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August 15, 2019

VIA ELECTRONIC FILING AND HAND DELIVERY

Chief Clerk's Office
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4300

**RE: Duke Energy Progress, LLC's Supplemental Testimony and Exhibits
Docket No. E-2, Sub 1204**

Dear Chief Clerk:

Enclosed for filing in the above-referenced docket is the Supplemental Testimony, Exhibits and Workpapers of Duke Energy Carolinas, LLC's witness Dana M. Harrington. We will deliver fifteen (15) paper copies of the filing to the Clerk's Office by close of business on August 16, 2019.

Thank you for your assistance with this matter.

Sincerely,

A handwritten signature in black ink that reads 'Jack E. Jirak'.

Jack E. Jirak

Enclosures

cc: Parties of Record

OFFICIAL COPY

Aug 15 2019

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1204

In the Matter of)
Application of Duke Energy Progress, LLC)
Pursuant to G.S. 62-133.2 and NCUC Rule)
R8-55 Relating to Fuel and Fuel-Related)
Charge Adjustments for Electric Utilities)

**SUPPLEMENTAL TESTIMONY
OF DANA M. HARRINGTON FOR
DUKE ENERGY PROGRESS, LLC**

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Dana M. Harrington and my business address is 550 South Tryon
3 Street, Charlotte, North Carolina.

4 **Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS**
5 **PROCEEDING?**

6 A. Yes, on June 11, 2019, I caused to be pre-filed with the Commission my direct
7 testimony, six exhibits, and sixteen supporting workpapers.

8 **Q. YOUR SUPPLEMENTAL TESTIMONY INCLUDES FOUR REVISED**
9 **EXHIBITS AND FOUR SUPPORTING WORKPAPERS. WERE THESE**
10 **SUPPLEMENTAL EXHIBITS AND WORKPAPERS PREPARED BY**
11 **YOU OR AT YOUR DIRECTION AND UNDER YOUR SUPERVISION?**

12 A. Yes. These exhibits and workpapers were prepared by me and consist of the
13 following:

- 14 • Revised Exhibit 1: Summary Comparison of Fuel and Fuel-Related Costs Factors.
15
- 16 • Revised Exhibit 2, Schedule 1, Page 3: Fuel and Fuel-Related Costs Factors -
17 reflecting a 94.62% proposed nuclear capacity factor and projected billing period
18 megawatt hour (“MWh”) sales; Schedule 2, Pages 1, 2, & 3: Fuel and Fuel-Related
19 Costs Factors - reflecting a 94.62% proposed nuclear capacity factor and
20 normalized test period MWh sales; and Schedule 3, Page 3: Fuel and Fuel-Related
21 Costs Factors - reflecting an 91.8% North American Electric Reliability
22 Corporation (“NERC”) five-year national weighted average nuclear capacity factor
23 for comparable units and projected billing period MWh sales.

- 1 • Revised Exhibit 3, Page 1: Calculation of the Proposed Composite Experience
2 Modification Factor (“EMF”) rate; Page 2: Calculation of the EMF for residential
3 customers; Page 3: Calculation of the EMF for small general service customers;
4 Page 4: Calculation of the EMF for medium general service customers; Page 5:
5 Calculation of the EMF for large general service customers, and Page 6:
6 Calculation of the EMF for lighting customers.
- 7 • Revised Exhibit 4: Normalized Test Period MWh Sales, Fuel and Fuel-Related
8 Revenue, Fuel and Fuel-Related Expense, and System Peak.
- 9 • Revised Workpaper 8a: Calculation of Allocation percentages based on
10 Normalized Test Period Sales.
- 11 • Revised Workpaper 9: Customer Growth Adjustment.
- 12 • Revised Workpaper 15: Scenario Differences.
- 13 • Revised Workpaper 16: 2.5% Calculation Test; Workpaper 16a: 2.5% Calculation
14 Test – Normalized, and Workpaper 16b: 2.5% Calculation Test – Detail
15 Calculation.

16 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL TESTIMONY IN**
17 **THIS PROCEEDING?**

18 A. The purpose of my testimony is to present the revised rates reflecting the impacts
19 related to three updates in my direct exhibits and workpapers.

20 The primary update relates to the proposed EMF increment for the under-
21 recovery of fuel and fuel-related costs. NCUC Rule R8-55(d)(3) allows the Company
22 to update the fuel and fuel-related cost recovery balance up to thirty (30) days prior to

1 the hearing. The Company elects this option and supplements the direct testimony
2 and exhibits to include the fuel and fuel-related cost recovery balance as of the 15
3 months ended June 30, 2019. The Company experienced an under-collection of
4 \$41,484,352 during the months April through June 2019. As shown on Revised
5 Harrington Exhibit 3, the incorporation of the updated test period under-collection
6 balance resulted in an under-recovered balance as of June 30, 2019 of \$151,035,306
7 (following adjustments).

8 In addition, I update proposed rates to reflect revisions to the customer class
9 allocation of manual adjustments made to the EMF under collection balance.

10 Finally, I update rates presented for informational purposes to reflect revisions
11 to the customer growth component of normalized test period sales.

12 **Q PLEASE IDENTIFY THE SPECIFIC SCHEDULES REVISED FOR EACH**
13 **UPDATE.**

14 A. The primary update, to incorporate the EMF under collection balance at June 30, 2019,
15 impacts the following exhibits:

- 16 o Exhibit 1,
- 17 o Exhibit 2, Schedules, 1, 2, and 3, Page 3, and
- 18 o Exhibit 3, Pages 1-6.

19 The second update, to restate the customer class allocations of the manual
20 adjustments to the EMF as seen on Exhibit 3, Page 1, impacts the following exhibits:

- 21 o Exhibit 1 and
- 22 o Exhibit 3, Pages 2-6.

23 The third update, to revise the Customer Growth adjustment used in the calculation of

1 normalized test period sales, impacts the following exhibits:

- 2 ○ Exhibit 1,
- 3 ○ Exhibit 2, Schedule 2, Pages 1 and 2, and
- 4 ○ Exhibit 3, Pages 1-6.

5 **Q. PLEASE EXPLAIN THE REASON FOR UPDATING THE CUSTOMER**
6 **CLASS ALLOCATIONS OF THE MANUAL ADJUSTMENTS TO THE EMF.**

7 A. While updating the proposed EMF to a 15-month ending balance, the Company
8 reevaluated the allocation method used to assign the customer classes their portions
9 of the manual adjustments. In my initial direct testimony, each class's total test period
10 sales as a percentage of NC retail total test period sales had been used to assign the
11 customer classes their portions of the adjustments. Since the intent was to adjust the
12 customer classes respective to their contributions to the total under-collected EMF
13 balance, the Company decided to update the allocations to the customer classes
14 according to each class's share of NC retail sales in the months the costs were recorded
15 to the general ledger and included in the over/under collection computation. The
16 impact of this correction to proposed customer rates is as follows: residential (0.015)
17 cents per kWh, small general service 0.019 cents per kWh, medium general service
18 0.016 cents per kWh, large general service 0.002 cents per kWh, and lighting (0.010)
19 cents per kWh.

20 **Q. PLEASE EXPLAIN THE REASON FOR UPDATING THE CUSTOMER**
21 **GROWTH ADJUSTMENT.**

22 A. The Public Staff recommended adjustments to the customer growth calculation, which
23 the Company agrees were necessary, resulting in a change of (2,062) MWh to adjusted

1 NC system sales. This further equates to adjustments of (2,024) MWh to NC retail
 2 sales, (1) MWh to SC retail sales, and (38) MWh to wholesale sales. The fuel rates
 3 proposed by the Company are not affected by this update. This revision only affects
 4 the rate for Small General Service customers presented for informational purposes on
 5 Exhibit 1, line 6. The informational rates on Exhibit 1 line 6 are supported by Exhibit
 6 2, Schedule 2, which presents a scenario using the proposed nuclear capacity factor of
 7 94.62% with normalized test period sales.

8 **Q. WHAT IS THE RATE IMPACT OF THESE UPDATES?**

9 A. The NC Retail Total Fuel Costs were increased by \$ 41,900,604 from the amounts
 10 filed in my direct testimony Exhibit 2, Schedule 1, page 3. The components of the
 11 proposed fuel and fuel-related cost factors by customer class, as shown on Revised
 12 Harrington Exhibit 1, are as follows:

Description	Small		Medium		Large	
	Residential	General Service	General Service	General Service	General Service	Lighting
	cents/KWh	cents/KWh	cents/KWh	cents/KWh	cents/KWh	cents/KWh
Total adjusted Fuel and Fuel-Related Costs cents/kWh	2.344	2.527	2.468	2.056	2.281	
EMF Increment/(Decrement) cents/kWh	0.394	0.217	0.236	0.666	0.548	
Net Proposed Fuel and Fuel-Related Costs Factors cents/kWh	2.738	2.744	2.704	2.722	2.829	

14 **Q. WHAT IS THE IMPACT TO CUSTOMERS' BILLS IF THE REVISED**
 15 **PROPOSED FUEL AND FUEL-RELATED COSTS FACTORS ARE**
 16 **APPROVED BY THE COMMISSION?**

17 A. The revised proposed fuel and fuel-related costs factors will result in a 1.3% decrease,
 18 on average, in customers' bills. The rates previously proposed in my direct testimony
 19 would result in a 2.4% decrease, on average, in customers' bills.

1 Q. DOES THIS CONCLUDE YOUR PRE-FILED SUPPLEMENTAL
2 TESTIMONY?

3 A. Yes, it does.

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel-Related Expense
Summary Comparison of Fuel and Fuel-Related Cost Factors
Test Period Twelve Months Ended March 31, 2019
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Revised Harrington Exhibit 1

Line No.	Description	Reference	Residential cents/KWh	Small General Service cents/KWh	Medium General Service cents/KWh	Large General Service cents/KWh	Lighting cents/KWh
<u>Current Fuel and Fuel-Related Cost Factors (Approved Fuel Rider Docket No. E-2, Sub 1173)</u>							
1	Approved Fuel and Fuel-Related Costs Factors	Input	2.311	2.556	2.477	1.757	2.251
2	EMF Increment / (Decrement)	Input	0.575	0.363	0.343	1.038	0.885
3	EMF Interest Decrement cents/kWh, if applicable	n/a	-	-	-	-	-
4	Approved Net Fuel and Fuel-Related Costs Factors	Sum	2.886	2.919	2.820	2.795	3.136
<u>Other Fuel and Fuel-Related Cost Factors</u>							
5	NERC Capacity Factor of 91.8% with Projected Billing Period MWh Sales	Exh 2 Sch 3 pg 3	2.781	2.795	2.738	2.743	2.918
6	Proposed Nuclear Capacity Factor of 94.62% with Normalized Test Period MWh Sales	Exh 2 Sch 2 pg 3	2.736	2.756	2.711	2.714	2.806
<u>Proposed Fuel and Fuel Related Cost Factors using Proposed Nuclear Capacity Factor of 94.62% with Projected Billing Period MWh Sales</u>							
7	Fuel and Fuel-Related Costs excluding Purchased Capacity cents/kWh	Exh 2 Sch 1 pg 2	2.206	2.372	2.345	1.977	2.280
8	Renewable and Qualifying Facilities Purchased Power Capacity cents/kWh	Exh 2 Sch 1 pg 2	0.138	0.155	0.123	0.079	0.001
9	Total adjusted Fuel and Fuel-Related Costs cents/kWh	Sum	2.344	2.527	2.468	2.056	2.281
10	EMF Increment/(Decrement) cents/kWh	Exh 2 Sch 1 pg 2	0.394	0.217	0.236	0.666	0.548
11	EMF Interest Decrement cents/kWh, if applicable	n/a	-	-	-	-	-
12	Net Proposed Fuel and Fuel-Related Costs Factors cents/kWh	Exh 2 Sch 1 pg 2	2.738	2.744	2.704	2.722	2.829

Note: The above rates do not include state regulatory fees.

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel-Related Expense
Calculation of Fuel and Fuel-Related Cost Factors Using:
Proposed Nuclear Capacity Factor of 94.62% and Projected Billing Period MWh Sales
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Line No.	Unit	Reference	Generation (MWh)	Unit Cost (cents/KWh)	Fuel Cost (\$)
			A	C/A/10=B	C
1	Total Nuclear	Workpaper 3-4	29,713,146	0.6170 \$	183,324,690
2	Coal	Workpaper 3 - 4	11,131,286	3.1353	348,993,723
3	Gas - CT and CC	Workpaper 3 - 4	22,185,181	2.6683	591,960,856
4	Reagents & Byproducts	Workpaper 5	-		26,265,057
5	Total Fossil	Sum of Lines 2 - 4	33,316,467		967,219,636
6	Hydro	Workpaper 3	648,112		
7	Net Pumped Storage		-		
8	Total Hydro	Sum of Lines 6 - 7	648,112		
9	Utility Owned Solar Generation	Workpaper 3	279,675		
10	Total Generation	Line 1 + Line 5 + Line 8 + Line 9	63,957,400		1,150,544,326
11	Purchases	Workpaper 3 - 4	7,560,370		464,368,032
12	JDA Savings Shared	Workpaper 5	-		(21,960,626)
13	Total Purchases	Sum of Lines 11 - 12	7,560,370		442,407,406
14	Total Generation and Purchases	Line 10 + Line 13	71,517,770		1,592,951,732
15	Fuel expense recovered through intersystem sales	Workpaper 3 - 4	(7,544,324)		(161,032,005)
16	Line losses and Company use	Line 18 - Line 15 - Line 14	(1,817,527)		
17	System Fuel Expense for Fuel Factor	Line 14 + Line 15 + Line 16			\$ 1,431,919,727
18	Projected System MWh Sales for Fuel Factor	Workpaper 3	62,155,919		62,155,919
19	Fuel and Fuel-Related Costs cents/kWh	Line 17 /Line 18 / 10			2.304

Note: Rounding differences may occur

Line No.	Description		Residential	General Service Small	General Service Medium	General Service Large	Lighting	Total
1	NC Projected Billing Period MWh Sales	Workpaper 8	16,265,079	1,806,876	10,414,506	9,223,825	381,171	38,091,457
Calculation of Renewable and Qualifying Facilities Purchased Power Capacity Rate by Class								
2	Renewable Purchased Power Capacity	Workpaper 4						Amount \$ 34,622,728
3	Purchases from Qualifying Facilities Capacity	Workpaper 4						39,793,114
4	Total of Renewable and Qualifying Facilities Purchased Power Capacity	Line 2 + Line 3						\$ 74,415,842
5	NC Portion - Jurisdictional % based on Production Plant Allocator	Workpaper 13						61.00%
6	NC Renewable and Qualifying Facilities Purchased Power Capacity	Line 5 * Line 6						\$ 45,394,250
7	Production Plant Allocation Factors	Workpaper 13	49.599%	6.156%	28.252%	15.986%	0.007%	100.000%
8	Renewable and Qualifying Facilities Purchased Power Capacity allocated on Production Plant %	Line 6 * Line 7	\$ 22,515,098	\$ 2,794,328	\$ 12,824,594	\$ 7,256,923	\$ 3,306	\$ 45,394,250
9	Renewable and Qualifying Facilities Purchased Power Capacity cents/kWh based on Projected Billing Period Sales	Line 8 / Line 1 / 10	0.138	0.155	0.123	0.079	0.001	0.119
Summary of Total Rate by Class								
			cents/KWh	cents/KWh	cents/KWh	cents/KWh	cents/KWh	
10	Fuel and Fuel-Related Costs excluding Renewable and Qualifying Facilities Purchased Power Capacity cents/kWh	Line 15 - Line 11 - Line 13 - Line 14	2.206	2.372	2.345	1.977	2.280	
11	Renewable and Qualifying Facilities Purchased Power Capacity cents/kWh	Line 9	0.138	0.155	0.123	0.079	0.001	
12	Total adjusted Fuel and Fuel-Related Costs cents/kWh	Line 10 + Line 11	2.344	2.527	2.468	2.056	2.281	
13	EMF Increment/(Decrement) cents/kWh	Exh 3 pg 2, 3, 4, 5, 6	0.394	0.217	0.236	0.666	0.548	
14	EMF Interest Increment/(Decrement) cents/kWh	Exh 3 pg 2, 3, 4, 5, 6	-	-	-	-	-	
15	Net Fuel and Fuel-Related Costs Factors cents/kWh	Exh 2 Sch 1 Page 3	2.738	2.744	2.704	2.722	2.829	

Note: Rounding differences may occur

Line No.	Rate Class	Projected Billing Period MWh Sales	Annual Revenue at Current rates	Allocate Fuel Costs Increase/(Decrease) to Customer Class	Increase/Decrease as % of Annual Revenue at Current Rates	Total Fuel Rate Increase/(Decrease) cents/kWh	Current Total Fuel Rate (including renewables and EMF) E-2, Sub 1173 cents/kWh	Proposed Total Fuel Rate (including renewables and EMF) cents /kWh
		A	B	C	D	E	F	G
		Workpaper 8	Workpaper 11	Line 27 as a % of Column B	C / B	If D=0 then 0 if not then (C*100)/(A*1000)	Exhibit 1, Line 4	E + F = G
1	Residential	16,265,079	\$ 1,898,488,040	\$ (24,068,291)	-1.3%	(0.148)	2.886	2.738
2	Small General Service	1,806,876	249,548,540	(3,163,679)	-1.3%	(0.175)	2.919	2.744
3	Medium General Service	10,414,506	950,513,824	(12,050,244)	-1.3%	(0.116)	2.820	2.704
4	Large General Service	9,223,825	534,744,328	(6,779,280)	-1.3%	(0.073)	2.795	2.722
5	Lighting	381,171	92,439,556	(1,171,913)	-1.3%	(0.307)	3.136	2.829
6	NC Retail	38,091,457	\$ 3,725,734,287	\$ (47,233,407)				
Total Proposed Composite Fuel Rate:								
7	Adjusted System Total Fuel Costs	Workpaper 8	\$ 1,433,036,845					
8	System Renewable and Qualifying Facilities Purchased Power Capacity	Exhibit 2 Sch 1, Page 2	74,415,842					
9	Adjusted System Other Fuel Costs	Line 7 - Line 8	\$ 1,358,621,003					
10	NC Retail Allocation % - sales at generation	Workpaper 10		61.68%				
11	NC Retail Other Fuel Costs	Line 9 * Line 10	\$ 837,997,435					
12	NC Renewable and Qualifying Facilities Purchased Power Capacity	Exhibit 2 Sch 1, Page 2	45,394,250					
13	NC Retail Total Fuel Costs before 2.5% Purchase Power Test	Line 11 + Line 12	\$ 883,391,685					
14	NC Retail Reduction due to 2.5% Purchased Power Test	Workpaper 16	0					
15	NC Retail Total Fuel Costs	Line 13 + Line 14	\$ 883,391,685					
16	NC Projected Billing Period MWh Sales	Line 6, col A	38,091,457					
17	Calculated Fuel Rate cents/kWh	Line 15 / Line 16 / 10	2.319					
18	Proposed Composite EMF Rate cents/kWh	Exhibit 3 Page 1	0.401					
19	Proposed Composite EMF Rate Interest cents/kWh	Exhibit 3 Page 1	0.000					
20	Total Proposed Composite Fuel Rate	Sum of Lines 17-19	2.720					
Total Current Composite Fuel Rate - Docket E-2 Sub 1173:								
21	Current composite Fuel Rate cents/kWh	2018 Ward Exhibit 2, Sch 1, Pg 3, Ln 17	2.242					
22	Current composite EMF Rate cents/kWh	2018 Ward Exhibit 2, Sch 1, Pg 3, Ln 18	0.602					
23	Current composite EMF Interest cents/kWh	2018 Ward Exhibit 2, Sch 1, Pg 3, Ln 19	0.000					
24	Total Current Composite Fuel Rate	Sum of Lines 21-23	2.844					
25	Increase/(Decrease) in Composite Fuel rate cents/kWh	Line 20 - Line 24	(0.124)					
26	NC Projected Billing Period MWh Sales	Line 6, col A	38,091,457					
27	Increase/(Decrease) in Fuel Costs	Line 25 * Line 26 * 10	\$ (47,233,407)					

