

Duke Energy Carolinas, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 Proposed Nuclear Capacity Factor
 Billing Period September 2024 through August 2025
 Docket E-7, Sub 1304

Clark Rebuttal Workpaper 1

	Catawba 1	Catawba 2	McGuire 1	McGuire 2	Oconee 1	Oconee 2	Oconee 3	Total
MWhs	9,347,567	10,027,547	9,403,752	9,418,985	6,824,457	7,444,183	7,534,716	60,001,207
Cost (Gross of Joint Owners)	\$ 53,705,148	\$ 58,162,280	\$ 47,201,592	\$ 52,851,514	\$ 38,459,797	\$ 38,902,538	\$ 44,392,589	\$ 333,675,458
\$/MWh	5.7454	5.8002	5.0194	5.6112	5.6356	5.2259	5.8917	
Avg \$/MWh		5.5611						
Cents per kWh		0.5561						

Sept 2024 - August 2025

MDC			
CATA_UN01	Catawba	MW	1,160.0
CATA_UN02	Catawba	MW	1,150.1
MCGU_UN01	McGuire	MW	1,158.0
MCGU_UN02	McGuire	MW	1,157.6
OCUN_UN01	Oconee	MW	847.0
OCUN_UN02	Oconee	MW	848.0
OCUN_UN03	Oconee	MW	859.0
			<u>7,179.7</u>
Hours In Year			8,760
Generation GWhs			
CATA_UN01	Catawba	GWh	9,348
CATA_UN02	Catawba	GWh	10,028
MCGU_UN01	McGuire	GWh	9,404
MCGU_UN02	McGuire	GWh	9,419
OCUN_UN01	Oconee	GWh	6,824
OCUN_UN02	Oconee	GWh	7,444
OCUN_UN03	Oconee	GWh	7,535
			<u>60,001</u>
Proposed Nuclear Capacity Factor			95.40%

rounding differences may occur

Duke Energy Carolinas, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 NERC 5 Year Average Nuclear Capacity Factor
 Billing Period September 2024 through August 2025
 Docket E-7, Sub 1304

Clark Rebuttal Workpaper 2

	Catawba 1	Catawba 2	McGuire 1	McGuire 2	Oconee 1	Oconee 2	Oconee 3	Total
MWhs with NERC applied	9,294,816	9,215,489	9,278,790	9,275,585	6,875,855	6,883,972	6,973,269	57,797,776
Hours	8,760	8,760	8,760	8,760	8,760	8,760	8,760	8,760
MDC	1,160.0	1,150.1	1,158.0	1,157.6	847.0	848.0	859.0	7,179.7
Capacity factor	91.47%	91.47%	91.47%	91.47%	92.67%	92.67%	92.67%	91.90%
Cost	\$ 51,689,824	\$ 51,248,678	\$ 51,600,704	\$ 51,582,880	\$ 38,237,629	\$ 38,282,774	\$ 38,779,367	\$ 321,421,856

Avg \$/MWh **5.5611**
 Cents per kWh **0.5561**

2018-2022	Capacity Rating	NCF Rating	Weighted Average
Oconee 1	847.0	92.67	10.93%
Oconee 2	848.0	92.67	10.95%
Oconee 3	859.0	92.67	11.09%
McGuire 1	1,158.0	91.47	14.75%
McGuire 2	1,157.6	91.47	14.75%
Catawba 1	1,160.0	91.47	14.78%
Catawba 2	1,150.1	91.47	14.65%
	<u>7,179.7</u>		<u>91.90%</u>

Wtd Avg on Capacity Rating

rounding differences may occur

Duke Energy Carolinas, LLC
North Carolina Annual Fuel and Fuel Related Expense
North Carolina Generation and Purchased Power in MWhs
Billing Period September 2024 through August 2025
Docket E-7, Sub 1304

