted facilities to enter monitoring data and submit DMRs electronically using the internet. Until such time that the state's eDMR application is compliant with EPA's Cross-Media Electronic Reporting Regulation (CROMERR), permittees will be required to submit all discharge monitoring data to the state electronically using eDMR and will be required to complete the eDMR submission by printing, signing, and submitting one signed original and a copy of the computer printed eDMR to the following address:

NC DENR / Division of Water Resources / Water Quality Permitting Section

ATTENTION: Central Files
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

If a permittee is unable to use the eDMR system due to a demonstrated hardship or due to the facility being physically located in an area where less than 10 percent of the households have broadband access, then a temporary waiver from the NPDES electronic reporting requirements may be granted and discharge monitoring data may be submitted on paper DMR forms (MR 1, 1.1, 2, 3) or alternative forms approved by the Director. Duplicate signed copies shall be submitted to the mailing address above. See "How to Request a Waiver from Electronic Reporting" section below.

Regardless of the submission method, the first DMR is due on the last day of the month following the issuance of the permit or in the case of a new facility, on the last day of the month following the commencement of discharge.

Starting on **December 21, 2020**, the permittee must electronically report the following compliance monitoring data and reports, when applicable:

- Sewer Overflow/Bypass Event Reports;
- Pretreatment Program Annual Reports; and
- Clean Water Act (CWA) Section 316(b) Annual Reports.

The permittee may seek an electronic reporting waiver from the Division (see "How to Request a Waiver from Electronic Reporting" section below).

2. Electronic Submissions

In accordance with 40 CFR 122.41(l)(9), the permittee must identify the initial recipient at the time of each electronic submission. The permittee should use the EPA's website resources to identify the initial recipient for the electronic submission.

Initial recipient of electronic NPDES information from NPDES-regulated facilities means the entity (EPA or the state authorized by EPA to implement the NPDES program) that is the designated entity for receiving electronic NPDES data [see 40 CFR 127.2(b)].

EPA plans to establish a website that will also link to the appropriate electronic reporting tool for each type of electronic submission and for each state. Instructions on how to access and use the appropriate electronic reporting tool will be available as well. Information on EPA's NPDES Electronic Reporting Rule is found at: <http://www2.epa.gov/compliance/final-national-pollutant-discharge-elimination-system-npdes-electronic-reporting-rule>.

Electronic submissions must start by the dates listed in the "Reporting Requirements" section above.

3. How to Request a Waiver from Electronic Reporting

The permittee may seek a temporary electronic reporting waiver from the Division. To obtain an electronic reporting waiver, a permittee must first submit an electronic reporting waiver request to the Division. Requests for temporary electronic reporting waivers must be submitted in writing to the Division for written approval at least sixty (60) days prior to the date the facility would be required under this permit to begin submitting monitoring data and reports. The duration of a temporary waiver shall not exceed 5 years and shall thereupon expire. At such time, monitoring data and reports shall be submitted electronically to the Division unless the permittee re-applies for and is granted a new temporary electronic reporting waiver by the Division. Approved electronic reporting waivers are not transferrable. Only permittees with an approved reporting waiver request may submit monitoring data and reports on paper to the Division for the period that the approved reporting waiver request is effective.

Information on eDMR and the application for a temporary electronic reporting waiver are found on the following web page:

<http://deq.nc.gov/about/divisions/water-resources/edmr>

4. Signatory Requirements [Supplements Section B. (11.) (b) and Supersedes Section B. (11.) (d)]

All eDMRs submitted to the permit issuing authority shall be signed by a person described in Part II, Section B. (11.)(a) or by a duly authorized representative of that person as described in Part II, Section B. (11.)(b). A person, and not a position, must be delegated signatory authority for eDMR reporting purposes.

For eDMR submissions, the person signing and submitting the DMR must obtain an eDMR user account and login credentials to access the eDMR system. For more information on North Carolina's eDMR system, registering for eDMR and obtaining an eDMR user account, please visit the following web page:

<http://deq.nc.gov/about/divisions/water-resources/edmr>

Certification. Any person submitting an electronic DMR using the state's eDMR system shall make the following certification [40 CFR 122.22]. NO OTHER STATEMENTS OF CERTIFICATION WILL BE ACCEPTED:

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

5. Records Retention [Supplements Section D. (6.)]

The permittee shall retain records of all Discharge Monitoring Reports, including eDMR submissions. These records or copies shall be maintained for a period of at least 3 years from the date of the report. This period may be extended by request of the Director at any time [40 CFR 122.41].