Notes:
 Rounding differences may occur
 Includes 100% ownership of all generating resources

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel-Related Expense
Calculation of Fuel and Fuel Related Cost Factors Using:
Proposed Nuclear Capacity Factor of 94.62% with Normalized Test Period MWh Sales
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Line No.	Unit	Reference	Generation (MWh)	Unit Cost (cents/kWh)	Fuel Cost (\$)
			A	C/A/10=B	C
1	Total Nuclear	Workpaper 3-4	29,713,146	0.6170	\$ 183,324,690
2	Coal	Workpaper 15	10,961,068	3.1353	343,656,962
3	Gas - CT and CC	Workpaper 3-4	22,185,181	2.6683	591,960,856
4	Reagents & Byproducts	Workpaper 4	-		26,265,057
5	Total Fossil	Sum of Lines 2 - 4	33,146,249		961,882,875
6	Hydro	Workpaper 3	648,112		
7	Net Pumped Storage		-		
8	Total Hydro	Sum of Lines 6 - 7	648,112		
9	Utility Owned Solar Generation	Workpaper 3	279,675		
10	Total Generation	Line 1 + Line 5 + Line 8 + Line 9	63,787,182		1,145,207,565
11	Purchases	Workpaper 3 - 4	7,560,370		464,368,032
12	JDA Savings Shared	Workpaper 5	-		(21,960,626)
13	Total Purchases	Sum of Lines 11 - 12	7,560,370		442,407,406
14	Total Generation and Purchases	Line 10 + Line 13	71,347,552		1,587,614,971
15	Fuel expense recovered through intersystem sales	Workpaper 3 - 4	(7,544,324)		(161,032,005)
16	Line losses and Company use	Line 18 - Line 15 - Line 14	(1,812,824)		
17	System Fuel Expense for Fuel Factor	Lines 14 + Line 15 + Line 16			\$ 1,426,582,966
18	Normalized Test Period MWh Sales for Fuel Factor	Exhibit 4	61,990,405		61,990,405
19	Fuel and Fuel-Related Costs cents/kWh	Line 17 / Line 18 / 10			2.301

Note: Rounding differences may occur

Line No.	Description		Residential	General Service Small	General Service Medium	General Service Large	Lighting	Total
1	NC Normalized Test Period MWh Sales	Workpaper 8a	16,022,203	1,941,728	11,007,307	8,368,542	353,965	37,693,746
Calculation of Renewable and Qualifying Facilities Purchased Power Capacity Rate by Class								
2	Renewable Purchased Power Capacity	Workpaper 4						<u>Amount</u> \$ 34,622,728
3	Purchases from Qualifying Facilities Capacity	Workpaper 4						39,793,114
4	Total of Renewable and Qualifying Facilities Purchased Power Capacity	Line 2 + Line 3						<u>\$ 74,415,842</u>
5	NC Portion - Jurisdictional % based on Production Plant Allocator	Input						61.00%
6	NC Renewable and Qualifying Facilities Purchased Power Capacity	Line 5 * Line 6						<u>\$ 45,394,250</u>
7	Production Plant Allocation Factors	Workpaper 13	49.599%	6.156%	28.252%	15.986%	0.007%	100.000%
8	Renewable and Qualifying Facilities Purchased Power Capacity allocated on Production Plant %	Line 6 * Line 7	<u>\$ 22,515,098</u>	<u>\$ 2,794,328</u>	<u>\$ 12,824,594</u>	<u>\$ 7,256,923</u>	<u>\$ 3,306</u>	<u>\$ 45,394,250</u>
9	Renewable and Qualifying Facilities Purchased Power Capacity cents/kWh based on Projected Billing Period Sales	Line 8 / Line 1 / 10	0.141	0.144	0.117	0.087	0.001	0.120
Summary of Total Rate by Class								
			<u>cents/KWh</u>	<u>cents/KWh</u>	<u>cents/KWh</u>	<u>cents/KWh</u>	<u>cents/KWh</u>	
10	Fuel and Fuel-Related Costs excluding Renewable and Qualifying Facilities Purchased Power Capacity cents/kWh	Line 15 - Line 11 - Line 13 - Line 14	2.201	2.395	2.358	1.961	2.257	
11	Renewable and Qualifying Facilities Purchased Power Capacity cents/kWh	Line 9	<u>0.141</u>	<u>0.144</u>	<u>0.117</u>	<u>0.087</u>	<u>0.001</u>	
12	Total adjusted Fuel and Fuel-Related Costs cents/kWh	Line 10 + Line 11	2.342	2.539	2.475	2.048	2.258	
13	EMF Increment/(Decrement) cents/kWh	Exh 3 pg 2, 3, 4, 5, 6	0.394	0.217	0.236	0.666	0.548	
14	EMF Interest Increment/(Decrement) cents/kWh	Exh 3 pg 2, 3, 4, 5, 6	-	-	-	-	-	
15	Net Fuel and Fuel-Related Costs Factors cents/kWh	Exh 2 Sch 2 Page 3	<u>2.736</u>	<u>2.756</u>	<u>2.711</u>	<u>2.714</u>	<u>2.806</u>	

Note: Rounding differences may occur

Line No.	Rate Class	Normalized Test Period MWh Sales	Annual Revenue at Current rates	Allocate Fuel Costs Increase/(Decrease) to Customer Class	Increase/Decrease as % of Annual Revenue at Current Rates	Total Fuel Rate Increase/(Decrease) cents/kWh	Current Total Fuel Rate (including renewables and EMF) E-2, Sub 1173 cents/kWh	Proposed Total Fuel Rate (including renewables and EMF) cents /kWh
		A	B	C	D	E	F	G
		Workpaper 8a	Workpaper 11	Line 27 as a % of Column B	C / B	If D=0 then 0 if not then (C*100)/(A*1000)	Exhibit 1, Line 4	E + F = G
1	Residential	16,022,203	\$ 1,898,488,040	\$ (24,009,068)	-1.3%	(0.150)	2.886	2.736
2	Small General Service	1,941,728	249,548,540	(3,155,894)	-1.3%	(0.163)	2.919	2.756
3	Medium General Service	11,007,307	950,513,824	(12,020,592)	-1.3%	(0.109)	2.820	2.711
4	Large General Service	8,368,542	534,744,328	(6,762,599)	-1.3%	(0.081)	2.795	2.714
5	Lighting	353,965	92,439,556	(1,169,029)	-1.3%	(0.330)	3.136	2.806
6	NC Retail	37,693,746	\$ 3,725,734,287	\$ (47,117,182)				
Total Proposed Composite Fuel Rate:								
7	Adjusted System Total Fuel Costs	Workpaper 8a	\$ 1,427,700,085					
8	System Renewable and Qualifying Facilities Purchased Power Capacity	Exhibit 2 Sch 2, Page 2	74,415,842					
9	System Other Fuel Costs	Line 7 - Line 8	\$ 1,353,284,242					
10	NC Retail Allocation % - sales at generation	Workpaper 10		61.21%				
11	NC Retail Other Fuel Costs	Line 9 * Line 10	\$ 828,345,285					
12	NC Renewable and Qualifying Facilities Purchased Power Capacity	Exhibit 2 Sch 2, Page 2	45,394,250					
13	NC Retail Total Fuel Costs	Line 11 + Line 12	\$ 873,739,535					
14	NC Retail Reduction due to 2.5% Purchased Power Test	Workpaper 16a	0					
15	NC Retail Total Fuel Costs	Line 13 + Line 14	\$ 873,739,535					
16	Adjusted NC Normalized Test Period MWh Sales	Line 6, col A	37,693,746					
17	Calculated Fuel Rate cents/kWh	Line 15 / Line 16 /10	2.318					
18	Proposed Composite EMF Rate cents/kWh	Exhibit 3 Page 1	0.401					
19	Proposed Composite EMF Rate Interest cents/kWh	Exhibit 3 Page 1	0.000					
20	Total Proposed Composite Fuel Rate	Sum of Lines 17-19	2.719					
Total Current Composite Fuel Rate - Docket E-2 Sub 1173:								
21	Current composite Fuel Rate cents/kWh	2018 Ward Exhibit 2, Sch 1, Pg 3, Ln 17	2.242					
22	Current composite EMF Rate cents/kWh	2018 Ward Exhibit 2, Sch 1, Pg 3, Ln 18	0.602					
23	Current composite EMF Interest cents/kWh	2018 Ward Exhibit 2, Sch 1, Pg 3, Ln 19	0.000					
24	Total Current Composite Fuel Rate	Sum of Lines 21 - 23	2.844					
25	Increase/(Decrease) in Composite Fuel rate cents/kWh	Line 20 - Line 24	(0.125)					
26	Adjusted NC Normalized Test Period MWh Sales	Line 6, col A	37,693,746					
27	Increase/(Decrease) in Fuel Costs	Line 25 * Line 26 * 10	\$ (47,117,182)					

Note: Rounding differences may occur

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel-Related Expense
Calculation of Fuel and Fuel-Related Cost Factors Using:
NERC Capacity Factor of 91.8% with Projected Billing Period MWh Sales
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Line No.	Unit	Reference	Generation (MWh)	Unit Cost (cents/KWh)	Fuel Cost (\$)
			A	C/A/10=B	C
1	Total Nuclear	Workpaper 2	28,826,864	0.6170	\$ 177,856,495
2	Coal	Workpaper 15	12,017,568	3.1353	376,780,866
3	Gas - CT and CC	Workpaper 3 - 4	22,185,181	2.6683	591,960,856
4	Reagents & Byproducts	Workpaper 5	-		26,265,057
5	Total Fossil	Sum of Lines 2 - 4	34,202,749		995,006,779
6	Hydro	Workpaper 3	648,112		
7	Net Pumped Storage		-		
8	Total Hydro	Sum of Lines 6 - 7	648,112		
9	Utility Owned Solar Generation	Workpaper 3	279,675		
10	Total Generation	Line 1 + Line 5 + Line 8 + Line 9	63,957,400		1,172,863,274
11	Purchases	Workpaper 3 - 4	7,560,370		464,368,032
12	JDA Savings Shared	Workpaper 5	-		(21,960,626)
13	Total Purchases	Sum of Lines 11- 12	7,560,370		442,407,406
14	Total Generation and Purchases	Line 10 + Line 13	71,517,770		1,615,270,680
15	Fuel expense recovered through intersystem sales	Workpaper 3 - 4	(7,544,324)		(161,032,005)
16	Line losses and Company use	Line 18 - Line 15 - Line 14	(1,817,527)		
17	System Fuel Expense for Fuel Factor	Line 14 + Line 15 + Line 16			\$ 1,454,238,675
18	System MWh Sales for Fuel Factor	Workpaper 3	62,155,919		62,155,919
19	Fuel and Fuel-Related Costs cents/kWh	Line 17 / Line 18 / 10			2.340

Note: Rounding differences may occur

Line No.	Description		Residential	General Service Small	General Service Medium	General Service Large	Lighting	Total
1	NC Projected Billing Period MWh Sales	Workpaper 8	16,265,079	1,806,876	10,414,506	9,223,825	381,171	38,091,457
Calculation of Renewable and Qualifying Facilities Purchased Power Capacity Rate by Class								
2	Renewable Purchased Power Capacity	Workpaper 4						Amount \$ 34,622,728
3	Purchases from Qualifying Facilities Capacity	Workpaper 4						39,793,114
4	Total of Renewable and Qualifying Facilities Purchased Power Capacity	Line 2 + Line 3						\$ 74,415,842
5	NC Portion - Jurisdictional % based on Production Plant Allocator	Input						61.00%
6	NC Renewable and Qualifying Facilities Purchased Power Capacity	Line 5 * Line 6						\$ 45,394,250
7	Production Plant Allocation Factors	Workpaper 13	49.599%	6.156%	28.252%	15.986%	0.007%	100.000%
8	Renewable and Qualifying Facilities Purchased Power Capacity allocated on Production Plant %	Line 6 * Line 7	\$ 22,515,098	\$ 2,794,328	\$ 12,824,594	\$ 7,256,923	\$ 3,306	\$ 45,394,250
9	Renewable and Qualifying Facilities Purchased Power Capacity cents/kWh based on Projected Billing Period Sales	Line 8 / Line 1 / 10	0.138	0.155	0.123	0.079	0.001	0.119
Summary of Total Rate by Class								
			cents/KWh	cents/KWh	cents/KWh	cents/KWh	cents/KWh	
10	Fuel and Fuel-Related Costs excluding Renewable and Qualifying Facilities Purchased Power Capacity cents/kWh	Line 15 - Line 11 - Line 13 - Line 14	2.249	2.423	2.379	1.998	2.369	
11	Renewable and Qualifying Facilities Purchased Power Capacity cents/kWh	Line 9	0.138	0.155	0.123	0.079	0.001	
12	Total adjusted Fuel and Fuel-Related Costs cents/kWh	Line 10 + Line 11	2.387	2.578	2.502	2.077	2.370	
13	EMF Increment/(Decrement) cents/kWh	Exh 3 pg 2, 3, 4, 5, 6	0.394	0.217	0.236	0.666	0.548	
14	EMF Interest Increment/(Decrement) cents/kWh	Exh 3 pg 2, 3, 4, 5, 6	-	-	-	-	-	
15	Net Fuel and Fuel-Related Costs Factors cents/kWh	Exh 2 Sch 3 Page 3	2.781	2.795	2.738	2.743	2.918	

Note: Rounding differences may occur

Line No.	Rate Class	Projected Billing Period MWh Sales	Annual Revenue at Current rates	Allocate Fuel Costs Increase/(Decrease) to Customer Class	Increase/Decrease as % of Annual Revenue at Current Rates	Total Fuel Rate Increase/(Decrease) cents/kWh	Current Total Fuel Rate (including renewables and EMF) E-2, Sub 1173 cents/kWh	Proposed Total Fuel Rate (including renewables and EMF) cents/kWh
		Workpaper 8	Workpaper 11	Line 27 as a % of Column B	C / B	If D=0 then 0 if not then (C*100)/(A*1000)	Exhibit 1, Line 4	E + F = H
1	Residential	16,265,079	\$ 1,898,488,040	\$ (17,080,722.69)	-0.9%	(0.105)	2.886	2.781
2	Small General Service	1,806,876	249,548,540	(2,245,191)	-0.9%	(0.124)	2.919	2.795
3	Medium General Service	10,414,506	950,513,824	(8,551,786)	-0.9%	(0.082)	2.820	2.738
4	Large General Service	9,223,825	534,744,328	(4,811,102)	-0.9%	(0.052)	2.795	2.743
5	Lighting	381,171	92,439,556	(831,680)	-0.9%	(0.218)	3.136	2.918
6	NC Retail	38,091,457	\$ 3,725,734,287	\$ (33,520,482)				
Total Proposed Composite Fuel Rate:								
7	Adjusted System Total Fuel Costs	Workpaper 8b	\$ 1,455,355,794					
8	System Renewable and Qualifying Facilities Purchased Power Capacity	Exhibit 2 Sch 3, Page 2	74,415,842					
9	System Other Fuel Costs	Line 7 - Line 8	\$ 1,380,939,952					
10	NC Retail Allocation % - sales at generation	Workpaper 10	61.68%					
11	NC Retail Other Fuel Costs	Line 9 * Line 10	\$ 851,763,762					
12	NC Renewable and Qualifying Facilities Purchased Power Capacity	Exhibit 2 Sch 3, Page 2	45,394,250					
13	NC Retail Total Fuel Costs	Line 11 + Line 12	\$ 897,158,012					
14	NC Retail Reduction due to 2.5% Purchased Power Test	Workpaper 16	0					
15	NC Retail Total Fuel Costs	Line 13 + Line 14	\$ 897,158,012					
16	NC Projected Billing Period MWh Sales	Line 6, col A	38,091,457					
17	Calculated Fuel Rate cents/kWh	Line 15 / Line 16 /10	2.355					
18	Proposed Composite EMF Rate cents/kWh	Exhibit 3 Page 1	0.401					
19	Proposed Composite EMF Rate Interest cents/kWh	Exhibit 3 Page 1	0.000					
20	Total Proposed Composite Fuel Rate	Sum of Lines 15-17	2.756					
Total Current Composite Fuel Rate - Docket E-2 Sub 1173:								
21	Current composite Fuel Rate cents/kWh	2018 Ward Exhibit 2, Sch 1, Pg 3, Ln 17	2.242					
22	Current composite EMF Rate cents/kWh	2018 Ward Exhibit 2, Sch 1, Pg 3, Ln 18	0.602					
23	Current composite EMF Interest cents/kWh	2018 Ward Exhibit 2, Sch 1, Pg 3, Ln 19	0.000					
24	Total Current Composite Fuel Rate	Sum of Lines 21 - 23	2.844					
25	Increase/(Decrease) in Composite Fuel rate cents/kWh	Line 20 - Line 24	(0.088)					
26	NC Projected Billing Period MWh Sales	Line 6, col A	38,091,457					
27	Increase/(Decrease) in Fuel Costs	Line 25* Line 26 * 10	\$ (33,520,482)					

Note: Rounding differences may occur

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel Related Expense
Calculation of Experience Modification Factor - Proposed Composite
Test Period Twelve Months Ended March 31, 2019
Docket No. E-2, Sub 1204

Line No.	Month	Fuel Cost Incurred ¢/ kWh (a)	Fuel Cost Billed ¢/ kWh (b)	NC Retail MWh Sales (c)	Reported (Over)/Under Recovery (d)	Adjustments (e)	Adjusted (Over)/Under Recovery (f)
1	April 2018 (Sub 1146)	2.515	2.280	2,821,410	\$ 6,616,553	-	\$ 6,616,553
2	May	2.794	2.286	2,743,729	13,930,507	-	13,930,507
3	June	2.884	2.277	3,379,527	20,501,107	-	20,501,107
4	July	2.641	2.275	3,687,027	13,504,786	-	13,504,786
5	August	2.619	2.277	3,705,569	12,651,306	-	12,651,306
6	September	2.954	2.276	3,324,420	22,555,310	-	22,555,310
7	October	2.142	2.282	3,247,434	(4,537,212)	-	(4,537,212)
8	November	2.768	2.286	2,905,623	14,008,619	-	14,008,619
9	December (New Rates - Sub 1173)	4.223	2.256	2,853,152	56,124,620	-	56,124,620
10	January 2019	2.845	2.250	3,344,813	19,890,481	\$ (33,252)	19,857,229
11	February	0.978	2.256	3,239,879	(41,422,510)	-	(41,422,510)
12	March	2.714	2.248	2,793,993	13,007,082	-	13,007,082
13	Total Test Period			38,046,575	146,830,650	(33,252)	146,797,398
14	April	2.686	2.236	2,728,574	12,291,799	-	12,291,799
15	May	2.782	2.239	2,833,194	15,364,636	-	15,364,636
16	June	2.680	2.249	3,213,527	13,827,917	-	13,827,917
17	Total 15-month Test Period			46,821,871	\$ 188,315,002	\$ (33,252)	\$ 188,281,750
18	Booked 15-month (Over) / Under Recovery						\$ 188,281,750
19	Coal inventory Rider (Over) / Under Recovery						257,250
20	Adjustment to remove by-product net gain/loss accrued expense						(44,144,639)
21	Adjustment to include by-product net gain/loss cash payments						6,640,945
22	Total 15-month (Over) / Under Recovery						\$ 151,035,306
23	Normalized Test Period MWh Sales		Exhibit 4				37,693,746
24	Experience Modification Increment / (Decrement) cents/KWh						0.401

Notes:

Totals may not foot due to rounding.