Clark Rebuttal Workpaper 3

Resource Type	Sept 2024 - August 2025	
NUC Total (Gross)	60,001,207	
COAL Total	12,133,505	
Gas CT and CC total (Gross)	25,226,685	
Run of River	4,745,064	
Net pumped Storage	(3,858,458)	
Total Hydro	886,606	
Catawba Joint Owners	(14,135,004)	
Lee CC Joint Owners	(728,842)	
DEC owned solar	370,349	
Total Generation		83,754,505
Purchases for REPS Compliance	1,064,067	
Qualifying Facility Purchases - Non-REPS compliance	1,976,670	
Other Purchases	297,852	
Allocated Economic Purchases	698,416	
Joint Dispatch Purchases	8,147,505	
Total Generation and Purchased Power	12,184,511	95,939,016
Fuel Recovered Through Intersystem Sales	(820,718)	

rounding differences may occur

Duke Energy Carolinas, LLC
North Carolina Annual Fuel and Fuel Related Expense
Projected Fuel and Fuel Related Costs
Billing Period September 2024 through August 2025
Docket E-7, Sub 1304

Clark Rebuttal Workpaper 4

Resource Type	Sept 2024 - August 2025		
Nuclear Total (Gross)	\$	333,675,458	
COAL Total		535,009,000	
Gas CT and CC total (Gross)		874,702,857	
Catawba Joint Owner costs		(78,608,911)	
CC Joint Owner costs		(20,336,093)	
Reagents and gain/loss on sale of By-Products		35,509,807	Workpaper 8
Purchases for REPS Compliance - Energy		51,648,652	
Purchases for REPS Compliance - Capacity		11,295,326	
Purchases of Qualifying Facilities - Energy		51,796,696	
Purchases of Qualifying Facilities - Capacity		10,762,375	
Other Purchases		5,544,352	
JDA Savings Shared		35,913,409	Workpaper 5
Allocated Economic Purchase cost		29,144,842	Workpaper 5
Joint Dispatch purchases		234,564,497	Workpaper 6
Total Purchases		430,670,150	
Fuel Expense recovered through intersystem sales		(31,306,907)	Workpaper 5
Total System Fuel and Fuel Related Costs	\$	2,079,315,362	

rounding differences may occur

Positive numbers represent costs to ratepayers, Negative numbers represent removal of costs to ratepayers

	Allocated Economic Purchase Cost		Economic Sales Cost		Fuel Transfer Payment		JDA Savings Payment	
	DEP	DEC	DEP	DEC	DEP	DEC	DEP	DEC
9/1/2024	\$ 635,987	\$ 949,343	\$ (570,354)	\$ (711,463)	\$ (20,444,528)	\$ 20,444,528	\$ (4,406,911)	\$ 4,406,911
10/1/2024	\$ 507,008	\$ 781,871	\$ (559,677)	\$ (842,869)	\$ (23,902,070)	\$ 23,902,070	\$ (7,074,550)	\$ 7,074,550
11/1/2024	\$ 733,742	\$ 1,125,859	\$ (804,802)	\$ (889,959)	\$ (15,101,064)	\$ 15,101,064	\$ (3,146,653)	\$ 3,146,653
12/1/2024	\$ 1,066,938	\$ 1,552,841	\$ (1,398,999)	\$ (1,543,006)	\$ (14,204,901)	\$ 14,204,901	\$ (2,410,950)	\$ 2,410,950
1/1/2025	\$ 3,877,816	\$ 5,590,943	\$ (1,664,613)	\$ (1,988,540)	\$ (15,526,703)	\$ 15,526,703	\$ (2,669,525)	\$ 2,669,525
2/1/2025	\$ 2,760,416	\$ 4,064,918	\$ (1,291,963)	\$ (1,551,284)	\$ (18,320,990)	\$ 18,320,990	\$ (3,838,498)	\$ 3,838,498
3/1/2025	\$ 1,235,433	\$ 1,780,540	\$ (893,078)	\$ (953,826)	\$ (16,254,338)	\$ 16,254,338	\$ (2,520,564)	\$ 2,520,564
4/1/2025	\$ 1,111,747	\$ 1,684,076	\$ (559,373)	\$ (699,072)	\$ (21,306,894)	\$ 21,306,894	\$ (3,173,607)	\$ 3,173,607
5/1/2025	\$ 1,106,742	\$ 1,615,373	\$ (1,575,648)	\$ (1,826,860)	\$ (12,080,153)	\$ 12,080,153	\$ (3,453,131)	\$ 3,453,131
6/1/2025	\$ 2,431,208	\$ 3,593,632	\$ (1,349,142)	\$ (1,399,699)	\$ (20,447,285)	\$ 20,447,285	\$ 1,317,639	\$ (1,317,639)
7/1/2025	\$ 2,469,527	\$ 3,499,902	\$ (1,848,085)	\$ (1,904,784)	\$ (21,329,914)	\$ 21,329,914	\$ (3,129,724)	\$ 3,129,724
8/1/2025	\$ 2,013,644	\$ 2,905,543	\$ (1,630,744)	\$ (1,671,352)	\$ (20,321,464)	\$ 20,321,464	\$ (1,406,936)	\$ 1,406,936