A. (19.) DISCHARGE FROM SEEPAGE

[NCGS 143-215.1(b)]

Existing Discharges from Seepage

The facility identified 4 unpermitted seeps (all non-engineered) from the ash settling basin. Seep 1, seep 2, and seep 3 discharge to Railroad Branch. Seep 4 discharges to Dan River. The locations of the seeps are identified below and are depicted on the map attached to the permit.

Table 1. Discharge Coordinates and Assigned Outfall Numbers

Discharge ID	Latitude	Longitude	Outfall number
S-1	36.493	-79.711	Not assigned
S-2	36.493	-79.711	102
S-3	36.493	-79.711	103
S-4	36.486	-79.719	104

The outfall for these discharges is through an effluent channel meeting the requirements in 15A NCAC 2B .0228. Within 180 days of the effective date of this permit, the permittee shall demonstrate, through in-stream sampling meeting the requirements of condition A. (19.), that the water quality standards in the receiving stream are not contravened.

Discharges from Seepage Identified After Permit Issuance

The facility shall comply with the "Plan for Identification of New Discharges" as contained in Attachment 2. For any discharge identified pursuant to this Plan, the facility shall, within 90 days of the seep discovery, determine if the discharge seep meets the state water quality standards established in 15A NCAC 2B .0200 and submit the results of this determination to the Division. If the standards are not contravened, the facility shall conduct monitoring for the parameters specified in A. (8.).

If any of the water quality standards are exceeded, the facility shall be considered in violation until one of the options below is fully implemented:

- 1) Submit a complete application for 404 Permit (within 30 days after determining that a water quality standards is exceeded) to pump the seep discharge to one of the existing outfalls, install a pipe to discharge the seep to the Dan River/Railroad Branch, or install an *in-situ* treatment system. After the 404 Permit is obtained, the facility shall complete the installation of the pump, pipe, or treatment system within 180 days from the date of the 404 permit receipt and begin pumping/discharging or treatment.
- 2) Demonstrate through modeling that the decanting and dewatering of the ash basin will result in the elimination of the seep. The modeling results shall be submitted to the Division within 120 days from the date of the seep discovery. Within 180 days from the completion of the dewatering the facility shall confirm that the seep flow ceased. If the seep flow continues, the facility shall choose one of the other options in this Special Condition.
- 3) Demonstrate that the seep is discharging through the designated "Effluent Channel" and the water quality standards in the receiving stream are not contravened. This demonstration should be submitted to the Division no later than 180 days from the date of the seep discovery. The "Effluent Channel" designation should be established by the DEQ Regional Office personnel prior to the issuance of the permit. This permit shall be reopened for cause to include the "Effluent Channel" in a revised permit.

All effluent limits, including water quality-based effluent limits, remain applicable notwithstanding any action by the Permittee to address the violation through one of the identified options, so that any discharge in exceedance of an applicable effluent limit is a violation of the Permit as long as the seep remains flowing.

New Identified Seeps

If new seeps are identified, the facility shall follow the procedures outlined above. The deadlines for new seeps shall be calculated from the date of the seep discovery. The new identified seep is not permitted until the permit is modified and the new seep included in the permit and the new outfall established for the seep.

A. (20.) FISH TISSUE MONITORING NEAR ASH POND DISCHARGE (Outfall 002)
[NCGS 143-215.3 (a) (2)]

The facility shall conduct fish tissue monitoring annually during the permit term and submit the results with the NPDES permit renewal application. The objective of the monitoring is to evaluate potential uptake of pollutants by fish tissue near the Ash Pond discharge. The parameters analyzed in fish tissue shall be arsenic, selenium, and mercury. The monitoring shall be conducted in accordance with the Sampling Plan approved by the Division. Upon approval, the plan becomes an enforceable part of the permit.