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel Related Expense
Calculation of Experience Modification Factor - Residential
Test Period Twelve Months Ended March 31, 2019
Docket No. E-2, Sub 1204

Line No.	Month	Fuel Cost Incurred ¢/ kWh (a)	Fuel Cost Billed ¢/ kWh (b)	NC Retail MWh Sales (c)	(Over)/Under Recovery (d)	Adjustments (e)	Adjusted (Over)/Under Recovery (f)
1	April 2018 (Sub 1146)	2.501	2.179	1,138,012	\$ 3,660,529		\$ 3,660,529
2	May	3.023	2.179	1,016,135	8,577,706		8,577,706
3	June	2.787	2.179	1,404,775	8,539,907		8,539,907
4	July	2.467	2.179	1,586,631	4,574,733		4,574,733
5	August	2.510	2.179	1,553,969	5,138,198		5,138,198
6	September	2.811	2.179	1,404,365	8,874,465		8,874,465
7	October	2.193	2.179	1,264,650	179,201		179,201
8	November	2.995	2.179	1,072,132	8,748,809		8,748,809
9	December (New Rates - Sub 1173)	3.604	2.237	1,386,673	18,956,228		18,956,228
10	January 2019	2.682	2.311	1,552,025	5,751,516	\$ (14,440)	5,737,076
11	February	0.899	2.311	1,553,478	(21,931,387)		(21,931,387)
12	March	2.733	2.311	1,214,159	5,128,001		5,128,001
13	Total Test Period			16,147,005	56,197,905	(14,440)	56,183,465
14	April	3.033	2.311	1,060,985	7,664,663		7,664,663
15	May	3.295	2.311	1,051,096	10,340,265		10,340,265
16	June	2.843	2.311	1,331,074	7,081,848		7,081,848
17	Total 15-month Test Period			19,590,161	\$ 81,284,681	\$ (14,440)	\$ 81,270,241
18	Booked 15-month (Over) / Under Recovery						\$ 81,270,241
19	Coal inventory Rider (Over) / Under Recovery						107,665
20	Adjustment to remove by-product net gain/loss accrued expense						(21,280,626)
21	Adjustment to include by-product net gain/loss cash payments						3,041,510
22	Total 15-month (Over) / Under Recovery						\$ 63,138,790
23	Normalized Test Period MWh Sales		Exhibit 4				16,022,203
24	Experience Modification Increment (Decrement) cents/KWh						0.394

Notes:

Totals may not foot due to rounding.

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel Related Expense
Calculation of Experience Modification Factor - Small General Service
Test Period Twelve Months Ended March 31, 2019
Docket No. E-2, Sub 1204

Line No.	Month	Fuel Cost Incurred ¢/ kWh (a)	Fuel Cost Billed ¢/ kWh (b)	NC Retail MWh Sales (c)	(Over)/Under Recovery (d)	Adjustments (e)	Adjusted (Over)/Under Recovery (f)
1	April 2018 (Sub 1146)	2.289	2.121	140,607	\$ 236,079		\$ 236,079
2	May	2.535	2.121	136,871	567,097		567,097
3	June	2.480	2.121	178,846	642,201		642,201
4	July	2.281	2.121	194,597	310,810		310,810
5	August	2.231	2.121	198,191	217,119		217,119
6	September	2.489	2.121	179,772	662,100		662,100
7	October	1.789	2.121	174,119	(578,233)		(578,233)
8	November	2.312	2.121	156,234	298,658		298,658
9	December (New Rates - Sub 1173)	4.862	2.313	120,842	3,080,272		3,080,272
10	January 2019	2.969	2.556	174,110	718,822	\$ (1,763)	717,059
11	February	1.095	2.556	159,655	(2,332,952)		(2,332,952)
12	March	2.847	2.556	144,886	421,865		421,865
13	Total Test Period			1,958,731	4,243,838	(1,763)	4,242,075
14	April	2.930	2.556	136,059	508,889		508,889
15	May	2.974	2.556	144,225	603,324		603,324
16	June	2.793	2.556	167,849	397,399		397,399
17	Total 15-month Test Period			2,406,864	\$ 5,753,449	\$ (1,763)	\$ 5,751,686
18	Booked 15-month (Over) / Under Recovery						\$ 5,751,686
19	Coal inventory Rider (Over) / Under Recovery						13,266
20	Adjustment to remove by-product net gain/loss accrued expense						(1,888,719)
21	Adjustment to include by-product net gain/loss cash payments						333,054
22	Total 15-month (Over) / Under Recovery						\$ 4,209,287
23	Normalized Test Period MWh Sales		Exhibit 4				1,941,728
24	Experience Modification Increment (Decrement) cents/KWh						0.217

Notes:

Totals may not foot due to rounding.

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel Related Expense
Calculation of Experience Modification Factor - Medium General Service
Test Period Twelve Months Ended March 31, 2019
Docket No. E-2, Sub 1204

Line No.	Month	Fuel Cost Incurred ¢/ kWh (a)	Fuel Cost Billed ¢/ kWh (b)	NC Retail MWh Sales (c)	(Over)/Under Recovery (d)	Adjustments (e)	Adjusted (Over)/Under Recovery (f)
1	April 2018 (Sub 1146)	2.440	2.356	834,634	\$ 700,759		\$ 700,759
2	May	2.524	2.356	871,652	1,468,210		1,468,210
3	June	2.683	2.356	1,042,496	3,411,985		3,411,985
4	July	2.601	2.356	1,074,969	2,629,373		2,629,373
5	August	2.536	2.356	1,098,143	1,980,830		1,980,830
6	September	2.852	2.356	988,512	4,902,428		4,902,428
7	October	1.955	2.356	1,021,065	(4,091,099)		(4,091,099)
8	November	2.453	2.356	940,892	913,230		913,230
9	December (New Rates - Sub 1173)	5.035	2.409	706,334	18,544,231		18,544,231
10	January 2019	3.287	2.477	883,889	7,155,890	\$ (9,828)	7,146,062
11	February	1.127	2.477	855,202	(11,548,986)		(11,548,986)
12	March	2.927	2.477	790,364	3,557,351		3,557,351
13	Total Test Period			11,108,152	29,624,202	(9,828)	29,614,374
14	April	2.697	2.477	827,811	1,817,211		1,817,211
15	May	2.639	2.477	908,898	1,474,141		1,474,141
16	June	2.710	2.477	967,184	2,251,604		2,251,604
17	Total 15-month Test Period			13,812,044	\$ 35,167,158	\$ (9,828)	\$ 35,157,330
18	Booked 15-month (Over) / Under Recovery						\$ 35,157,330
19	Coal inventory Rider (Over) / Under Recovery						75,961
20	Adjustment to remove by-product net gain/loss accrued expense						(11,042,950)
21	Adjustment to include by-product net gain/loss cash payments						1,830,267
22	Total 15-month (Over) / Under Recovery						\$ 26,020,608
23	Normalized Test Period MWh Sales		Exhibit 4				11,007,307
24	Experience Modification Increment (Decrement) cents/KWh						0.236

Notes:

Totals may not foot due to rounding.

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel Related Expense
Calculation of Experience Modification Factor - Large General Service
Test Period Twelve Months Ended March 31, 2019
Docket No. E-2, Sub 1204

Line No.	Month	Fuel Cost Incurred ¢/ kWh (a)	Fuel Cost Billed ¢/ kWh (b)	NC Retail MWh Sales (c)	(Over)/Under Recovery (d)	Adjustments (e)	Adjusted (Over)/Under Recovery (f)
1	April 2018 (Sub 1146)	2.709	2.417	678,418	\$ 1,978,810		\$ 1,978,810
2	May	2.886	2.417	689,394	3,230,432		3,230,432
3	June	3.476	2.417	723,936	7,668,586		7,668,586
4	July	3.135	2.417	801,315	5,754,642		5,754,642
5	August	3.034	2.417	825,198	5,091,306		5,091,306
6	September	3.504	2.417	723,070	7,861,222		7,861,222
7	October	2.406	2.417	757,387	(84,221)		(84,221)
8	November	2.971	2.417	707,153	3,914,585		3,914,585
9	December (New Rates - Sub 1173)	4.582	2.125	610,753	15,002,143		15,002,143
10	January 2019	2.603	1.757	704,241	5,960,860	\$ (7,072)	5,953,788
11	February	0.937	1.757	643,138	(5,275,468)		(5,275,468)
12	March	2.371	1.757	615,274	3,776,307		3,776,307
13	Total Test Period			8,479,278	54,879,204	(7,072)	54,872,132
14	April	2.086	1.757	674,418	2,215,935		2,215,935
15	May	2.160	1.757	699,442	2,816,304		2,816,304
16	June	2.297	1.757	718,601	3,877,285		3,877,285
17	Total 15-month Test Period			10,571,739	\$ 63,788,728	\$ (7,072)	\$ 63,781,656
18	Booked 15-month (Over) / Under Recovery						\$ 63,781,656
19	Coal inventory Rider (Over) / Under Recovery						57,952
20	Adjustment to remove by-product net gain/loss accrued expense						(9,490,349)
21	Adjustment to include by-product net gain/loss cash payments						1,376,227
22	Total 15-month (Over) / Under Recovery						\$ 55,725,485
23	Normalized Test Period MWh Sales		Exhibit 4				8,368,542
24	Experience Modification Increment (Decrement) cents/KWh						0.666

Notes:

Totals may not foot due to rounding.

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel Related Expense
Calculation of Experience Modification Factor - Lighting
Test Period Twelve Months Ended March 31, 2019
Docket No. E-2, Sub 1204

Line No.	Month	Fuel Cost Incurred ¢/ kWh (a)	Fuel Cost Billed ¢/ kWh (b)	NC Retail MWh Sales (c)	(Over)/Under Recovery (d)	Adjustments (e)	Adjusted (Over)/Under Recovery (f)
1	April 2018 (Sub 1146)	1.793	1.657	29,739	\$ 40,376		\$ 40,376
2	May	1.950	1.657	29,677	87,063		87,063
3	June	2.466	1.657	29,473	238,428		238,428
4	July	2.454	1.657	29,516	235,228		235,228
5	August	2.401	1.657	30,068	223,853		223,853
6	September	2.546	1.657	28,700	255,094		255,094
7	October	1.780	1.657	30,213	37,141		37,141
8	November	2.113	1.657	29,213	133,338		133,338
9	December (New Rates - Sub 1173)	3.817	1.919	28,549	541,747		541,747
10	January 2019	3.244	2.251	30,547	303,393	\$ (149)	303,244
11	February	1.076	2.251	28,406	(333,718)		(333,718)
12	March	2.673	2.251	29,310	123,557		123,557
13	Total Test Period			353,410	1,885,501	(149)	1,885,352
14	April	2.541	2.251	29,301	85,101		85,101
15	May	2.693	2.251	29,533	130,603		130,603
16	June	3.014	2.251	28,819	219,780		219,780
17	Total 15-month Test Period			441,063	\$ 2,320,986	\$ (149)	\$ 2,320,837
18	Booked 15-month (Over) / Under Recovery						\$ 2,320,837
19	Coal inventory Rider (Over) / Under Recovery						2,406
20	Adjustment to remove by-product net gain/loss accrued expense						(441,994)
21	Adjustment to include by-product net gain/loss cash payments						59,886
22	Total (Over) / Under Recovery						\$ 1,941,135
23	Normalized Test Period MWh Sales			Exhibit 4			353,965
24	Experience Modification Increment (Decrement) cents/KWh						0.548

Notes:

Totals may not foot due to rounding.

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel-Related Expense
Normalized Test Period MWh Sales, Fuel and Fuel-Related Revenue, Fuel and Fuel-Related Expense, and System Peak
Test Period Twelve Months Ended March 31, 2019
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Revised Harrington Exhibit 4

Line No.	Description	Reference	Total Company	North Carolina Retail	North Carolina Residential	North Carolina Small General Service	North Carolina Medium General Service	North Carolina Large General Service	North Carolina Lighting
1	Test Period MWh Sales	Workpaper 8a	62,568,164	38,046,575	16,147,005	1,958,731	11,108,152	8,479,278	353,410
2	Customer Growth MWh Adjustment	Workpaper 8a	292,971	159,480	120,212	3,258	35,216	238	555
3	Weather MWh Adjustment	Workpaper 8a	(870,731)	(512,310)	(245,014)	(20,261)	(136,061)	(110,973)	-
4	Total Adjusted MWh Sales	Sum Lines 1-3	61,990,405	37,693,746	16,022,203	1,941,728	11,007,307	8,368,542	353,965
5	Test Period Fuel and Fuel-Related Revenue *		\$ 1,748,320,962	\$ 1,060,762,739					
6	Test Period Fuel and Fuel-Related Expense *		\$ 2,066,739,723	\$ 1,249,044,489					
7	Test Period Unadjusted (Over)/Under Recovery	Line 5 - Line 6	\$ 318,418,761	\$ 188,281,750					
			2018 Winter Coincidental Peak (CP) KW						
8	Total System Peak		15,022,364						
9	NC Retail		8,952,091						
10	NC Residential Peak		5,755,959						
11	NC Small General Service		536,770						
12	NC Medium General Service		1,812,628						
13	NC Large General Service		846,735						

Notes:

* Total Company Fuel and Fuel-Related Revenue and Fuel and Fuel-Related Expense are quantified based on NC Retail's known share of revenues and expenses grossed up to also include the percentage of sales not belonging to NC Retail.

Rounding differences may occur.

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel-Related Expense
Nuclear Capacity Ratings - MWs
Test Period Twelve Months Ended March 31, 2019
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Harrington Exhibit 5

Unit	Rate Case Docket E-2, Sub 1142	Fuel Docket E- 2, Sub 1173	Proposed Capacity Rating MW
Brunswick 1	938	938	938
Brunswick 2	932	932	932
Harris 1	928	932	964
Robinson 2	741	741	741
Total Company	3,539	3,543	3,575

Duke Energy Progress, LLC
North Carolina Annual Fuel and Fuel-Related Expense
Monthly Fuel and Baseload Report for March 2019
Test Period Twelve Months Ended March 31, 2019
Docket No. E-2, Sub 1204

Harrington Exhibit 6

March 2019
Monthly Fuel Filing and Baseload Report Cover Sheet

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Duke Energy Progress
 Summary of Monthly Fuel Report

Docket No. E-2, Sub 1201

Line No.	Fuel Expenses:	March 2019	12 Months Ended March 2019
1	Total Fuel and Fuel-Related Costs	\$ 123,073,670	\$ 1,663,002,005
	MWH sales:		
2	Total System Sales	4,925,855	68,235,058
3	Less intersystem sales	<u>372,873</u>	<u>5,666,892</u>
4	Total sales less intersystem sales	<u>4,552,982</u>	<u>62,568,166</u>
5	Total fuel and fuel-related costs (¢/KWH) (Line 1/Line 4)	<u>2.703</u>	<u>2.658</u>
6	Current fuel & fuel-related cost component (¢/KWH) (per Schedule 4, Line 5a Total)	<u>2.248</u>	
	Generation Mix (MWH):		
	Fossil (By Primary Fuel Type):		
7	Coal	644,674	8,081,365
8	Oil	4,565	77,366
9	Natural Gas - Combustion Turbine	121,930	4,022,746
10	Natural Gas - Combined Cycle	1,611,916	19,134,953
11	Biogas	692	4,404
12	Total Fossil	<u>2,383,777</u>	<u>31,320,834</u>
13	Nuclear	1,979,009	27,748,149
14	Hydro - Conventional	82,564	848,406
15	Solar Distributed Generation	19,304	227,472
16	Total MWH generation	<u>4,464,654</u>	<u>60,144,861</u>

Notes: Detail amounts may not add to totals shown due to rounding.

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Duke Energy Progress
 Details of Fuel and Fuel-Related Costs

Docket No. E-2, Sub 1201

Description	March 2019	12 Months Ended March 2019
Fuel and Fuel-Related Costs:		
Steam Generation - Account 501		
0501110 coal consumed - steam	\$ 24,936,974	\$ 303,392,775
0501310 fuel oil consumed - steam	772,460	10,958,684
Total Steam Generation - Account 501	25,709,434	314,351,459
Nuclear Generation - Account 518		
0518100 burnup of owned fuel	12,427,031	181,956,774
Other Generation - Account 547		
0547000 natural gas consumed - Combustion Turbine	12,289,318	168,066,557
0547000 natural gas consumed - Combined Cycle	42,551,124	570,332,536
0547106 biogas consumed - Combined Cycle	43,261	247,299
0547200 fuel oil consumed	97,672	6,051,638
Total Other Generation - Account 547	54,981,375	744,698,030
Reagents		
Catalyst Depreciation	131,225	1,569,962
Reagents (lime, limestone, ammonia, urea, dibasic acid, and sorbents)	1,306,098	17,186,374
Total Reagents	1,437,323	18,756,335
By-products		
Net proceeds from sale of by-products	1,611,921	86,567,009
Total By-products	1,611,921	86,567,009
Total Fossil and Nuclear Fuel Expenses		
Included in Base Fuel Component	96,167,083	1,346,329,607
Purchased Power and Net Interchange - Account 555		
Capacity component of purchased power (PURPA)	1,865,608	28,376,807
Capacity component of purchased power (renewables)	2,480,350	42,762,017
Fuel and fuel-related component of purchased power	32,070,833	485,950,079
Total Purchased Power and Net Interchange - Account 555	36,416,791	557,088,903
Less:		
Fuel and fuel-related costs recovered through intersystem sales	9,510,359	240,413,239
Solar Integration Charge	(154)	3,267
Total Fuel Credits - Accounts 447/456	9,510,205	240,416,505
Total Fuel and Fuel-Related Costs	\$ 123,073,670	\$ 1,663,002,005

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Notes: Detail amounts may not add to totals shown due to rounding.

Schedule 3, Purchases

MARCH 2019

DUKE ENERGY PROGRESS
PURCHASED POWER AND INTERCHANGE
SYSTEM REPORT - NORTH CAROLINA VIEW

Purchased Power	Total	Capacity		Non-capacity			Not Fuel \$	
		\$	mWh	Fuel \$	Fuel-related \$	Fuel-related \$	Not Fuel-related \$	
Economic								
Broad River Energy, LLC.	\$ 2,802,106	\$ 1,102,735	28,420	\$ 1,238,034	\$ 461,337			
City of Fayetteville	740,091	707,850	146	19,791	12,450			
DE Carolinas - Native Load Transfer	6,202,943	-	189,488	5,081,031	1,120,681	\$ 1,231		
DE Carolinas - Native Load Transfer Benefit	1,129,259	-	-	1,129,259	-			
DE Carolinas - Fees	501,604	-	-	-	501,604			
Haywood EMC	28,300	28,300	-	-	-			
NCEMC	3,471,917	2,777,986	16,181	693,931	-			
PJM Interconnection, LLC.	4,103	-	115	2,350	1,753			
Southern Company Services	4,236,908	802,620	107,883	2,828,970	605,318			
	\$ 19,117,231	\$ 5,419,491	342,233	\$ 10,993,366	\$ 2,703,143	\$ 1,231		
Renewable Energy								
REPS	\$ 12,798,250	-	189,866	\$ -	\$ 12,798,250	-		
DERP Qualifying Facilities	30,356	-	620	-	30,356	-		
	\$ 12,828,606		190,486	\$ -	\$ 12,828,606	\$ -		
HB589 PURPA Purchases								
Qualifying Facilities	\$ 9,737,521	-	164,313	\$ -	\$ 9,737,521	-		
	\$ 9,737,521		164,313	\$ -	\$ 9,737,521	\$ -		
Non-dispatchable								
DE Carolinas - Reliability	\$ 233,640	-	4,248	\$ 142,520	\$ -	\$ 91,120		
Energy Imbalance	12,053	-	372	10,929	-	1,124		
Generation Imbalance	788	-	31	706	-	82		
	\$ 246,481		4,651	\$ 154,155	\$ -	\$ 92,326		
Total Purchased Power	\$ 41,929,839	\$ 5,419,491	701,683	\$ 11,147,521	\$ 25,269,270	\$ 93,557		

NOTES: Detail amounts may not add to totals shown due to rounding.