Sept 24 - Aug 25 \$ 29,144,842 \$ (15,982,713) \$ 219,240,304 \$ 35,913,409

\$ 234,564,497 Workpaper 6 - Transfer - Purchases

\$ (15,324,193) Workpaper 6 - Transfer - Sales

\$ 219,240,304 Sept 24 - Aug 25 Net Fuel Transfer Payment

rounding differences may occur

\$ (15,324,193) Workpaper 6 - Transfer - Sales

\$ (15,982,713) Sept 24 - Aug 25 Economic Sales Cost

\$ (31,306,907) Total Fuel expense recovered through intersystem sales

Duke Energy Carolinas, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 Projected Merger Payments
 Billing Period September 2024 through August 2025
 Docket E-7, Sub 1304

Clark Rebuttal Workpaper 6

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	Transfer Projection		Purchase Allocation Delta		Adjusted Transfer		Fossil Gen Cost		Pre-Net Payments	
	PEctoDEC	DEctoPEC	PEC	DEC	PEctoDEC	DEctoPEC	PEC	DEC	PEctoDEC	DEctoPEC
9/1/2024	934,871	4,991	(234)	234	934,871	5,225	22.00	22.93	119,808	20,564,337
10/1/2024	1,171,831	2,518	2,277	(2,277)	1,174,108	2,518	20.41	22.62	56,957	23,959,028
11/1/2024	644,148	32,321	867	(867)	645,015	32,321	24.74	26.41	853,517	15,954,580
12/1/2024	546,060	68,027	(1,777)	1,777	546,060	69,803	29.96	30.89	2,156,098	16,360,999
1/1/2025	505,742	95,655	(14,470)	14,470	505,742	110,125	39.06	38.37	4,225,455	19,752,158
2/1/2025	547,389	41,707	(11,218)	11,218	547,389	52,926	37.01	36.59	1,936,608	20,257,598
3/1/2025	593,780	38,512	(846)	846	593,780	39,357	29.41	30.73	1,209,522	17,463,860
4/1/2025	749,289	18,382	(158)	158	749,289	18,541	29.13	28.13	521,605	21,828,499
5/1/2025	472,220	44,953	(895)	895	472,220	45,848	28.38	28.79	1,320,132	13,400,285
6/1/2025	682,391	17,590	(6,254)	6,254	682,391	23,843	31.06	31.47	750,333	21,197,619
7/1/2025	660,318	25,240	(6,042)	6,042	660,318	31,282	33.89	33.45	1,046,485	22,376,399
8/1/2025	636,322	26,899	(6,827)	6,827	636,322	33,726	33.71	33.44	1,127,671	21,449,135
Sept 24 - Aug 25	8,144,362	416,795	(45,577)	45,577	8,147,505	465,516			\$ 15,324,193	\$ 234,564,497
									Net Pre-Net Payments	\$ 219,240,304

rounding differences may occur

Spring 2024 Forecast
 Billed Sales Forecast
 Sales Forecast - MWhs (000)