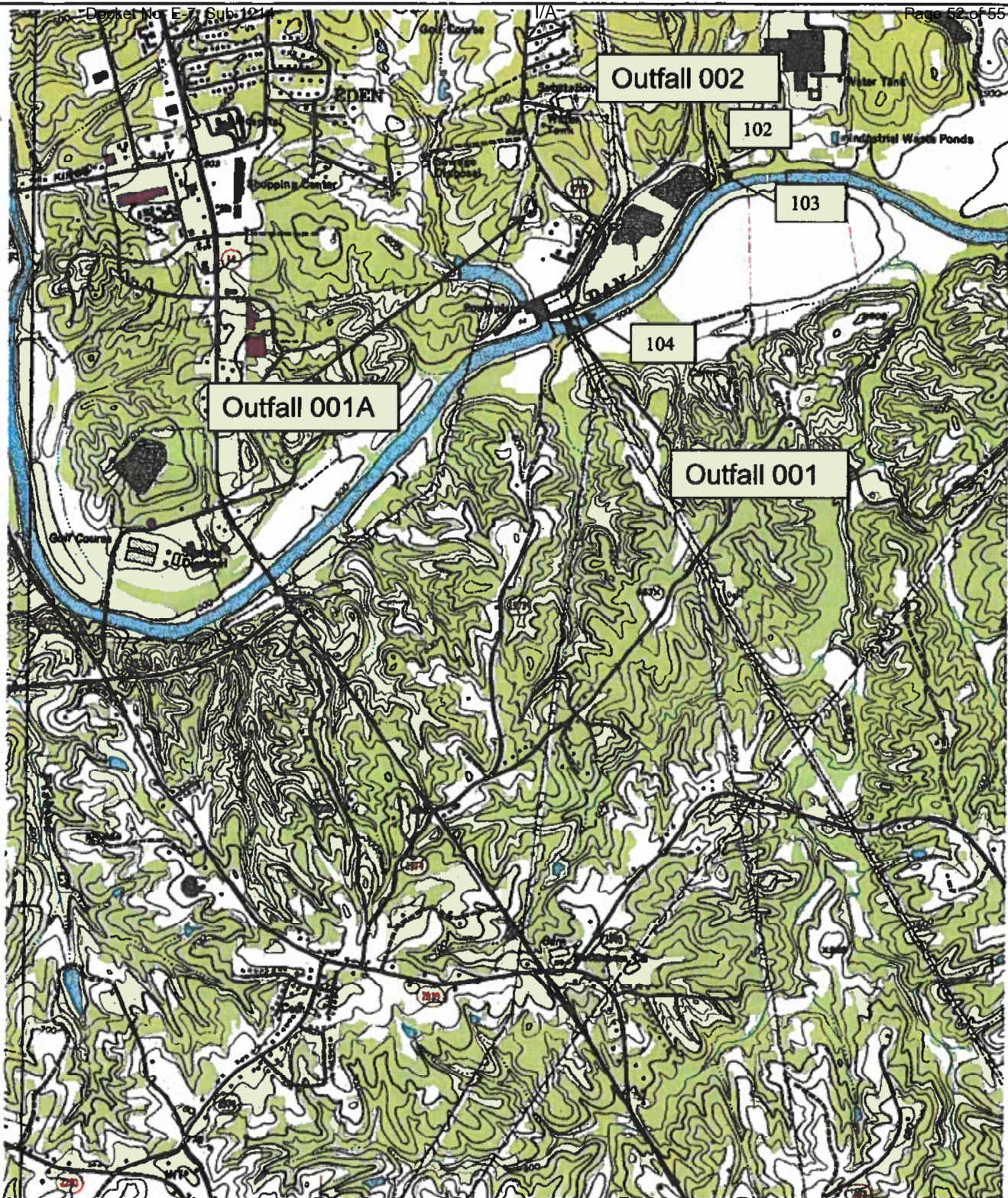
A. (21.) COMPLIANCE BOUNDARY
[15A NCAC 02L.0107]

The compliance boundary for the disposal system shall be specified in accordance with 15A NCAC 02L .0107(a) or (b) dependent upon the date permitted. An exceedance of groundwater standards at or beyond the compliance boundary is subject to remediation action according to 15A NCAC 02L .0106(c), (d), or (e) as well as enforcement actions in accordance with North Carolina General Statute 143-215.6A through 143-215.6C. The compliance boundary map for this facility is incorporated herein and attached hereto as Attachment A.