Schedule 3, Sales

MARCH 2019

DUKE ENERGY PROGRESS
 INTERSYSTEM SALES*
 SYSTEM REPORT - NORTH CAROLINA VIEW

Sales	Total	Capacity		Non-capacity	
		\$	mWh	Fuel \$	Non-fuel \$
Utilities:					
SC Electric & Gas - Emergency	\$ 4,224	-	107	\$ 4,009	\$ 215
Market Based:					
NCEMC Purchase Power Agreement	1,027,466	652,500	10,969	298,841	76,125
PJM Interconnection, LLC.	18,622	-	485	14,681	3,941
Other:					
DE Carolinas - Native Load Transfer Benefit	1,181,175	-	-	1,181,175	-
DE Carolinas - Native Load Transfer	8,263,589	-	361,305	8,011,653	251,936
Generation Imbalance	(3)	-	7	-	(3)
Total Intersystem Sales	\$ 10,495,073	\$ 652,500	372,873	\$ 9,510,359	\$ 332,214

* Sales for resale other than native load priority.

NOTE: Detail amounts may not add to totals shown due to rounding.

Schedule 3, Purchases

**Twelve Months Ended
 MARCH 2019**

**DUKE ENERGY PROGRESS
 PURCHASED POWER AND INTERCHANGE
 SYSTEM REPORT - NORTH CAROLINA VIEW**

Purchased Power	Total	Capacity		Non-capacity			Not Fuel \$
		\$	mWh	Fuel \$	Fuel-related \$	Not Fuel-related \$	
Economic							
Broad River Energy, LLC.	\$ 127,085,389	\$ 46,074,078	1,857,244	\$ 68,440,822	\$ 12,570,489		
City of Fayetteville	14,767,157	12,593,900	30,153	1,680,747	492,510		
DE Carolinas - Native Load Transfer	63,545,930	-	1,982,523	30,527,552	33,022,675		(4,297)
DE Carolinas - Native Load Transfer/Benefit	5,755,905	-	-	5,755,905	-		
DE Carolinas - Fees	773,278	-	-	-	773,278		
Haywood EMC	346,350	346,350	-	-	-		
NCEMC	57,008,844	37,312,025	474,860	19,696,819	-		
PJM Interconnection, LLC.	3,551,137	-	117,614	2,113,417	1,437,720		
Southern Company Services	52,566,483	13,555,154	1,139,356	32,594,041	6,417,288		
	\$ 325,400,473	\$ 109,881,507	5,601,750	\$ 160,809,303	\$ 54,713,960	\$	(4,297)
Renewable Energy							
REPS	\$ 211,302,302	-	3,077,611	-	\$ 211,302,302		-
DERP Net Metering Excess Generation	3,230	557	75	-	-		2,673
DERP Qualifying Facilities	568,966	-	11,630	-	568,966		-
	\$ 211,874,498	557	3,089,316	\$ -	\$ 211,871,268	\$	2,673
HB589 PURPA Purchases							
Qualifying Facilities	\$ 126,885,293	-	2,036,984	-	\$ 126,885,293		-
	\$ 126,885,293	-	2,036,984	\$ -	\$ 126,885,293	\$	-
Non-dispatchable							
DE Carolinas - Emergency	\$ 15,390	-	333	\$ 13,113		\$	2,277
DE Carolinas - Reliability	3,464,748	-	52,921	2,113,496			1,351,252
Haywood EMC	5,388	5,388	-	-	-		-
Energy Imbalance	696,075	-	17,801	660,759			35,316
Generation Imbalance	35,222	-	1,462	21,711			13,511
	\$ 4,216,823	5,388	72,517	\$ 2,809,079	\$ -	\$	1,402,356
Total Purchased Power	\$ 668,377,087	\$ 109,887,452	10,800,567	\$ 163,618,382	\$ 393,470,521	\$	1,400,732

NOTES: Detail amounts may not add to totals shown due to rounding.

Schedule 3, Sales

Twelve Months Ended
 MARCH 2019

DUKE ENERGY PROGRESS
 INTERSYSTEM SALES*
 SYSTEM REPORT - NORTH CAROLINA VIEW

Sales	Total	Capacity		Non-capacity		
		\$	\$	mWh	Fuel \$	Non-fuel \$
Utilities:						
SC Electric & Gas - Emergency	\$ 16,314	-	312	\$ 14,320	\$	1,994
SC Public Service Authority - Emergency	103	-	-	-	-	103
Market Based:						
NCEMC Purchase Power Agreement	11,778,585	\$ 7,830,000	107,498	3,931,062		17,523
PJM Interconnection, LLC.	87,823	-	3,945	93,554		(5,731)
Other:						
DE Carolinas - Native Load Transfer Benefit	17,548,845	-	-	17,548,845		-
DE Carolinas - Native Load Transfer	177,756,508	-	5,554,827	168,972,668		8,783,840
DE Carolinas - Native Load Transfer (Prior Period Adjust.)	51,500,000	-	-	49,852,000		1,648,000
Generation Imbalance	2,394	-	310	790		1,604
Total Intersystem Sales	\$ 258,690,572	\$ 7,830,000	5,666,892	\$ 240,413,239	\$	10,447,333

* Sales for resale other than native load priority.

NOTES: Detail amounts may not add to totals shown due to rounding.

Schedule 4

Duke Energy Progress
(Over) / Under Recovery of Fuel Costs
March 2019

Line No.		Residential	Small General Service	Medium General Service	Large General Service	Lighting	Total
1	1a. System Retail kWh sales						4,552,981.616
	1b. System kWh Sales at generation						4,696,445.723
2	2a. DERP Net Metered kWh generation						2,501,687
	2b. Line loss percentage from Cost of Service						3.460%
	2c. DERP Net Metered kWh at generation						2,388,246
3	Adjusted System kWh sales						4,699,033.968
4	4a. NC Retail kWh sales	1,214,159,107	144,886,112	790,364,355	615,274,288	29,309,559	2,793,993,421
	4b. Line loss percentage from Cost of Service	3.787%	3.768%	3.685%	3.080%	3.785%	
	4c. NC kWh Sales at generation	1,260,139,312	150,371,500	819,489,281	634,224,736	30,418,926	2,894,643,755
	4d. NC allocation % by customer class	43.533%	5.195%	28.311%	21.910%	1.051%	
	4e. NC retail % of actual system total						61.635%
	4f. NC retail % of adjusted system total						61.601%
5	Approved fuel and fuel-related rates (¢/kWh)						
	5a. Elated rates by class (¢/kWh)	2.311	2.556	2.477	1.757	2.251	2.248
	5b. Elated fuel expense	\$28,059,217	\$3,703,289	\$19,577,325	\$10,810,369	\$659,758	\$62,809,958
6	Incurred base fuel and fuel-related (less renewable purchased power capacity) rates by class (¢/kWh)						
	Allocation changes:						
	6a. New approved Docket E-2, Sub 1173 allocation factor	43.60%	5.40%	30.57%	19.36%	1.07%	100.00%
	6b. System incurred expense	\$31,999,473	\$3,952,091	\$22,373,224	\$14,168,977	\$783,099	\$118,807,916
	6c. NC incurred expense by class	2,62811	2,72772	2,83075	2,30287	2,67182	2,61944
	6d. NC incurred base fuel rates (¢/kWh)						
7	Incurred renewable purchased power capacity rates (¢/kWh)						
	7a. NC retail production plant %	48.581%	6.580%	28.950%	15.881%	0.008%	60.52%
	7b. Production plant allocation factors						100.00%
	7c. System incurred expense	\$1,277,786	\$173,066	\$761,440	\$417,697	\$216	\$4,345,958
	7d. NC incurred renewable capacity expense	0.10524	0.11945	0.09634	0.06189	0.00074	\$2,630,204
	7e. NC incurred rates by class	2.7334	2.8472	2.9271	2.3708	2.6726	0.09414
	7f. Difference in ¢/kWh (incurred - billed)	0.42235	0.29117	0.45009	0.61376	0.42156	
8	Total incurred rates by class (¢/kWh)	\$5,128,001	\$421,865	\$3,557,351	\$3,776,307	\$123,557	\$13,007,081
9	(Over) / Under recovery [See footnote]						
10	Prior period adjustments						
11	Total (over) / under recovery [See footnote]	\$5,128,001	\$421,865	\$3,557,351	\$3,776,307	\$123,557	\$13,007,081
12	Total System Incurred Expenses						\$123,153,874
13	Less: Jurisdictional allocation adjustment						80,204
14	Total Fuel and Fuel-related Costs per Schedule 2						\$123,073,671
15	(Over) / Under recovery for each month of the current test period [See footnote]						

	Residential	Small General Service	Medium General Service	Large General Service	Lighting	Total Company
Total To Date	3,660,529	236,079	700,759	1,978,810	40,276	6,616,553
April 2018	6,616,553	236,079	700,759	1,978,810	40,276	6,616,553
May	20,547,061	567,097	1,468,210	3,230,432	87,063	13,930,508
June	41,048,168	8,539,907	642,201	7,668,586	238,428	20,501,107
July	54,552,954	4,574,733	310,810	5,754,642	235,228	13,504,786
August	67,204,260	5,138,198	1,980,830	5,091,306	223,853	12,651,306
September	89,759,569	8,874,465	4,902,428	7,864,222	255,094	22,555,309
October	85,222,358	179,201	(6,091,099)	(84,221)	37,141	(4,537,211)
November	99,230,978	8,748,809	913,230	3,914,585	133,338	14,008,620
December	155,355,599	18,956,228	3,080,272	18,544,231	15,002,143	54,174,727
January 2019	175,212,828	5,737,076	7,146,062	5,953,788	303,244	19,857,229
February	133,790,317	(21,931,387)	(11,548,986)	(5,275,468)	(333,718)	(41,422,511)
March	146,797,398	5,128,001	3,557,351	3,776,307	123,557	13,007,081
Total	\$ 56,183,466	\$ 4,242,075	\$ 29,614,374	\$ 54,872,132	\$ 1,885,351	\$ 146,797,398

Notes:
Detail amounts may not recalculate due to percentages presented as rounded.
Presentation of over or under collected amounts reflects a regulatory asset or liability. Over collections, or regulatory liabilities, are shown as negative amounts. Under collections, or regulatory assets, are shown as positive amounts.
Includes prior period adjustments.

Duke Energy Progress
 Fuel and Fuel Related Cost Report
 March 2019

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Description	Weatherspoon CT	Lee CC	Sutton CC/CT	Robinson Nuclear	Asheville Steam	Asheville CT	Roxboro Steam	Mayo Steam
Cost of Fuel Purchased (\$)								
Coal	-	-	-	-	\$5,221,006	-	\$20,932,462	\$8,482,923
Oil	108,542	-	-	-	(99)	-	451,673	404,633
Gas - CC	-	20,510,566	13,595,268	-	-	-	-	-
Gas - CT	24	-	653,299	-	-	2,150,497	-	-
Biogas	-	-	-	-	-	-	-	-
Total	108,566	\$20,510,566	\$14,248,567	-	\$5,220,907	\$2,150,497	\$21,384,135	\$8,887,556
Average Cost of Fuel Purchased (#/MBTU)								
Coal	-	-	-	-	364.47	-	330.49	280.74
Oil	1,495.69	-	-	-	1,414.29	-	1,499.83	1,499.20
Gas - CC	-	405.30	470.88	-	-	-	-	-
Gas - CT	-	-	463.78	-	-	4,363.74	-	-
Biogas	-	-	-	-	-	-	-	-
Weighted Average	1,496.02	405.30	470.54	-	364.46	4,363.74	336.02	291.52
Cost of Fuel Burned (\$)								
Coal	-	-	-	-	\$5,236,744	-	\$17,321,167	\$2,379,063
Oil - CC	-	-	-	-	-	-	-	-
Oil - Steam/CT	23,727	-	-	-	96,120	22,056	520,592	155,747
Gas - CC	-	20,510,566	13,595,268	-	-	-	-	-
Gas - CT	24	-	653,299	-	-	2,150,497	-	-
Biogas	-	-	-	-	-	-	-	-
Nuclear	-	-	-	3,301,699	-	-	-	-
Total	\$23,751	\$20,510,566	\$14,248,567	\$3,301,699	\$5,332,864	\$2,172,553	\$17,841,759	\$2,534,810
Average Cost of Fuel Burned (¢/MBTU)								
Coal	-	-	-	-	337.22	-	352.43	318.76
Oil - CC	-	-	-	-	-	-	-	-
Oil - Steam/CT	1,590.28	-	-	-	1,538.17	1,538.08	1,521.44	1,531.44
Gas - CC	-	405.30	470.88	-	-	-	-	-
Gas - CT	-	-	463.78	-	-	4,363.74	-	-
Biogas	-	-	-	-	-	-	-	-
Nuclear	-	-	-	55.67	-	-	-	-
Weighted Average	1,591.89	405.30	470.54	55.67	342.03	4,283.85	360.52	335.06
Average Cost of Generation (¢/kWh)								
Coal	-	-	-	-	4.12	-	3.83	3.65
Oil - CC	-	-	-	-	-	-	-	-
Oil - Steam/CT	-	-	-	-	18.82	25.35	16.38	17.53
Gas - CC	-	2.89	3.33	-	-	-	-	-
Gas - CT	-	-	4.70	-	-	68.59	-	-
Biogas	-	-	-	-	-	-	-	-
Nuclear	-	-	-	0.56	-	-	-	-
Weighted Average	-	2.89	3.38	0.56	4.18	67.43	3.92	3.84
Burned MBTU's								
Coal	-	-	-	-	1,552,934	-	4,914,738	746,358
Oil - CC	-	-	-	-	-	-	-	-
Oil - Steam/CT	1,492	-	-	-	6,249	1,434	34,217	10,170
Gas - CC	-	5,060,592	2,887,234	-	-	-	-	-
Gas - CT	-	-	140,865	-	-	49,281	-	-
Biogas	-	-	-	-	-	-	-	-
Nuclear	-	-	-	5,930,593	-	-	-	-
Total	1,492	5,060,592	3,028,099	5,930,593	1,559,183	50,715	4,948,955	756,528
Net Generation (mWh)								
Coal	-	-	-	-	127,212	-	452,280	65,182
Oil - CC	-	-	-	-	-	-	-	-
Oil - Steam/CT	(28)	-	-	-	511	87	3,179	888
Gas - CC	-	710,152	408,268	-	-	-	-	-
Gas - CT	-	-	13,900	-	-	3,135	-	-
Biogas	-	-	-	-	-	-	-	-
Nuclear	-	-	-	587,358	-	-	-	-
Hydro (Total System)	-	-	-	-	-	-	-	-
Solar (Total System)	-	-	-	-	-	-	-	-
Total	(28)	710,152	422,168	587,358	127,723	3,222	455,459	66,070
Cost of Reagents Consumed (\$)								
Ammonia	-	-	-	-	-	-	\$75,257	\$9,558
Limestone	-	-	-	-	164,560	-	574,657	99,999
Re-emission Chemical	-	-	-	-	-	-	-	-
Sorbents	-	-	-	-	5,765	-	216,421	32,145
Urea	-	-	-	-	114,710	-	-	-
Total	-	-	-	-	\$285,035	-	\$866,336	\$141,702

Notes:

Detail amounts may not add to totals shown due to rounding.
 Schedule excludes in-transit, terminal and tolling agreement activity.
 Cents/MBTU and cents/kWh are not computed when costs and/or net generation is negative.
 Lee and Wayne oil burn is associated with inventory consumption shown on Schedule 6 for Wayne.
 Re-emission chemical reagent expense is not recoverable in NC.

Duke Energy Progress
 Fuel and Fuel Related Cost Report
 March 2019

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Description	Brunswick Nuclear	Blewett CT	Wayne County CT	Darlington CT	Smith Energy Complex CC/CT	Harris Nuclear	Current Month	Total 12 ME March 2019
Cost of Fuel Purchased (\$)								
Coal	-	-	-	-	-	-	\$34,636,391	\$306,305,926
Oil	2,331	-	-	-	-	-	967,080	18,118,231
Gas - CC	-	-	-	-	8,445,290	-	42,551,124	570,332,536
Gas - CT	-	-	243,212	54,046	9,188,240	-	12,289,318	168,066,557
Biogas	-	-	-	-	128,337	-	128,337	920,702
Total	2,331	-	\$243,212	\$54,046	\$17,633,530	-	\$90,572,250	\$1,063,743,952
Average Cost of Fuel Purchased (¢/MBTU)								
Coal	-	-	-	-	-	-	321.07	336.61
Oil	-	-	-	-	-	-	1,502.73	1,508.31
Gas - CC	-	-	-	-	389.64	-	420.66	416.97
Gas - CT	-	-	399.99	408.17	375.47	-	453.26	368.85
Biogas	-	-	-	-	2,919.40	-	2,919.40	2,933.85
Weighted Average	-	-	399.99	408.17	384.54	-	382.43	387.41
Cost of Fuel Burned (\$)								
Coal	-	-	-	-	-	-	\$24,936,974	\$303,392,775
Oil - CC	-	-	-	-	149	-	149	2,216
Oil - Steam/CT	-	19,661	-	14,049	18,031	-	869,983	17,008,105
Gas - CC	-	-	-	-	8,445,290	-	42,551,124	570,332,536
Gas - CT	-	-	243,212	54,046	9,188,240	-	12,289,318	168,066,557
Biogas	-	-	-	-	128,337	-	128,337	920,702
Nuclear	4,276,463	-	-	-	-	4,848,869	12,427,031	181,956,773
Total	\$4,276,463	19,661	\$243,212	\$68,095	17,780,047.00	\$4,848,869	\$93,202,916	\$1,241,679,664
Average Cost of Fuel Burned (¢/MBTU)								
Coal	-	-	-	-	-	-	345.67	331.03
Oil - CC	-	-	-	-	1,655.56	-	1,655.56	1,653.73
Oil - Steam/CT	-	1,683.33	-	1,730.17	1,663.38	-	1,536.37	1,583.93
Gas - CC	-	-	-	-	389.64	-	420.66	416.97
Gas - CT	-	-	399.99	408.17	375.47	-	453.26	368.85
Biogas	-	-	-	-	2,919.40	-	2,919.40	2,933.85
Nuclear	61.77	-	-	-	-	64.95	61.16	62.63
Weighted Average	61.77	1,683.33	399.99	484.56	384.84	64.95	230.58	219.53
Average Cost of Generation (¢/kWh)								
Coal	-	-	-	-	-	-	3.87	3.75
Oil - CC	-	-	-	-	14.90	-	14.90	18.47
Oil - Steam/CT	-	-	-	-	18.30	-	19.06	21.99
Gas - CC	-	-	-	-	1.71	-	2.64	2.98
Gas - CT	-	-	5.72	10.10	9.18	-	10.08	4.18
Biogas	-	-	-	-	18.53	-	18.53	20.91
Nuclear	0.65	-	-	-	-	0.66	0.63	0.66
Weighted Average	0.65	-	5.72	17.83	2.99	0.66	2.09	2.06
Burned MBTU's								
Coal	-	-	-	-	-	-	7,214,030	91,650,544
Oil - CC	-	-	-	-	9	-	9	134
Oil - Steam/CT	-	1,168	-	812	1,084	-	56,626	1,073,793
Gas - CC	-	-	-	-	2,167,471	-	10,115,297	136,780,403
Gas - CT	-	-	60,805	13,241	2,447,150	-	2,711,342	45,564,794
Biogas	-	-	-	-	4,396	-	4,396	31,382
Nuclear	6,923,119	-	-	-	-	7,465,910	20,319,622	290,513,318
Total	6,923,119	1,168	60,805	14,053	4,620,110	7,465,910	40,421,322	565,614,368
Net Generation (mWh)								
Coal	-	-	-	-	-	-	644,674	8,081,365
Oil - CC	-	-	-	-	1	-	1	12
Oil - Steam/CT	-	(18)	-	(153)	99	-	4,564	77,354
Gas - CC	-	-	-	-	493,496	-	1,611,916	19,134,953
Gas - CT	-	-	4,250	535	100,109	-	121,930	4,022,746
Biogas	-	-	-	-	692	-	692	4,404
Nuclear	653,858	-	-	-	-	737,793	1,979,009	27,748,149
Hydro (Total System)	-	-	-	-	-	-	82,564	848,406
Solar (Total System)	-	-	-	-	-	-	19,304	227,472
Total	653,858	(18)	4,250	382	594,397	737,793	4,464,654	60,144,861
Cost of Reagents Consumed (\$)								
Ammonia	-	-	-	-	\$13,025	-	\$97,840	\$1,636,851
Limestone	-	-	-	-	-	-	839,216	11,266,783
Re-emission Chemical	-	-	-	-	-	-	-	84,162
Sorbents	-	-	-	-	-	-	254,331	3,094,114
Urea	-	-	-	-	-	-	114,710	1,188,625
Total	-	-	-	-	\$13,025	-	\$1,306,098	\$17,270,536

Duke Energy Progress
Fuel & Fuel-related Consumption and Inventory Report
March 2019
Schedule 6

Description	Weatherspoon	Lee	Sutton	Robinson	Asheville
Coal Data:					
Beginning balance	-	-	-	-	76,420
Tons received during period	-	-	-	-	57,452
Inventory adjustments	-	-	-	-	-
Tons burned during period	-	-	-	-	62,187
Ending balance	-	-	-	-	71,685
MBTUs per ton burned	-	-	-	-	24.97
Cost of ending inventory (\$/ton)	-	-	-	-	84.21
Oil Data:					
Beginning balance	642,863	-	2,623,651	78,040	2,980,615
Gallons received during period	52,588	-	-	-	(50)
Miscellaneous use and adjustments	-	-	-	-	(5,202)
Gallons burned during period	10,657	-	-	-	55,895
Ending balance	684,794	-	2,623,651	78,040	2,919,468
Cost of ending inventory (\$/gal)	2.23	-	2.80	2.42	2.11
Natural Gas Data:					
Beginning balance	-	-	-	-	-
MCF received during period	-	4,891,110	2,950,888	-	48,124
MCF burned during period	-	4,891,110	2,950,888	-	48,124
Ending balance	-	-	-	-	-
Biogas Data:					
Beginning balance	-	-	-	-	-
MCF received during period	-	-	-	-	-
MCF burned during period	-	-	-	-	-
Ending balance	-	-	-	-	-
Limestone/Lime Data:					
Beginning balance	-	-	-	-	15,946
Tons received during period	-	-	-	-	3,770
Inventory adjustments	-	-	-	-	-
Tons consumed during period	-	-	-	-	3,046
Ending balance	-	-	-	-	16,670
Cost of ending inventory (\$/ton)	-	-	-	-	51.83

Notes:
Detail amounts may not add to totals shown due to rounding.
Schedule excludes in-transit, terminal and tolling agreement activity.
Gas is burned as received; therefore, inventory balances are not maintained.
The oil inventory data for Wayne reflects the common usage of the oil tank used for both Wayne and Lee units.

Duke Energy Progress
 Fuel & Fuel-related Consumption and Inventory Report
 March 2019
 Schedule 6

Description	Roxboro	Mayo	Brunswick	Blewett	Wayne County
Coal Data:					
Beginning balance	918,904	233,107	-	-	-
Tons received during period	252,785	115,986	-	-	-
Inventory adjustments	-	-	-	-	-
Tons burned during period	193,871	29,161	-	-	-
Ending balance	977,818	319,932	-	-	-
MBTUs per ton burned	25.35	25.59	-	-	-
Cost of ending inventory (\$/ton)	89.33	81.58	-	-	-
Oil Data:					
Beginning balance	226,564	185,849	170,137	798,782	12,012,380
Gallons received during period	218,223	195,583	-	-	-
Miscellaneous use and adjustments	(7,509)	(2,879)	-	-	-
Gallons burned during period	248,114	73,853	5,958	8,311	-
Ending balance	189,164	304,700	164,179	790,471	12,012,380
Cost of ending inventory (\$/gal)	2.10	2.11	2.42	2.37	2.40
Natural Gas Data:					
Beginning balance	-	-	-	-	-
MCF received during period	-	-	-	-	58,639
MCF burned during period	-	-	-	-	58,639
Ending balance	-	-	-	-	-
Biogas Data:					
Beginning balance	-	-	-	-	-
MCF received during period	-	-	-	-	-
MCF burned during period	-	-	-	-	-
Ending balance	-	-	-	-	-
Limestone/Lime Data:					
Beginning balance	57,492	18,726	-	-	-
Tons received during period	6,784	46	-	-	-
Inventory adjustments	-	-	-	-	-
Tons consumed during period	13,316	1,826	-	-	-
Ending balance	50,960	16,946	-	-	-
Cost of ending inventory (\$/ton)	41.10	51.77	-	-	-

Duke Energy Progress
 Fuel & Fuel-related Consumption and Inventory Report
 March 2019

Schedule 6

Description	Darlington	Smith Energy Complex	Harris	Current Month	Total 12 ME March 2019
Coal Data:					
Beginning balance	-	-	-	1,228,431	1,446,194
Tons received during period	-	-	-	426,223	3,611,686
Inventory adjustments	-	-	-	-	(53,917)
Tons burned during period	-	-	-	285,219	3,634,528
Ending balance	-	-	-	1,369,435	1,369,435
MBTUs per ton burned	-	-	-	25.29	25.22
Cost of ending inventory (\$/ton)	-	-	-	87.25	87.25
Oil Data:					
Beginning balance	10,427,173	8,183,597	272,031	38,601,682	38,156,552
Gallons received during period	-	-	-	466,344	8,704,526
Miscellaneous use and adjustments	-	-	-	(15,590)	(190,076)
Gallons burned during period	5,871	7,810	-	416,469	8,035,035
Ending balance	10,421,302	8,175,787	272,031	38,635,967	38,635,967
Cost of ending inventory (\$/gal)	2.39	2.33	2.42	2.38	2.38
Natural Gas Data:					
Beginning balance	-	-	-	-	-
MCF received during period	13,020	4,496,490	-	12,458,271	177,403,519
MCF burned during period	13,020	4,496,490	-	12,458,271	177,403,519
Ending balance	-	-	-	-	-
Biogas Data:					
Beginning balance	-	-	-	-	-
MCF received during period	-	4,280	-	4,280	30,605
MCF burned during period	-	4,280	-	4,280	30,605
Ending balance	-	-	-	-	-
Limestone/Lime Data:					
Beginning balance	-	-	-	92,164	127,587
Tons received during period	-	-	-	10,600	202,258
Inventory adjustments	-	-	-	-	(3,989)
Tons consumed during period	-	-	-	18,188	241,280
Ending balance	-	-	-	84,576	84,576
Cost of ending inventory (\$/ton)	-	-	-	45.35	45.35

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**DUKE ENERGY PROGRESS
 ANALYSIS OF COAL PURCHASED
 MARCH 2019**

STATION	TYPE	QUANTITY OF TONS DELIVERED	DELIVERED COST	DELIVERED COST PER TON
ASHEVILLE	SPOT	11,285	\$ 1,081,014	\$ 95.79
	CONTRACT	46,167	3,335,178	72.24
	FIXED TRANSPORTATION/ADJUSTMENTS	-	804,814	-
	TOTAL	57,452	5,221,006	90.88
MAYO	SPOT	-	-	-
	CONTRACT	115,986	7,676,160	66.18
	FIXED TRANSPORTATION/ADJUSTMENTS	-	806,763	-
	TOTAL	115,986	8,482,923	73.14
ROXBORO	SPOT	12,785	923,729	72.25
	CONTRACT	240,000	16,160,146	67.33
	FIXED TRANSPORTATION/ADJUSTMENTS	-	3,848,587	-
	TOTAL	252,785	20,932,462	82.81
ALL PLANTS	SPOT	24,070	2,004,743	83.29
	CONTRACT	402,153	27,171,484	67.57
	FIXED TRANSPORTATION/ADJUSTMENTS	-	5,460,164	-
	TOTAL	426,223	\$ 34,636,391	\$ 81.26

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DUKE ENERGY PROGRESS
ANALYSIS OF COAL QUALITY RECEIVED
MARCH 2019

STATION	PERCENT MOISTURE	PERCENT ASH	HEAT VALUE	PERCENT SULFUR
ASHEVILLE	6.98	10.30	12,467	1.64
MAYO	5.90	7.81	13,026	2.68
ROXBORO	6.34	9.94	12,528	1.80

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**DUKE ENERGY PROGRESS
 ANALYSIS OF OIL PURCHASED
 MARCH 2019**

	ASHEVILLE	MAYO	ROXBORO	WEATHERSPOON
VENDOR	Indigo	Greensboro Tank Farm	Greensboro Tank Farm	Indigo
SPOT/CONTRACT	Contract	Contract	Contract	Contract
SULFUR CONTENT %	0	0	0	0
GALLONS RECEIVED	(50)	195,583	218,223	52,588
TOTAL DELIVERED COST	\$ (99)	\$ 404,633	\$ 451,673	\$ 108,542
DELIVERED COST/GALLON	\$ 1.98	\$ 2.07	\$ 2.07	\$ 2.06
BTU/GALLON	138,000	138,000	138,000	138,000

Notes:

A price adjustment of \$2,331 for the Brunswick station is excluded.

Duke Energy Progress
Power Plant Performance Data
Twelve Month Summary
April, 2018 - March, 2019
Nuclear Units

<u>Unit Name</u>	<u>Net Generation (mWh)</u>	<u>Capacity Rating (mW)</u>	<u>Capacity Factor (%)</u>	<u>Equivalent Availability (%)</u>
Brunswick 1	7,819,962	938	95.17	96.00
Brunswick 2	6,876,141	932	84.22	87.43
Harris 1	7,787,575	940	94.59	90.44
Robinson 2	5,264,471	741	81.10	78.71

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**Duke Energy Progress
 Power Plant Performance Data
 Twelve Month Summary
 April, 2018 through March, 2019
 Combined Cycle Units**

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Unit Name		Net Generation (mWh)	Capacity Rating (mW)	Capacity Factor (%)	Equivalent Availability (%)
Lee Energy Complex	1A	1,423,723	225	72.23	80.19
Lee Energy Complex	1B	1,430,643	227	71.95	79.56
Lee Energy Complex	1C	1,449,864	228	72.59	79.30
Lee Energy Complex	ST1	2,839,979	379	85.54	91.89
Lee Energy Complex	Block Total	7,144,209	1,059	77.01	84.05
Richmond County CC	7	1,242,500	190	74.56	82.37
Richmond County CC	8	1,232,784	190	73.98	82.31
Richmond County CC	ST4	1,387,299	177	89.61	91.20
Richmond County CC	9	1,414,983	216	74.78	80.18
Richmond County CC	10	1,427,236	216	75.43	80.50
Richmond County CC	ST5	1,840,903	248	84.74	90.61
Richmond County CC	Block Total	8,545,705	1,237	78.85	84.54
Sutton Energy Complex	1A	1,129,922	224	57.58	71.58
Sutton Energy Complex	1B	1,102,837	224	56.20	67.19
Sutton Energy Complex	ST1	1,216,696	271	51.25	64.56
Sutton Energy Complex	Block Total	3,449,455	719	54.77	67.56

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
 Power Plant Performance Data
 Twelve Month Summary
 April, 2018 through March, 2019**

Intermediate Steam Units

Unit Name	Net Generation (mWh)	Capacity Rating (mW)	Capacity Factor (%)	Equivalent Availability (%)
Mayo 1	1,350,056	746	20.66	66.37
Roxboro 2	1,555,700	673	26.39	79.51
Roxboro 3	1,374,062	698	22.47	57.68
Roxboro 4	1,960,487	711	31.48	64.47

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
Power Plant Performance Data
Twelve Month Summary
April, 2018 through March, 2019
Other Cycling Steam Units**

Unit Name	Net Generation (mWh)	Capacity Rating (mW)	Capacity Factor (%)	Operating Availability (%)
Asheville 1	682,433	192	40.57	93.57
Asheville 2	564,038	192	33.54	93.81
Roxboro 1	648,835	380	19.49	88.95

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
 Power Plant Performance Data
 Twelve Month Summary
 April, 2018 through March, 2019
 Combustion Turbine Stations**

Station Name	Net Generation (mWh)	Capacity Rating (mW)	Operating Availability (%)
Asheville CT	442,747	370	75.11
Blewett CT	-185	68	98.31
Darlington CT	152,757	825	85.44
Richmond County CT	2,892,244	934	86.50
Sutton Fast Start CT	179,798	98	87.91
Wayne County CT	378,117	963	95.72
Weatherspoon CT	374	164	93.83

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

Duke Energy Progress
Power Plant Performance Data
Twelve Month Summary
April, 2018 through March, 2019
Hydroelectric Stations

Station Name	Net Generation (mWh)	Capacity Rating (mW)	Operating Availability (%)
Blewett	58,217	27.0	45.80
Marshall	-365	4.0	0.00
Tillery	294,593	84.0	92.24
Walters	495,961	113.0	81.43

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Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
Base Load Power Plant Performance Review Plan**

Period: March, 2019

Station	Unit	Date of Outage	Duration of Outage	Scheduled / Unscheduled	Cause of Outage	Reason Outage Occurred	Remedial Action Taken
Brunswick	1	03/28/2019 - 04/01/2019	79.95	Unscheduled	Forced outage due to drywell leak	Failed instrument coupling.	Replace failed coupling and complete an extent of condition review.
	2	03/02/2019 - 04/01/2019	719.00	Scheduled	End-of-cycle 24 refueling outage	Planned refueling outage.	None, planned outage.

Harris 1 None

Robinson 2 None

Duke Energy Progress Base Load Power Plant Performance Review Plan March 2019

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Lee Energy Complex

No Outages at Baseload Units During the Month.

Richmond County Station

Unit	Duration of Outage	Type of Outage	Cause of Outage	Reason Outage Occurred	Remedial Action Taken
7	2/23/2019 3:00:00 AM To 3/8/2019 9:25:00 PM	Sch	5272 Gas Turbine - Boroscope Inspection	Boroscope and BOP outage.	
8	2/23/2019 3:00:00 AM To 3/8/2019 11:23:00 PM	Sch	5272 Gas Turbine - Boroscope Inspection	Boroscope and BOP outage.	
ST4	2/23/2019 2:58:00 AM To 3/9/2019 12:38:00 AM	Sch	5272 Gas Turbine - Boroscope Inspection	Boroscope inspections on U7, U8 and BOP outage.	
9	3/16/2019 4:03:00 AM To 4/1/2019 12:00:00 AM	Sch	5260 Major Gas Turbine Overhaul	CTmajor, BOP and ST major.	
10	3/16/2019 4:03:00 AM To 4/1/2019 12:00:00 AM	Sch	5260 Major Gas Turbine Overhaul	CTmajor, BOP and ST major.	
ST5	3/16/2019 3:54:00 AM To 4/1/2019 12:00:00 AM	Sch	4400 Major Turbine Overhaul (720 Hours Or Longer)	CTmajor, BOP and ST major.	

Sutton Energy Complex

Unit	Duration of Outage	Type of Outage	Cause of Outage	Reason Outage Occurred	Remedial Action Taken
ST1	3/14/2019 6:53:00 PM To 3/14/2019 7:10:00 PM	Unsch	4099 Other High Pressure Turbine Problems	Cold Reheat Temp tripped STG	

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

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Duke Energy Progress
Base Load Power Plant Performance Review Plan

March 2019
Brunswick Nuclear Station

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	<u>Unit 1</u>		<u>Unit 2</u>	
(A) MDC (mW)	938		932	
(B) Period Hours	743		743	
(C) Net Gen (mWh) and Capacity Factor (%)	640,194	91.86	13,664	1.97
(D) Net mWh Not Gen due to Full Schedule Outages	0	0.00	670,108	96.77
* (E) Net mWh Not Gen due to Partial Scheduled Outages	0	0.00	8,534	1.23
(F) Net mWh Not Gen due to Full Forced Outages	74,993	10.76	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-18,253	-2.62	170	0.03
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00	0	0.00
* (I) Core Conservation	0	0.00	0	0.00
(J) Net mWh Possible in Period	696,934	100.00%	692,476	100.00%
(K) Equivalent Availability (%)		89.08		2.72
(L) Output Factor (%)		102.93		61.09
(M) Heat Rate (BTU/NkWh)		10,485		14,754

* Estimate
 FOOTNOTE: D and F Include Ramping Losses

Duke Energy Progress
Base Load Power Plant Performance Review Plan

March 2019
Harris Nuclear Station

Unit 1

(A) MDC (mW)	964	
(B) Period Hours	743	
(C) Net Gen (mWh) and Capacity Factor (%)	737,793	103.01
(D) Net mWh Not Gen due to Full Schedule Outages	0	0.00
* (E) Net mWh Not Gen due to Partial Scheduled Outages	0	0.00
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-21,541	-3.01
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	716,252	100.00%
(K) Equivalent Availability (%)		100.00
(L) Output Factor (%)		103.01
(M) Heat Rate (BTU/NkWh)		10,119

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* Estimate
 FOOTNOTE: D and F Include Ramping Losses

Duke Energy Progress
Base Load Power Plant Performance Review Plan

March 2019
Robinson Nuclear Station

Unit 2

(A) MDC (mW)	741	
(B) Period Hours	743	
(C) Net Gen (mWh) and Capacity Factor (%)	587,358	106.68
(D) Net mWh Not Gen due to Full Schedule Outages	0	0.00
* (E) Net mWh Not Gen due to Partial Scheduled Outages	0	0.00
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-36,795	-6.68
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	550,563	100.00%
(K) Equivalent Availability (%)		100.00
(L) Output Factor (%)		106.68
(M) Heat Rate (BTU/NkWh)		10,097

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* Estimate
 FOOTNOTE: D and F Include Ramping Losses

**Duke Energy Progress
 Base Load Power Plant
 Performance Review Plan
 March 2019**

Lee Energy Complex

	Unit 1A	Unit 1B	Unit 1C	Unit ST1	Block Total
(A) MDC (mW)	225	227	228	379	1,059
(B) Period Hrs	743	743	743	743	743
(C) Net Generation (mWh)	144,726	143,181	145,742	276,503	710,152
(D) Capacity Factor (%)	86.57	84.89	86.03	98.19	90.25
(E) Net mWh Not Generated due to Full Scheduled Outages	0	0	0	0	0
(F) Scheduled Outages: percent of Period Hrs	0.00	0.00	0.00	0.00	0.00
(G) Net mWh Not Generated due to Partial Scheduled Outages	20,433	21,175	21,547	371	63,526
(H) Scheduled Derates: percent of Period Hrs	12.22	12.56	12.72	0.13	8.07
(I) Net mWh Not Generated due to Full Forced Outages	0	0	0	0	0
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.00	0.00	0.00
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	2,017	4,305	2,115	4,723	13,159
(N) Economic Dispatch: percent of Period Hrs	1.21	2.55	1.25	1.68	1.67
(O) Net mWh Possible in Period	167,175	168,661	169,404	281,597	786,837
(P) Equivalent Availability (%)	87.78	87.44	87.28	99.87	91.93
(Q) Output Factor (%)	86.57	84.89	86.03	98.19	90.25
(R) Heat Rate (BTU/NkWh)	8,727	8,767	8,728	4,600	7,128