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USGS Quad: B20NW Southeast Eden, NC

Outfall 001

Latitude: 36° 29' 7.9" N
Longitude: 79° 43' 13.9" W

Outfall 002

Latitude: 36° 29' 30.1" N
Longitude: 79° 42' 39.6" W

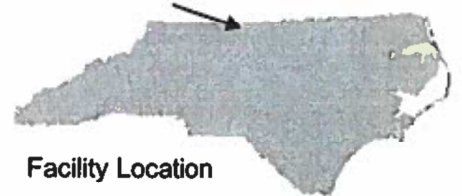
Subbasin: 03-02-03 HUC: 03010103

Stream Class: C

Receiving Stream: Dan River



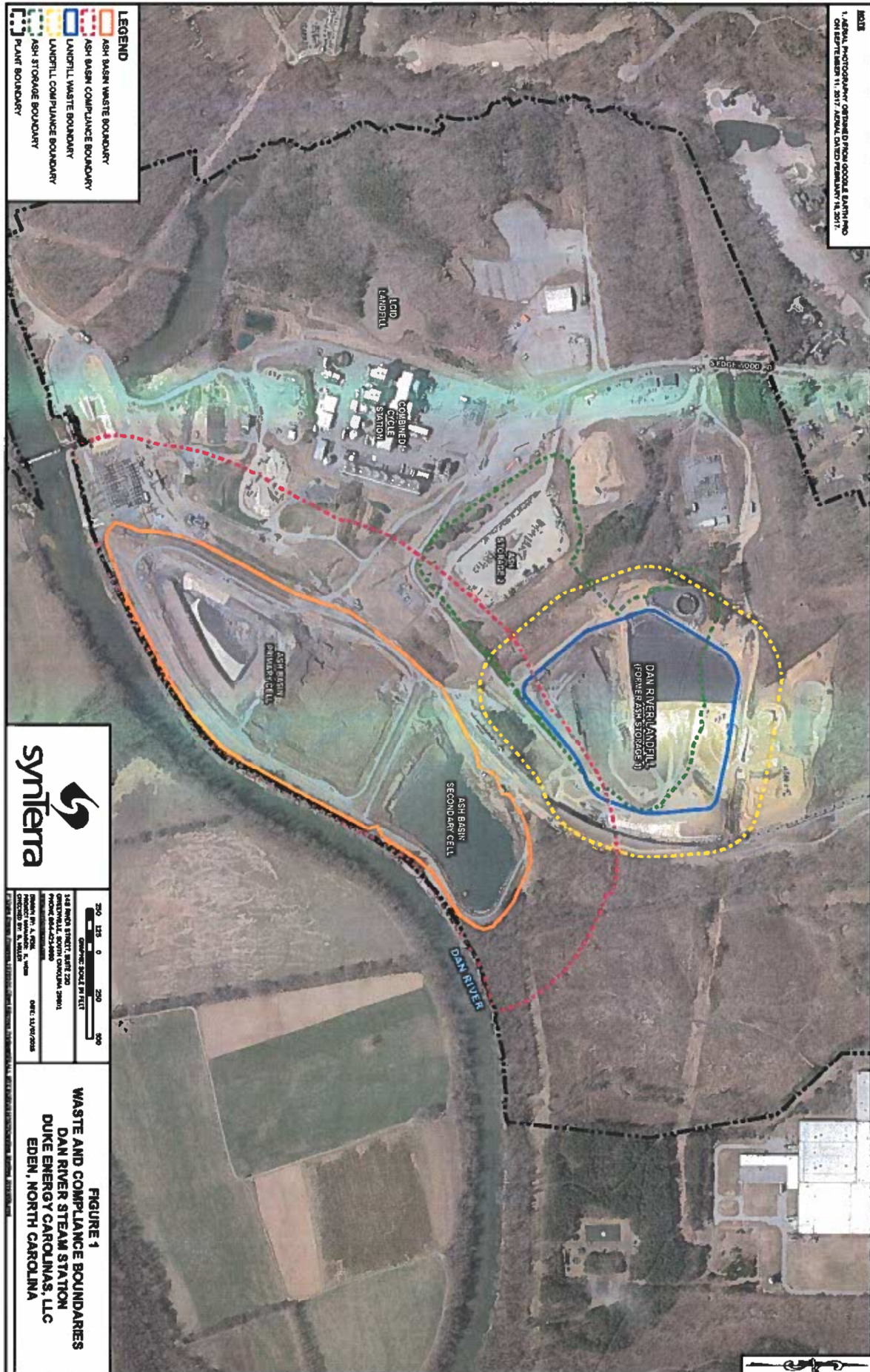
North



Facility Location

Duke Energy Carolinas - Dan River Station
NPDES Permit No. NC0003468 Rockingham County

Attachment A



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