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

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**Duke Energy Progress
 Base Load Power Plant
 Performance Review Plan
 March 2019**

Richmond County Station

	Unit 7	Unit 8	Unit ST4	Block Total
(A) MDC (mW)	194	194	182	570
(B) Period Hrs	743	743	743	743
(C) Net Generation (mWh)	89,949	89,752	98,060	277,761
(D) Capacity Factor (%)	62.40	62.27	72.52	65.59
(E) Net mWh Not Generated due to Full Scheduled Outages	36,747	37,128	35,059	108,934
(F) Scheduled Outages: percent of Period Hrs	25.49	25.76	25.93	25.72
(G) Net mWh Not Generated due to Partial Scheduled Outages	11,072	11,308	3,577	25,957
(H) Scheduled Derates: percent of Period Hrs	7.68	7.85	2.65	6.13
(I) Net mWh Not Generated due to Full Forced Outages	0	0	0	0
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	6,375	5,953	0	12,328
(N) Economic Dispatch: percent of Period Hrs	4.42	4.13	0.00	2.91
(O) Net mWh Possible in Period	144,142	144,142	135,226	423,510
(P) Equivalent Availability (%)	66.83	66.40	71.43	68.15
(Q) Output Factor (%)	83.76	83.87	97.90	88.30
(R) Heat Rate (BTU/NkWh)	11,095	11,074	0	7,171

Notes:

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- (R) Includes Light Off BTU's

**Duke Energy Progress
 Base Load Power Plant
 Performance Review Plan
 March 2019**

Richmond County Station

	Unit 9	Unit 10	Unit ST5	Block Total
(A) MDC (mW)	216	216	248	680
(B) Period Hrs	743	743	743	743
(C) Net Generation (mWh)	66,681	67,016	82,731	216,428
(D) Capacity Factor (%)	41.55	41.76	44.90	42.84
(E) Net mWh Not Generated due to Full Scheduled Outages	82,069	82,069	94,265	258,403
(F) Scheduled Outages: percent of Period Hrs	51.14	51.14	51.16	51.14
(G) Net mWh Not Generated due to Partial Scheduled Outages	7,624	7,443	0	15,067
(H) Scheduled Derates: percent of Period Hrs	4.75	4.64	0.00	2.98
(I) Net mWh Not Generated due to Full Forced Outages	0	0	0	0
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	4,114	3,960	7,268	15,342
(N) Economic Dispatch: percent of Period Hrs	2.56	2.47	3.94	3.04
(O) Net mWh Possible in Period	160,488	160,488	184,264	505,240
(P) Equivalent Availability (%)	44.11	44.23	48.84	45.87
(Q) Output Factor (%)	85.03	85.46	91.92	87.68
(R) Heat Rate (BTU/NkWh)	11,417	11,320	0	7,023

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

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**Duke Energy Progress
 Base Load Power Plant
 Performance Review Plan
 March 2019**

Sutton Energy Complex

	Unit 1A	Unit 1B	Unit ST1	Block Total
(A) MDC (mW)	224	224	271	719
(B) Period Hrs	743	743	743	743
(C) Net Generation (mWh)	131,326	131,593	145,349	408,268
(D) Capacity Factor (%)	78.91	79.07	72.19	76.42
(E) Net mWh Not Generated due to Full Scheduled Outages	0	0	0	0
(F) Scheduled Outages: percent of Period Hrs	0.00	0.00	0.00	0.00
(G) Net mWh Not Generated due to Partial Scheduled Outages	20,061	19,689	1,857	41,607
(H) Scheduled Derates: percent of Period Hrs	12.05	11.83	0.92	7.79
(I) Net mWh Not Generated due to Full Forced Outages	0	0	77	77
(J) Forced Outages: percent of Period Hrs	0.00	0.00	0.04	0.01
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	0
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.00
(M) Net mWh Not Generated due to Economic Dispatch	15,045	15,150	54,070	84,265
(N) Economic Dispatch: percent of Period Hrs	9.04	9.10	26.85	15.77
(O) Net mWh Possible in Period	166,432	166,432	201,353	534,217
(P) Equivalent Availability (%)	87.95	88.17	99.04	92.20
(Q) Output Factor (%)	80.79	80.88	74.49	78.46
(R) Heat Rate (BTU/NkWh)	10,994	10,972	0	7,073

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

**Duke Energy Progress
Intermediate Power Plant Performance
Review Plan
March 2019**

Mayo Station

Unit 1

(A) MDC (mW)	746
(B) Period Hrs	743
(C) Net Generation (mWh)	66,070
(D) Net mWh Possible in Period	554,278
(E) Equivalent Availability (%)	88.61
(F) Output Factor (%)	48.64
(G) Capacity Factor (%)	11.92

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
 Intermediate Power Plant Performance
 Review Plan
 March 2019**

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	Roxboro Station		
	Unit 2	Unit 3	Unit 4
(A) MDC (mW)	673	698	711
(B) Period Hrs	743	743	743
(C) Net Generation (mWh)	-5,253	104,530	357,456
(D) Net mWh Possible in Period	500,039	518,614	528,273
(E) Equivalent Availability (%)	100.00	36.00	96.26
(F) Output Factor (%)	0.00	60.59	70.24
(G) Capacity Factor (%)	0.00	20.16	67.67

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

Duke Energy Progress
Base Load Power Plant Performance Review Plan

April 2018 - March 2019
Brunswick Nuclear Station

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	<u>Unit 1</u>		<u>Unit 2</u>	
(A) MDC (mW)	938		932	
(B) Period Hours	8760		8760	
(C) Net Gen (mWh) and Capacity Factor (%)	7,819,962	95.17	6,876,141	84.22
(D) Net mWh Not Gen due to Full Schedule Outages	81,262	0.99	670,108	8.21
* (E) Net mWh Not Gen due to Partial Scheduled Outages	44,629	0.54	82,363	1.01
(F) Net mWh Not Gen due to Full Forced Outages	331,693	4.04	252,868	3.10
* (G) Net mWh Not Gen due to Partial Forced Outages	-60,666	-0.74	282,840	3.46
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00	0	0.00
* (I) Core Conservation	0	0.00	0	0.00
(J) Net mWh Possible in Period	8,216,880	100.00%	8,164,320	100.00%
(K) Equivalent Availability (%)		96.00		87.43
(L) Output Factor (%)		100.21		94.96
(M) Heat Rate (BTU/NkWh)		10,416		10,798

* Estimate
 FOOTNOTE: D and F Include Ramping Losses

Duke Energy Progress
Base Load Power Plant Performance Review Plan

April 2018 - March 2019
Harris Nuclear Station

Unit 1

(A) MDC (mW)	964	
(B) Period Hours	8760	
(C) Net Gen (mWh) and Capacity Factor (%)	7,787,575	94.59
(D) Net mWh Not Gen due to Full Schedule Outages	756,318	9.19
* (E) Net mWh Not Gen due to Partial Scheduled Outages	20,006	0.24
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-330,491	-4.02
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	8,233,408	100.00%
(K) Equivalent Availability (%)		90.44
(L) Output Factor (%)		104.23
(M) Heat Rate (BTU/NkWh)		10,226

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* Estimate
 FOOTNOTE: D and F Include Ramping Losses

Duke Energy Progress
Base Load Power Plant Performance Review Plan

April 2018 - March 2019
Robinson Nuclear Station

Unit 2

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(A) MDC (mW)	741	
(B) Period Hours	8760	
(C) Net Gen (mWh) and Capacity Factor (%)	5,264,471	81.10
(D) Net mWh Not Gen due to Full Schedule Outages	1,297,442	19.99
* (E) Net mWh Not Gen due to Partial Scheduled Outages	99,165	1.53
(F) Net mWh Not Gen due to Full Forced Outages	0	0.00
* (G) Net mWh Not Gen due to Partial Forced Outages	-169,918	-2.62
* (H) Net mWh Not Gen due to Economic Dispatch	0	0.00
* (I) Core Conservation	0	0.00
(J) Net mWh Possible in Period	6,491,160	100.00%
(K) Equivalent Availability (%)		78.71
(L) Output Factor (%)		101.36
(M) Heat Rate (BTU/NkWh)		10,476

* Estimate
 FOOTNOTE: D and F Include Ramping Losses

**Duke Energy Progress
 Base Load Power Plant
 Performance Review Plan
 April, 2018 through March, 2019**

Lee Energy Complex

	Unit 1A	Unit 1B	Unit 1C	Unit ST1	Block Total
(A) MDC (mW)	225	227	228	379	1,059
(B) Period Hrs	8,760	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,423,723	1,430,643	1,449,864	2,839,979	7,144,209
(D) Capacity Factor (%)	72.23	71.95	72.59	85.54	77.01
(E) Net mWh Not Generated due to Full Scheduled Outages	73,316	85,738	88,863	132,069	379,986
(F) Scheduled Outages: percent of Period Hrs	3.72	4.31	4.45	3.98	4.10
(G) Net mWh Not Generated due to Partial Scheduled Outages	271,178	283,193	288,469	49,253	892,092
(H) Scheduled Derates: percent of Period Hrs	13.76	14.24	14.44	1.48	9.62
(I) Net mWh Not Generated due to Full Forced Outages	45,975	37,561	36,096	78,529	198,161
(J) Forced Outages: percent of Period Hrs	2.33	1.89	1.81	2.37	2.14
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	0	9,254	9,254
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.00	0.28	0.10
(M) Net mWh Not Generated due to Economic Dispatch	156,808	151,385	133,988	210,957	653,138
(N) Economic Dispatch: percent of Period Hrs	7.96	7.61	6.71	6.35	7.04
(O) Net mWh Possible in Period	1,971,000	1,988,520	1,997,280	3,320,040	9,276,840
(P) Equivalent Availability (%)	80.19	79.56	79.30	91.89	84.05
(Q) Output Factor (%)	78.54	77.06	77.80	91.79	82.81
(R) Heat Rate (BTU/NkWh)	9,013	9,096	9,010	4,572	7,263

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

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**Duke Energy Progress
 Base Load Power Plant
 Performance Review Plan
 April, 2018 through March, 2019**

Richmond County Station

	Unit 7	Unit 8	Unit ST4	Block Total
(A) MDC (mW)	190	190	177	557
(B) Period Hrs	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,242,500	1,232,784	1,387,299	3,862,583
(D) Capacity Factor (%)	74.56	73.98	89.61	79.14
(E) Net mWh Not Generated due to Full Scheduled Outages	103,816	93,362	60,727	257,904
(F) Scheduled Outages: percent of Period Hrs	6.23	5.60	3.92	5.28
(G) Net mWh Not Generated due to Partial Scheduled Outages	175,091	179,560	59,403	414,053
(H) Scheduled Derates: percent of Period Hrs	10.51	10.78	3.84	8.48
(I) Net mWh Not Generated due to Full Forced Outages	15,578	22,448	5,014	43,040
(J) Forced Outages: percent of Period Hrs	0.93	1.35	0.32	0.88
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	12,850	12,850
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.83	0.26
(M) Net mWh Not Generated due to Economic Dispatch	129,451	138,281	22,819	290,552
(N) Economic Dispatch: percent of Period Hrs	7.77	8.30	1.47	5.95
(O) Net mWh Possible in Period	1,666,435	1,666,435	1,548,113	4,880,983
(P) Equivalent Availability (%)	82.37	82.31	91.20	85.09
(Q) Output Factor (%)	80.63	80.52	94.01	84.93
(R) Heat Rate (BTU/NkWh)	11,328	11,164	0	7,207

Notes:

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- (R) Includes Light Off BTU's

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**Duke Energy Progress
 Base Load Power Plant
 Performance Review Plan
 April, 2018 through March, 2019**

Richmond County Station

	Unit 9	Unit 10	Unit ST5	Block Total
(A) MDC (mW)	216	216	248	680
(B) Period Hrs	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,414,983	1,427,236	1,840,903	4,683,122
(D) Capacity Factor (%)	74.78	75.43	84.74	78.62
(E) Net mWh Not Generated due to Full Scheduled Outages	172,670	174,442	202,083	549,195
(F) Scheduled Outages: percent of Period Hrs	9.13	9.22	9.30	9.22
(G) Net mWh Not Generated due to Partial Scheduled Outages	198,417	194,176	0	392,593
(H) Scheduled Derates: percent of Period Hrs	10.49	10.26	0.00	6.59
(I) Net mWh Not Generated due to Full Forced Outages	3,920	277	0	4,198
(J) Forced Outages: percent of Period Hrs	0.21	0.01	0.00	0.07
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	1,848	1,848
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.09	0.03
(M) Net mWh Not Generated due to Economic Dispatch	102,169	96,030	127,646	325,845
(N) Economic Dispatch: percent of Period Hrs	5.40	5.08	5.88	5.47
(O) Net mWh Possible in Period	1,892,160	1,892,160	2,172,480	5,956,800
(P) Equivalent Availability (%)	80.18	80.50	90.61	84.09
(Q) Output Factor (%)	82.97	83.12	93.43	86.84
(R) Heat Rate (BTU/NkWh)	11,311	11,252	0	6,847

Notes:

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- (R) Includes Light Off BTU's

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**Duke Energy Progress
 Base Load Power Plant
 Performance Review Plan
 April, 2018 through March, 2019**

Sutton Energy Complex

	Unit 1A	Unit 1B	Unit ST1	Block Total
(A) MDC (mW)	224	224	271	719
(B) Period Hrs	8,760	8,760	8,760	8,760
(C) Net Generation (mWh)	1,129,922	1,102,837	1,216,696	3,449,455
(D) Capacity Factor (%)	57.58	56.20	51.25	54.77
(E) Net mWh Not Generated due to Full Scheduled Outages	204,202	273,175	242,491	719,868
(F) Scheduled Outages: percent of Period Hrs	10.41	13.92	10.21	11.43
(G) Net mWh Not Generated due to Partial Scheduled Outages	220,747	203,720	16,716	441,183
(H) Scheduled Derates: percent of Period Hrs	11.25	10.38	0.70	7.00
(I) Net mWh Not Generated due to Full Forced Outages	132,765	166,996	569,552	869,312
(J) Forced Outages: percent of Period Hrs	6.77	8.51	23.99	13.80
(K) Net mWh Not Generated due to Partial Forced Outages	0	0	12,685	12,685
(L) Forced Derates: percent of Period Hrs	0.00	0.00	0.53	0.20
(M) Net mWh Not Generated due to Economic Dispatch	274,604	215,512	315,820	805,936
(N) Economic Dispatch: percent of Period Hrs	13.99	10.98	13.30	12.80
(O) Net mWh Possible in Period	1,962,240	1,962,240	2,373,960	6,298,440
(P) Equivalent Availability (%)	71.58	67.19	64.56	67.56
(Q) Output Factor (%)	77.34	77.94	78.28	77.86
(R) Heat Rate (BTU/NkWh)	11,366	11,373	0	7,359

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.
- (R) Includes Light Off BTU's

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**Duke Energy Progress
Intermediate Power Plant
Performance Review Plan
April, 2018 through March, 2019**

Mayo Station

Units	Unit 1
(A) MDC (mW)	746
(B) Period Hrs	8,760
(C) Net Generation (mWh)	1,350,056
(D) Net mWh Possible in Period	6,534,960
(E) Equivalent Availability (%)	66.37
(F) Output Factor (%)	37.55
(G) Capacity Factor (%)	20.66

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

**Duke Energy Progress
 Intermediate Power Plant
 Performance Review Plan
 April, 2018 through March, 2019**

Roxboro Station

Units	Unit 2	Unit 3	Unit 4
(A) MDC (mW)	673	698	711
(B) Period Hrs	8,760	8,760	8,760
(C) Net Generation (mWh)	1,555,700	1,374,062	1,960,487
(D) Net mWh Possible in Period	5,895,480	6,114,480	6,228,360
(E) Equivalent Availability (%)	79.51	57.68	64.47
(F) Output Factor (%)	49.91	49.96	56.50
(G) Capacity Factor (%)	26.39	22.47	31.48

Notes:

- Units in commercial operation for the full month are presented. Pre-commercial or partial month commercial operations are not included.

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DUKE ENERGY PROGRESS, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 Proposed Nuclear Capacity Factor
 Billing Period December 1, 2019 - November 30, 2020
 Docket No. E-2, Sub 1204

Harrington Workpaper 1

	Brunswick 1	Brunswick 2	Harris 1	Robinson 1	Total
MWhs	7,500,998	8,022,954	8,298,420	5,890,772	29,713,145
Cost	\$ 45,226,821	\$ 47,347,803	\$ 56,256,531	\$ 34,493,536	\$ 183,324,690
\$/MWhs	\$ 6.0294	\$ 5.9015	\$ 6.7792	\$ 5.8555	

Avg. \$/MWhs					\$ 6.1698
Cents per kWh					0.6170

	Unit	Dec'19-Nov'20
MDC	Brunswick 1	MW 938
	Brunswick 2	MW 932
	Harris 1	MW 964
	Robinson 1	MW 741
		<u>3,575</u>

Hours in Year		8,784
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Generation in GWhs	Brunswick 1	GWh 7,501
	Brunswick 2	GWh 8,023
	Harris 1	GWh 8,298
	Robinson 1	GWh 5,891
		<u>29,713</u>

Proposed Nuclear Capacity Factor	94.62%
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Note: Totals may not sum due to rounding

DUKE ENERGY PROGRESS, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 NERC 5 Year Average Nuclear Capacity Factor
 Billing Period December 1, 2019 - November 30, 2020
 Docket No. E-2, Sub 1204

Harrington Workpaper 2

	Brunswick 1	Brunswick 2	Harris 1	Robinson 1	Total
MWhs with NERC applied	7,777,986	7,728,233	7,743,781	5,576,863	28,826,864
Hours in Year	8,784	8,784	8,784	8,784	8,784
MDC	938	932	964	741	3,575
Capacity Factor-NERC 5yr Avg	0.9440	0.944	0.9145	0.8568	
Cost (\$)	\$ 47,988,756	\$ 47,681,792	\$ 47,777,718	\$ 34,408,229	\$ 177,856,495
Avg. \$/MWhs				\$	6.1698
Cents per kWh					0.6170

	Capacity Rating	NCF Rating	Weighted Average
Brunswick 1	938	94.40%	24.77%
Brunswick 2	932	94.40%	24.61%
Harris 1	964	91.45%	24.66%
Robinson 1	741	85.68%	17.76%
	<u>3,575</u>		<u>91.80%</u>

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
North Carolina Generation in MWhs
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Harrington Workpaper 3

Resource Type	MWh	
	Dec'19-Nov'20	
Nuclear		29,600,524
Adjust for Higher Nuclear Capacity Factor		112,622
Adjusted Nuclear Total		<u>29,713,146</u>
Coal		11,243,908
Adjust for Higher Nuclear Capacity Factor		(112,622)
Adjusted Coal Total		<u>11,131,286</u>
Gas CT and CC Total		22,185,181
Total Hydro		648,112
Utility Owned Solar Generation		279,675
Total Net Generation		<u>63,957,400</u>
Purchases	287,950	
Purchases for REPS Compliance	2,984,954	
Purchases from Qualifying Facilities	3,766,456	
Allocated Economic Purchases	168,026	
Joint Dispatch purchases	352,984	7,560,370
Total Net Generation and Purchases		<u>71,517,770</u>
Sales Totals (intersystem sales, JDA sales)		(7,544,324)
Line Losses and Company Use		(1,817,527)
Total NC System Sales		<u>62,155,919</u>

Note: Totals may not sum due to rounding

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Fuel Costs (\$)
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Harrington Workpaper 4

Resource Type	Costs \$	
	Dec'19-Nov'20	
Nuclear	\$	182,708,089
Adjust for Higher Nuclear Capacity Factor		616,601
Adjusted Nuclear		<u>183,324,690</u>
Coal		352,524,698
Adjust for Higher Nuclear Capacity Factor		<u>(3,530,975)</u>
Adjusted Coal Total		348,993,723
Reagent and By-Product Costs		26,265,057
Gas CT and CC Total		591,960,856
Total Hydro		-
Utility Owned Solar Generation		-
Total Generation Costs		<u>1,150,544,326</u>
Purchases	\$ 14,160,859	
Purchases for REPS Compliance	168,625,939	
Purchases for REPS Compliance Capacity	34,622,728	
Purchases from Qualifying Facilities Energy	193,990,299	
Purchases from Qualifying Facilities Capacity	39,793,114	
Allocated Economic Purchases	5,318,328	
Joint Dispatch Purchases	7,856,766	
Joint Dispatch Savings	<u>(21,960,626)</u>	\$ 442,407,406
Total Net Generation and Purchases		<u>1,592,951,732</u>
Sales Totals (intersystem sales)	\$ (9,482,483)	
Fuel Transfer Sales	<u>(151,549,522)</u>	<u>(161,032,005)</u>
Total System Fuel and Related Expenses	\$	1,431,919,727

Note: Totals may not sum due to rounding

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Reagents (\$)
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Harrington Workpaper 5

Month	Year	Ammonia/ Urea	Limestone	Limestone Off-System Sales	Catalyst Depreciation	Magnesium Hydroxide	Calcium Carbonate	Total NC System Reagent Cost	Gypsum (Gain)/Loss	Ash (Gain)/Loss	Total NC System Reagent Cost and ByProduct (Gain)/Loss
December	2019	\$ 501,258	\$ 856,904	\$ (13,875)	\$ 131,225	\$ 263,707	\$ 566,911	\$ 2,306,129	\$ (159,935)	\$ (16,514)	\$ 2,129,680
January	2020	592,683	1,032,605	(60,191)	131,225	308,141	664,267	2,668,730	(183,141)	(26,970)	2,458,618
February	2020	564,062	1,015,062	(46,890)	131,225	295,418	627,340	2,586,217	8,224,137	(25,083)	10,785,271
March	2020	220,821	420,575	(13,341)	131,225	116,287	268,209	1,143,776	(38,896)	(7,993)	1,096,887
April	2020	125,700	248,850	(13,623)	130,758	68,966	158,824	719,475	(22,476)	(4,721)	692,278
May	2020	135,515	268,249	(8,647)	130,761	74,608	170,523	771,009	(22,587)	(4,998)	743,425
June	2020	307,837	590,654	(9,998)	129,062	166,913	370,721	1,555,190	(91,698)	(13,733)	1,449,759
July	2020	469,410	904,197	(2,067)	130,557	256,238	544,005	2,302,340	(156,469)	(21,595)	2,124,276
August	2020	444,150	866,174	(5,165)	130,802	243,033	516,617	2,195,611	(152,236)	(20,531)	2,022,844
September	2020	263,756	515,430	(2,417)	130,797	142,429	315,333	1,365,329	(102,025)	(12,865)	1,250,439
October	2020	165,988	324,185	(5,426)	131,100	90,205	198,672	904,724	(69,861)	(8,450)	826,413
November	2020	140,011	266,433	(4,077)	131,225	77,471	155,661	766,725	(73,558)	(8,000)	685,167
12ME Nov	2020	\$ 3,931,192	\$ 7,309,319	\$ (185,717)	\$ 1,569,962	\$ 2,103,416	\$ 4,557,084	\$ 19,285,255	\$ 7,151,255	\$ (171,453)	\$ 26,265,057

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Merger Fuel Impacts
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Harrington Workpaper 6

		Positive numbers represent expense, Negative numbers represent revenues							
Month	Year	Allocated Economic Purchase Cost		Economic Sales Cost		Fuel Transfer Payment		JDA Savings Payment	
		DEP	DEC	DEP	DEC	DEP	DEC	DEP	DEC
December	2019	\$ 370,332	\$ 526,346	\$ (473,650)	\$ (80,551)	\$ (20,734,306)	\$ 20,734,306	\$ (2,620,619)	\$ 2,620,619
January	2020	\$ 805,729	\$ 1,120,696	\$ (1,322,174)	\$ (2,956,749)	\$ (2,199,575)	\$ 2,199,575	\$ (499,078)	\$ 499,078
February	2020	\$ 468,910	\$ 658,964	\$ (1,700,288)	\$ (1,944,948)	\$ (2,966,788)	\$ 2,966,788	\$ (389,767)	\$ 389,767
March	2020	\$ 440,334	\$ 645,266	\$ (317,900)	\$ (366,295)	\$ (7,807,638)	\$ 7,807,638	\$ (1,677,115)	\$ 1,677,115
April	2020	\$ 565,883	\$ 861,314	\$ (307,322)	\$ (42,935)	\$ (17,492,082)	\$ 17,492,082	\$ (3,023,951)	\$ 3,023,951
May	2020	\$ 318,273	\$ 484,205	\$ (420,769)	\$ (53,391)	\$ (15,669,339)	\$ 15,669,339	\$ (2,463,276)	\$ 2,463,276
June	2020	\$ 265,020	\$ 391,037	\$ (266,975)	\$ (133,411)	\$ (13,367,229)	\$ 13,367,229	\$ (1,420,206)	\$ 1,420,206
July	2020	\$ 402,156	\$ 570,790	\$ (355,561)	\$ (554,537)	\$ (12,885,849)	\$ 12,885,849	\$ (1,852,753)	\$ 1,852,753
August	2020	\$ 503,884	\$ 715,819	\$ (349,678)	\$ (170,188)	\$ (12,569,311)	\$ 12,569,311	\$ (1,395,342)	\$ 1,395,342
September	2020	\$ 386,514	\$ 552,358	\$ (206,144)	\$ (60,045)	\$ (11,359,236)	\$ 11,359,236	\$ (1,715,765)	\$ 1,715,765
October	2020	\$ 319,946	\$ 470,917	\$ (42,092)	\$ (45,603)	\$ (14,464,750)	\$ 14,464,750	\$ (3,003,174)	\$ 3,003,174
November	2020	\$ 471,347	\$ 699,707	\$ (238,409)	\$ (114,001)	\$ (12,176,653)	\$ 12,176,653	\$ (1,899,580)	\$ 1,899,580
Total		\$ 5,318,328		\$ (6,000,962)		\$ (143,692,756)		\$ (21,960,626)	

Note: Totals may not sum due to rounding

Fuel Transfer Payments	
Purchases	Sales

December	2019	\$ 174,910	\$ 20,909,216
January	2020	\$ 3,426,589	\$ 5,626,164
February	2020	\$ 2,934,054	\$ 5,900,842
March	2020	\$ 173,089	\$ 7,980,727
April	2020	\$ 651	\$ 17,492,733
May	2020	\$ 140,440	\$ 15,809,779
June	2020	\$ 41,137	\$ 13,408,366
July	2020	\$ 327,326	\$ 13,213,176
August	2020	\$ 154,737	\$ 12,724,048
September	2020	\$ 50,830	\$ 11,410,066
October	2020	\$ 263,167	\$ 14,727,916
November	2020	\$ 169,837	\$ 12,346,489
		\$ 7,856,766	\$ 151,549,522

\$ (143,692,756)

Aug 15 2019

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DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Merger Payments
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Harrington Workpaper 7

Month	Year	MWh Transfer Projection		MWh Purchase Allocation Delta		Adjusted MWh Transfer		Fossil Gen Cost \$/MWh		Pre-Net Payments \$		Actual Payments \$	
		DEP to DEC	DEC to DEP	DEP	DEC	DEP to DEC	DEC to DEP	DEP	DEC	DEP to DEC	DEC to DEP	DEP to DEC	DEC to DEP
December	2019	880,616	7,953	4,764	(4,764)	885,380	7,953	\$ 23.62	\$ 21.99	\$ 174,910	\$ 20,909,216	\$ -	\$ 20,734,306
January	2020	280,440	127,954	(8,459)	8,459	280,440	136,413	\$ 20.06	\$ 25.12	\$ 3,426,589	\$ 5,626,164	\$ -	\$ 2,199,575
February	2020	246,473	109,549	(10,607)	10,607	246,473	120,156	\$ 23.94	\$ 24.42	\$ 2,934,054	\$ 5,900,842	\$ -	\$ 2,966,788
March	2020	485,080	9,971	4,607	(4,607)	489,687	9,971	\$ 16.30	\$ 17.36	\$ 173,089	\$ 7,980,727	\$ -	\$ 7,807,638
April	2020	839,369	44	10,681	(10,681)	850,049	44	\$ 20.58	\$ 14.88	\$ 651	\$ 17,492,733	\$ -	\$ 17,492,082
May	2020	756,005	7,983	8,211	(8,211)	764,216	7,983	\$ 20.69	\$ 17.59	\$ 140,440	\$ 15,809,779	\$ -	\$ 15,669,339
June	2020	621,236	3,230	3,731	(3,731)	624,967	3,230	\$ 21.45	\$ 12.74	\$ 41,137	\$ 13,408,366	\$ -	\$ 13,367,229
July	2020	591,188	22,850	2,247	(2,247)	593,436	22,850	\$ 22.27	\$ 14.32	\$ 327,326	\$ 13,213,176	\$ -	\$ 12,885,849
August	2020	559,731	11,450	14,246	(14,246)	573,978	11,450	\$ 22.17	\$ 13.51	\$ 154,737	\$ 12,724,048	\$ -	\$ 12,569,311
September	2020	560,773	3,782	9,132	(9,132)	569,905	3,782	\$ 20.02	\$ 13.44	\$ 50,830	\$ 11,410,066	\$ -	\$ 11,359,236
October	2020	699,609	16,686	8,585	(8,585)	708,194	16,686	\$ 20.80	\$ 15.77	\$ 263,167	\$ 14,727,916	\$ -	\$ 14,464,750
November	2020	580,820	12,468	8,209	(8,209)	589,029	12,468	\$ 20.96	\$ 13.62	\$ 169,837	\$ 12,346,489	\$ -	\$ 12,176,653
Total		7,101,341	333,918	55,346	(55,346)	7,175,753	352,984			\$ 7,856,766	\$ 151,549,522	\$ -	\$ 143,692,756

Note: Totals may not sum due to rounding

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Projected Sales
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Harrington Workpaper 8

	Projection MWhs	Remove impact of SC DERP Net Metered Generation	Adjusted Projected Sales (MWhs)
NC			
Residential	16,265,079		16,265,079
Small General Service	1,806,876		1,806,876
Medium General Service	10,414,506		10,414,506
Large General Service	9,223,825		9,223,825
Lighting	381,171		381,171
NC Retail	38,091,457		38,091,457
SC Retail	6,739,878	34,790	6,774,668
Total Wholesale	17,324,584		17,324,584
Total Adjusted NC System Sales	62,155,919	34,790	62,190,710
NC as a percentage of total	61.28%	0.00%	61.25%
SC as a percentage of total	10.84%	100.00%	10.89%
Wholesale as a percentage of total	27.87%	0.00%	27.86%
SC Net Metering allocation adjustment			
Total Projected SC NEM MWhs	34,790		
Marginal Fuel rate per MWh for SC NEM	\$ 32.11		
Fuel Benefit to be directly assigned to SC	\$ 1,117,119		
System Fuel Expense	\$ 1,431,919,727	Exh 2 Sch 1 Pg 1	
Fuel benefit to be directly assigned to SC Retail	1,117,119		
Total Adjusted System Fuel Expense	\$ 1,433,036,845	Exh 2 Sch 1 Pg 3	

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Normalized Sales
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Revised Harrington Workpaper 8a

	Test Period Sales MWhs	Weather Normalization	Customer Growth	Remove impact of SC DERP Net Metered Generation	Adjusted Projected Sales (MWhs)
NC					
Residential	16,147,005	(245,014)	120,212		16,022,203
Small General Service	1,958,731	(20,261)	3,258		1,941,728
Medium General Service	11,108,152	(136,061)	35,216		11,007,307
Large General Service	8,479,278	(110,973)	238		8,368,542
Lighting	353,410	0	555		353,965
Total	38,046,575	(512,310)	159,480		37,693,746
SC Retail	6,414,956	(85,144)	7,439	34,790	6,372,041
Total Wholesale	18,106,633	(273,277)	126,052		17,959,408
Total Adjusted NC System Sales	62,568,164	(870,731)	292,971	34,790	62,025,195
NC as a percentage of total	60.81%				60.77%
SC as a percentage of total	10.25%				10.27%
Wholesale as a percentage of total	28.94%				28.96%
SC Net Metering allocation adjustment					
Total Projected SC NEM MWhs	34,790				
Marginal Fuel rate per MWh for SC NEM	\$ 32.11				
Fuel Benefit to be directly assigned to SC	\$ 1,117,119				
System Fuel Expense	\$ 1,426,582,966	Exh 2 Sch 2 Pg 1			
Fuel benefit to be directly assigned to SC Retail	1,117,119				
Total Adjusted System Fuel Expense	\$ 1,427,700,085	Exh 2 Sch 2 Pg 3			

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Projected Sales - NERC 5 year Average
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Harrington Workpaper 8b

	Projection MWhs	Remove impact of SC DERP Net Metered Generation	Adjusted Projected Sales (MWhs)
NC			
Residential	16,265,079		16,265,079
Small General Service	1,806,876		1,806,876
Medium General Service	10,414,506		10,414,506
Large General Service	9,223,825		9,223,825
Lighting	381,171		381,171
Total	<u>38,091,457</u>		<u>38,091,457</u>
SC Retail	<u>6,739,878</u>	34,790	<u>6,774,668</u>
Total Wholesale	17,324,584		17,324,584
Total Adjusted NC System Sales	<u>62,155,919</u>	34,790	<u>62,190,710</u>
NC as a percentage of total	61.28%	0.00%	61.25%
SC as a percentage of total	10.84%	100.00%	10.89%
Wholesale as a percentage of total	27.87%	0.00%	27.86%
SC Net Metering allocation adjustment			
Total Projected SC NEM MWhs	34,790		
Marginal Fuel rate per MWh for SC NEM	\$ 32.11		
Fuel Benefit to be directly assigned to SC	\$ 1,117,119		
System Fuel Expense	\$ 1,454,238,675	Exh 2 Sch 3 Pg 1	
Fuel benefit to be directly assigned to SC Retail	<u>1,117,119</u>		
Total Adjusted System Fuel Expense	\$ 1,455,355,794	Exh 2 Sch 3 Pg 3	

DUKE ENERGY PROGRESS, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 Customer Growth Adjustment - MWh
 Twelve Months Ended March 31, 2019
 Docket No. E-2, Sub 1204

Revised Harrington Workpaper 9

Rate Schedule	Reference	NC Proposed MWH ¹ Adjustment	SC Proposed MWH Adjustment	Wholesale Proposed MWH Adjustment
Residential	RES	120,212	7,813	
General:				
General Service Small	SGS	3,258	(2,492)	
General Service Medium	MGS	35,216	2,162	
Total General		38,474	(330)	
Lighting:				
Street Lighting	SLS/SLR	417	11	
Sports Field Lighting	SFLS	95	(6)	
Traffic Signal Service	TSS/TFS	42	(50)	
Total Street Lighting		555	(44)	
Industrial:				
I - Textile	LGS	-	-	
I - Nontextile	LGS	238	-	
Total Industrial		238	-	
Total		159,480	7,439	126,052

¹ Using the regression method (Residential, Lighting, SGS classes) and a customer by customer method for MGS and Industrial.

North Carolina Annual Fuel and Fuel Related Expense

NC Retail Allocation %

Line Loss Calculation Factors - 12 Months Ending December 31, 2018

Docket No. E-2, Sub 1204

	kWh @ Meter	E-2 Allocation	kWh @ Prod Out.	E-1 Allocation	Losses	Cost of Service Data Summarized		kWh @ Meter	kWh @ Prod Out.	Losses (kWh)	Loss Percent
NC RES	16,158,859,096	0.253513	16,886,868,234	0.256060	728,009,138	Residential		16,666,046,589	17,416,906,173	750,859,584	4.51%
NC RES-TOU	507,187,493	0.007957	530,037,939	0.008037	22,850,446	SGS		1,987,351,193	2,076,867,944	89,516,751	4.50%
NC SGS	1,950,982,004	0.030609	2,038,860,205	0.030916	87,878,201	MGS		11,222,040,191	11,708,160,163	486,119,972	4.33%
NC SGS-CLR	31,614,397	0.000496	33,038,728	0.000501	1,424,331	LGS		8,457,791,022	8,728,935,826	271,144,804	3.21%
NC MGS-TOU	8,371,865,197	0.131344	8,732,655,226	0.132416	360,790,029	Lighting		354,038,518	369,978,576	15,940,058	4.50%
NC MGS	2,807,099,681	0.044040	2,930,697,735	0.044439	123,598,054	Total NC Retail		38,687,267,513	40,300,848,683	1,613,581,170	4.17%
NC SI	43,075,313	0.000676	44,807,202	0.000679	1,731,889						
NC LGS	1,141,204,433	0.017904	1,182,461,085	0.017930	41,256,652						
NC LGS-TOU	1,598,681,135	0.025081	1,654,866,445	0.025093	56,185,310	Total NC Retail		38,687,267,513	40,300,848,683	1,613,581,170	4.17%
NC LGS-RTP	5,717,905,454	0.089707	5,891,608,297	0.089336	173,702,843						
NC TSS	4,754,792	0.000075	4,969,011	0.000075	214,219	SC Retail		6,506,745,205	6,761,080,842	254,335,637	3.91%
NC ALS	267,795,639	0.004201	279,860,703	0.004244	12,065,064	NEM Generation		18,558,183	19,313,093	754,910	
NC SLS	85,107,971	0.001335	88,942,362	0.001349	3,834,391	Total SC Retail		6,525,303,388	6,780,393,935	255,090,547	3.91%
NC SFLS	1,134,908	0.000018	1,175,511	0.000018	40,603						
Total NCR	38,687,267,513	0.606957	40,300,848,683	0.611093	1,613,581,170	All other jurisdictions		18,527,177,957	18,867,533,137	340,355,180	1.84%
						Total System		63,739,748,858	65,948,775,755	2,209,026,897	3.47%
NCEMPA	7,640,609,496	0.119872	7,781,142,553	0.117988	140,533,057						
NCEMC	7,861,748,196	0.123341	8,006,348,638	0.121403	144,600,442	Line Loss Calculations for Projected Fuel Costs		MWh @ Meter	MWh @ Prod Out.	Losses (MWh)	Loss Percent
Fayetteville	2,134,092,683	0.033481	2,173,344,861	0.032955	39,252,179	Total NC Retail		38,091,457	39,749,335	1,657,878	4.35%
FBEMC	548,372,445	0.008603	558,458,611	0.008468	10,086,166	Total SC Retail		6,774,668	7,050,281	275,613	4.07%
Piedmont EMC	76,153,133	0.001195	77,553,811	0.001176	1,400,678	All other jurisdictions		17,324,584	17,648,803	324,219	1.87%
Haywood EMC	83,779,955	0.001314	85,320,912	0.001294	1,540,957	Total System		62,190,710	64,448,420	2,257,710	3.63%
Total NCWHS	10,704,146,412	0.167935	10,901,026,834	0.165295	196,880,422	Allocation percent - NC retail		61.25%	61.68%		
Total NC	57,032,023,421	0.894764	58,983,018,069	0.894376	1,950,994,648	Line Loss Calculations for Normalized Test Period Sales		MWh @ Meter	MWh @ Prod Out.	Losses (MWh)	Loss Percent
SC RES	2,148,532,519	0.033708	2,245,330,894	0.034047	96,798,375	Total NC Retail		37,693,746	39,334,314	1,640,568	4.35%
SC RET	41,479,049	0.000651	43,347,815	0.000657	1,868,766	Total SC Retail		6,372,041	6,631,275	259,233	4.07%
SC SGS	278,936,083	0.004376	291,483,609	0.004420	12,547,526	All other jurisdictions		17,959,408	18,295,507	336,099	1.87%
SC SGS-CLR	4,439,514	0.000070	4,639,529	0.000070	200,015	Total System		62,025,195	64,261,096	2,235,901	3.60%
SC MGS-TOU	1,115,225,685	0.017497	1,163,034,915	0.017635	47,809,230	Allocation percent - NC retail		60.77%	61.21%		
SC MGS	537,836,914	0.008438	561,105,498	0.008508	23,268,584						
SC SI	18,492,882	0.000290	19,221,900	0.000291	729,018						
SC LGS	698,027,189	0.010951	723,387,192	0.010969	25,360,003						
SC LGS-TOU	309,355,839	0.004853	318,750,549	0.004833	9,394,710						
SC LGS-CRTL-TOU	702,376,100	0.011019	720,122,869	0.010919	17,746,769						
SC LGS-RTP	571,293,865	0.008963	586,269,865	0.008890	14,976,000						
SC TSS	855,613	0.000013	894,161	0.000014	38,548						
SC ALS	63,427,856	0.000995	66,285,487	0.001005	2,857,631						
SC SLS	16,316,405	0.000256	17,051,512	0.000259	735,107						
SC SFLS	149,692	0.000002	155,048	0.000002	5,356						
Total SCR	6,506,745,205	0.102083	6,761,080,842	0.102520	254,335,637						
SCWHS (Camden)	200,980,232	0.003153	204,676,844	0.003104	3,696,612						
Total SC	6,707,725,437	0.105236	6,965,757,686	0.105624	258,032,249						
Total System	63,739,748,858	1.000000	65,948,775,755	1.000000	2,209,026,897						

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Actual MWH Sales by Jurisdiction - Subject to Weather
Twelve Months Ended March 31, 2018
Docket No. E-2, Sub 1204

Harrington Workpaper 12

Line No.	Description	Reference	North Carolina	South Carolina	Retail Total Company	% NC	% SC
1	Residential	Company Records	16,212,941	2,124,879	18,337,820	88.41	11.59
2	Commercial	Company Records	12,343,207	1,695,832	14,039,039	87.92	12.08
3	Industrial	Company Records	8,008,994	2,530,292	10,539,285	75.99	24.01
4	Other Public Authority	Company Records	1,418,749	49,526	1,468,275	96.63	3.37
5	Total Retail Sales subject to weather	Sum 1 through 4	37,983,890	6,400,529	44,384,420		
6	Lighting	Company Records	62,686	14,427	77,113		
7	Total Retail Sales	Line 5 + Line 6	38,046,576	6,414,956	44,461,533		

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Production Plant Allocation Factors
Cost of Service Study ending December 31, 2018
Docket No. E-2, Sub 1204

Harrington Workpaper 13

Total Production Plant	System	NC Retail	Residential	Small GS	Med GS	Lrg GS	Ltg
Rate Base	16,654,620,260.27	10,159,449,637.14	5,038,986,361.77	625,383,836.37	2,870,205,385.50	1,624,134,063.08	739,990.43
NC Retail % to Total System		61.00%	30.26%	3.76%	17.23%	9.75%	0.00%
Allocation of Classes to Total NC Retail		100.00%	49.60%	6.16%	28.25%	15.99%	0.01%

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Weather Adjustment - MWh
Twelve Months Ended March 31, 2019
Docket No. E-2, Sub 1204

Line No.	Description	Reference	Total Company MWh	NC RETAIL		SC RETAIL	
				% To Total	MWh	% To Total	MWh
	<u>Residential</u>						
1	Residential		(277,134)	88.41	(245,014)	11.59	(32,120)
	<u>Commercial</u>						
2	Small and Medium General Service		(177,800)	87.92	(156,322)	12.08	(21,478)
	<u>Industrial</u>						
3	Large General Service		(129,569)	75.99	(98,460)	24.01	(31,110)
	<u>OPA</u>						
4	Other Public Authority (Large General Service)		<u>(12,950)</u>	96.63	<u>(12,514)</u>	3.37	<u>(436)</u>
5	Total Retail	L1+ L2+ L3 + L4	(597,454)		(512,310)		(85,144)
6	Wholesale		(273,277)				
7	Total Company	L5 + L6	<u>(870,731)</u>		<u>(512,310)</u>		<u>(85,144)</u>

Note: Totals may not sum due to rounding

DUKE ENERGY PROGRESS, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 Weather Adjustment - MWh
 Twelve Months Ended March 31, 2019
 Docket No. E-2, Sub 1204

		<u>Residential</u>	<u>Commercial</u>	<u>Industrial</u>	<u>Other Public Authority</u>	<u>Total Retail</u>	<u>Wholesale</u>
		<u>MWH Adjustment</u>	<u>MWH Adjustment</u>	<u>MWH Adjustment</u>	<u>MWH Adjustment</u>	<u>MWH Adjustment</u>	<u>MWH Adjustment</u>
April	2018	(103,408)	-	(35,282)	-	(138,690)	(1,563)
May	2018	(28,053)	(8,585)	(17,810)	-	(54,447)	(33,684)
June	2018	(185,737)	(86,887)	(21,885)	(5,782)	(300,291)	(198,952)
July	2018	(92,102)	(33,697)	(106,078)	(3,424)	(235,301)	(79,798)
August	2018	24,133	10,823	5,669	1,191	41,816	20,525
September	2018	(127,205)	31,171	101,925	(8,189)	(2,297)	(79,728)
October	2018	(221,055)	(123,169)	(110,300)	(860)	(455,384)	(122,663)
November	2018	(8,362)	(130,560)	(58,350)	(6,178)	(203,451)	(10,818)
December	2018	(101,677)	130,283	96,047	-	124,653	(62,059)
January	2019	224,778	29,898	16,496	842	272,014	164,657
February	2019	77,988	2,922	-	1,051	81,962	90,461
March	2019	263,564	-	-	8,399	271,963	40,344
12ME March	2019	(277,134)	(177,800)	(129,569)	(12,950)	(597,454)	(273,277)

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
Scenario Differences
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Revised Harrington Workpaper 15

Exhibit 2 Schedule 1: Line Loss

Line Losses	Exh 2 Sch 1 Pg 1 Ln 16	(1,817,527)
Generation	Exh 2 Sch 1 Pg 1 Ln 10	<u>63,957,400</u>
	%	-2.842%
	Multiplier	1.028418

Schedule 2: Proposed Nuclear Capacity Factor & Normalized Sales

Normalized Sales	Exh 4, Total Co., Ln 4	61,990,405
Sales Forecast	Exh 2 Sch 1 Pg 1 Ln 18	<u>62,155,919</u>
Difference		(165,514)
Gross up for losses		(170,218)
MWh changes in Coal		(170,218)
MWH changes in Losses		4,704

		Before Adj	Adj	Total
Total Coal MWh	WP 3	<u>11,131,286</u>	(170,218)	10,961,068
Total Losses MWh		(1,817,527)	4,704	(1,812,823)
		Before Adj	After Adj	Adjustment
Total Coal \$	WP 4	<u>348,993,723</u>	343,656,962	(5,336,761)

Schedule 3: NERC 5 year average Capacity Factor & Projected Sales

		Nuclear-MWHs	Nuclear Costs	
Nuclear	WP 1-Nuclear	<u>29,713,145</u>	\$ 183,324,690	
Nuclear - NERC Average	WP 2-Nuclear NERC	<u>28,826,864</u>	\$ 177,856,495	
	Adjustment	(886,281)	\$ (5,468,195)	
		Coal	Coal Costs	
Coal MWh	WP 3	<u>11,131,286</u>	\$ 348,993,723	
Adjustment from Above	above	886,281	\$ 27,787,143	(Priced at the avg Coal \$/MWH)
		<u>12,017,568</u>	\$ 376,780,866	

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
2.5% Calculation Test
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Revised Harrington Workpaper 16

Line No.	Description	EMF (Over)/Under		
		Forecast \$	Collection \$	Total \$
1	Amount in current docket	\$ 281,070,708	\$ 98,879,127	\$ 379,949,835
2	Amount in 2018 Filing: Docket E-2 Sub 1173	310,910,776	78,097,747	389,008,523
3	Reduction in prior year docket in excess of 2.5%	(57,234,383)		(57,234,383)
4	Increase/(Decrease)	\$ 27,394,316	\$ 20,781,380	\$ 48,175,695
5	2.5% of 2018 NC revenue of \$3,587,884,326			89,697,108
6	Amount over 2.5%			0

		System Cost	Alloc %	NC Alloc. Forecast
WP 4	Purchases	\$ 14,160,859	61.68%	\$ 8,734,418
WP 4	Purchases for REPS Compliance	168,625,939	61.68%	104,008,479
WP 4	Purchases for REPS Compliance Capacity	34,622,728	61.00%	21,120,137
WP 4	Purchases from Qualifying Facilities Energy	193,990,299	61.68%	119,653,216
WP 4	Purchases from Qualifying Facilities Capacity	39,793,114	61.00%	24,274,113
WP 4	Allocated Economic Purchases	5,318,328	61.68%	3,280,345
	Total	\$ 456,511,266		\$ 281,070,708

		System Cost	Alloc %	NC Alloc. Forecast
Prior Year	Purchases	\$ 71,395,237	60.59%	\$ 43,258,374
Prior Year	Purchases for REPS Compliance	187,595,597	60.59%	113,664,172
Prior Year	Purchases for REPS Compliance Capacity	38,515,117	60.52%	23,309,349
Prior Year	Purchases from Qualifying Facilities Energy	162,649,793	60.59%	98,549,509
Prior Year	Purchases from Qualifying Facilities Capacity	33,362,793	60.52%	20,191,162
Prior Year	Allocated Economic Purchases	19,703,265	60.59%	11,938,208
	Total	\$ 513,221,803		\$ 310,910,776

DUKE ENERGY PROGRESS, LLC
North Carolina Annual Fuel and Fuel Related Expense
2.5% Calculation Test - Normalized
Billing Period December 1, 2019 - November 30, 2020
Docket No. E-2, Sub 1204

Revised Harrington Workpaper 16a

Line No.	Description	EMF (Over)/Under		
		Forecast \$	Collection \$	Total \$
1	Amount in current docket	\$ 277,600,013	\$ 98,879,127	\$ 376,479,140
2	Amount in 2018 Filing: Docket E-2 Sub 1173	309,190,377	78,097,747	387,288,125
3	Reduction in prior year docket in excess of 2.5%	(54,730,355)		(54,730,355)
4	Increase/(Decrease)	\$ 23,139,991	\$ 20,781,380	\$ 43,921,371
5	2.5% of 2018 NC revenue of \$3,587,884,326			89,697,108
6	Amount over 2.5%			0

		System Cost	Alloc %	NC Alloc. Forecast
WP 4	Purchases	\$ 14,160,859	60.77%	\$ 8,605,790
WP 4	Purchases for REPS Compliance	168,625,939	60.77%	102,476,796
WP 4	Purchases for REPS Compliance Capacity	34,622,728	61.00%	21,120,137
WP 4	Purchases from Qualifying Facilities Energy	193,990,299	60.77%	117,891,140
WP 4	Purchases from Qualifying Facilities Capacity	39,793,114	61.00%	24,274,113
WP 4	Allocated Economic Purchases	5,318,328	60.77%	3,232,037
	Total	\$ 456,511,266		\$ 277,600,013

		System Cost	Alloc %	NC Alloc. Forecast
Prior Year	Purchases	\$ 71,395,237	60.20%	\$ 42,980,069
Prior Year	Purchases for REPS Compliance	187,595,597	60.20%	112,932,908
Prior Year	Purchases for REPS Compliance Capacity	38,515,117	60.52%	23,309,349
Prior Year	Purchases from Qualifying Facilities Energy	162,649,793	60.20%	97,915,486
Prior Year	Purchases from Qualifying Facilities Capacity	33,362,793	60.52%	20,191,162
Prior Year	Allocated Economic Purchases	19,703,265	60.20%	11,861,403
	Total	\$ 513,221,803		\$ 309,190,377

Line No.	Reference	Apr'18	May'18	Jun'18	July'18	Aug'18	Sept'18	Oct'18	Nov'18	Dec'18	Jan'19	Feb'19	Mar'19	Apr'19	May'19	Jun'19	15ME	
1	System kWh Sales, at generation	4,636,856,473	4,790,246,098	5,856,645,043	6,359,201,366	6,396,519,871	5,600,434,066	5,314,903,250	4,874,260,445	4,981,394,129	5,794,466,810	5,252,024,407	4,699,033,969	4,552,563,478	5,036,544,467	5,524,085,729	79,669,179,602	
2	NC Retail kWh Sales, at generation	2,922,606,924	2,841,868,501	3,501,325,638	3,819,890,072	3,838,942,450	3,444,193,130	3,364,015,670	3,009,697,941	2,956,160,111	3,465,598,155	3,357,151,243	2,894,643,756	2,841,301,317	2,950,169,419	3,347,286,069	48,554,850,394	
3	NC Retail % of Sales	Line 2 / Line 1	63.03%	59.33%	59.78%	60.07%	60.02%	61.50%	63.29%	61.75%	59.34%	63.92%	61.60%	62.41%	58.58%	60.59%	60.95%	
Total Purchase Power, Excl. JDA																		
4	System Purchase Power, Excl. JDA	\$ 30,903,462	\$ 37,042,584	\$ 36,347,253	\$ 48,228,217	\$ 43,182,460	\$ 51,035,291	\$ 32,621,404	\$ 34,293,760	\$ 17,654,479	\$ 21,940,974	\$ 25,169,675	\$ 23,859,381	\$ 37,155,563	\$ 36,682,605	\$ 39,194,737	\$ 515,311,845	
5	NC Purchase Power	\$ 19,478,452	\$ 21,975,883	\$ 21,729,842	\$ 28,970,207	\$ 25,916,385	\$ 31,386,194	\$ 20,647,392	\$ 21,175,368	\$ 10,476,874	\$ 13,122,677	\$ 16,088,708	\$ 14,697,618	\$ 23,189,166	\$ 21,486,934	\$ 23,749,812	\$ 314,091,512	
6	NC Retail kWh Sales	2,821,409,876	2,743,728,563	3,379,526,908	3,687,026,670	3,705,569,376	3,324,420,103	3,247,433,903	2,905,623,408	2,853,151,529	3,344,812,989	3,239,878,500	2,793,993,421	2,728,574,094	2,833,194,484	3,213,527,076	46,821,870,900	
7	Incurred Rate	Line 5 / Line 6 * 100	0.690	0.801	0.643	0.786	0.699	0.944	0.636	0.729	0.367	0.392	0.497	0.526	0.850	0.758	0.739	0.671
Total Capacity																		
8	System Capacity	\$ 5,782,707	\$ 5,674,828	\$ 9,101,624	\$ 9,523,762	\$ 9,397,062	\$ 9,555,756	\$ 2,508,522	\$ 3,801,068	\$ 2,050,191	\$ 4,238,370	\$ 5,182,042	\$ 4,345,958	\$ 6,120,873	\$ 7,384,605	\$ 8,159,863	\$ 92,827,230	
9	NC Capacity	\$ 3,499,694	\$ 3,434,406	\$ 5,508,303	\$ 5,763,781	\$ 5,687,102	\$ 5,783,144	\$ 1,518,157	\$ 2,300,406	\$ 1,240,775	\$ 2,565,062	\$ 3,136,172	\$ 2,630,174	\$ 3,733,794	\$ 4,504,683	\$ 4,977,598	\$ 56,283,250	
10	NC Retail kWh Sales	Line 6	2,821,409,876	2,743,728,563	3,379,526,908	3,687,026,670	3,705,569,376	3,324,420,103	3,247,433,903	2,905,623,408	2,853,151,529	3,344,812,989	3,239,878,500	2,793,993,421	2,728,574,094	2,833,194,484	3,213,527,076	46,821,870,900
11	Incurred Rate	Line 9/Line 10*100	0.124	0.125	0.163	0.156	0.153	0.174	0.047	0.079	0.043	0.077	0.097	0.094	0.137	0.159	0.155	0.120
12	Total Incurred Rate	Line 7 + Line 11	0.814	0.926	0.806	0.942	0.853	1.118	0.683	0.808	0.411	0.469	0.593	0.620	0.987	0.917	0.894	0.791
13	Billed Rate	Billed Rates Below	0.461	0.461	0.461	0.461	0.461	0.461	0.461	0.588	0.747	0.747	0.747	0.747	0.747	0.747	0.747	0.747
14	(Over)/Under cents per kwh	Line 13 - Line 12	0.353	0.465	0.345	0.481	0.392	0.657	0.221	0.347	(0.177)	(0.278)	(0.154)	(0.127)	0.239	0.170	0.147	0.147
15	(Over)/Under \$	Line 14 * Line10 /100	9,966,974	12,757,351	11,653,168	17,730,950	14,514,938	21,838,490	7,189,730	10,076,244	(5,048,825)	(9,311,212)	(4,989,889)	(3,554,444)	6,529,667	4,816,394	4,709,591	98,879,127

Billed Rate from Docket E-2, Sub 1146 - Apr'18-Nov'18

Billed Rate from Docket E-2, Sub 1173 - Dec'18-Mar'19

* December billed Rate is based on prorated billing factors

16	Purchases (Other Purchases + Economic Purchases)	60,888,103	2017 Ward WP 4
17	MWH Sales	68,022,851	2017 Ward WP 3
18	Billed Rate for Purchases	0.090	
19	Renewables	154,215,192	2017 Ward WP 4
20	MWH Sales	68,022,851	2017 Ward WP 3
21	Billed Rate for Renewables	0.227	
22	QF Purchases	55,113,822	2017 Ward WP 4
23	MWH Sales	68,022,851	2017 Ward WP 3
24	Billed Rate for Renewables	0.081	
25	Capacity (REPS and QF)	43,476,066	2017 Ward WP 4
26	MWH Sales	68,022,851	2017 Ward WP 3
27	Billed Rate for Capacity	0.064	
28	Total Billed Rate	0.461	

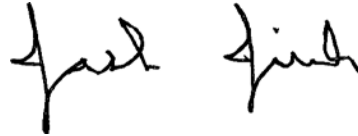
16	Purchases (Other Purchases + Economic Purchases)	91,098,502	2018 Ward WP 4
17	MWH Sales	68,667,857	2018 Ward WP 3
18	Billed Rate for Purchases	0.133	
19	Renewables	187,595,597	2018 Ward WP 4
20	MWH Sales	68,667,857	2018 Ward WP 3
21	Billed Rate for Renewables	0.273	
22	QF Purchases (energy)	162,649,793	2018 Ward WP 4
23	MWH Sales	68,667,857	2018 Ward WP 3
24	Billed Rate for Renewables	0.237	
25	Capacity (REPS and QF)	71,877,910	2018 Ward WP 4
26	MWH Sales	68,667,857	2018 Ward WP 3
27	Billed Rate for Capacity	0.105	
28	Total Billed Rate	0.747	

	Prior Bill Rate (Sub 1146)	New Bill Rate (Sub 1173)	December Blended Rate
Approved Rates	0.461	0.747	
Ratios of Days to rate	55.81%	44.19%	
Prorated Rate	0.257	0.330	0.588
** January billed Rate is based on prorated billing factors			
	Prior Bill Rate (Sub 1146)	New Bill Rate (Sub 1173)	January Blended Rate
Approved Rates	0.461	0.747	
Ratios of Days to rate	0.001%	99.999%	
Prorated Rate	0.000	0.747	0.747

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Progress, LLC's Supplemental Testimony and Exhibits, in Docket No. E-2, Sub 1204, has been served by electronic mail, hand delivery or by depositing a copy in the United States mail, postage prepaid to parties of record.

This the 15th day of August, 2019.

Handwritten signature of Jack E. Jirak in black ink.

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