	Projected sales At Meter for the Billing Period	Remove impact of SC DERP Net Metered Generation	Adjusted Sales	2022 Cost of Service Line Loss Factors	Adjusted Projected Sales at Generation
North Carolina:					
Residential	22,870,391		22,870,391	5.4880%	24,198,399
General	24,349,887		24,349,887	5.8390%	25,859,843
Industrial	12,348,188		12,348,188	5.5870%	13,078,907
Lighting	241,040		241,040	5.8390%	255,987
NC RETAIL	59,809,506	-	59,809,506		63,393,136
South Carolina:					
Residential	7,051,738		7,051,738		
General	5,570,198		5,570,198		
Industrial	8,525,790		8,525,790		
Lighting	48,602		48,602		
SC RETAIL	21,196,328	150,334	21,346,662	5.8280%	22,667,738
Total Retail Sales					
Residential	29,922,129	-	29,922,129		
General	29,920,085	-	29,920,085		
Industrial	20,873,978	-	20,873,978		
Lighting	289,642	-	289,642		
Retail Sales	81,005,834	150,334	81,005,834		86,060,874
Wholesale	9,598,766	-	9,598,766	2.1900%	9,813,686
Projected System MWH Sales for Fuel Factor	90,604,599	150,334	90,754,933		95,874,559
NC as a percentage of total	66.01%		65.90%		66.12%
SC as a percentage of total	23.39%		23.52%		23.64%
Wholesale as a percentage of total	10.59%		10.58%		10.24%
	100.00%		100.00%		100.00%

SC Net Metering allocation adjustment

Total projected SC NEM MWhs	150,334
Marginal fuel rate per MWh for SC NEM	\$ 24.74
Fuel benefit to be directly assigned to SC Retail	\$ 3,719,263

System Fuel Expense	\$ 2,079,315,362	Clark Exhibit 2 Schedule 1 Page 1 of 2
Fuel benefit to be directly assigned to SC Retail	\$ 3,719,263	
Total Fuel Costs for Allocation	\$ 2,083,034,625	

Duke Energy Carolinas, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 Projected and Adjusted Projected Sales and Costs
 Proposed Nuclear Capacity Factor of 95.73% and Normalized Test Period Sales
 Billing Period September 2024 through August 2025
 Docket E-7, Sub 1304

Clark Revised Workpaper 7a

Spring 2024 Forecast
 Billed Sales Forecast - Normalized Test Period Sales
 Sales Forecast - MWhs (000)

	Test Period Sales	Customer Growth Adjustment	Weather Adjustment	Remove impact of SC DERP Net Metered generation	Normalized Test Period Sales	2022 Cost of Service Line Loss Factors	Normalized Test Period Sales MWhs at Generation
NC RETAIL							
Residential	21,544,402	216,090	1,046,809		22,807,302	5.4880%	24,131,647
General & Lighting	24,310,321	(44,343)	208,055		24,474,032	5.8390%	25,991,687
Industrial	11,674,957	12,311	17,164		11,704,432	5.5870%	12,397,056
NC RETAIL	57,529,680	184,058	1,272,028	-	58,985,766		62,520,389
SC RETAIL	20,649,066	131,233	387,779	150,334	21,318,412	5.8280%	22,637,740
Wholesale	8,177,978	89,190	96,670	-	8,363,838	2.1900%	8,551,107
Normalized System MWH Sales for Fuel Factor	86,356,724	404,481	1,756,476	150,334	88,668,017		93,709,236
NC as a percentage of total	66.62%				66.52%		66.72%
SC as a percentage of total	23.91%				24.04%		24.16%
Wholesale as a percentage of total	9.47%				9.43%		9.13%
	<u>100.00%</u>				<u>100.00%</u>		<u>100.00%</u>
SC Net Metering allocation adjustment							
Total projected SC NEM MWhs	150,334						
Marginal fuel rate per MWh for SC NEM	\$ 24.74						
Fuel benefit to be directly assigned to SC Retail	\$ 3,719,263						
System Fuel Expense	\$ 1,993,924,563						
Fuel benefit to be directly assigned to SC Retail	\$ 3,719,263						
Total Fuel Costs for Allocation	\$ 1,997,643,826						

Duke Energy Carolinas, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 Projected and Adjusted Projected Sales and Costs
 NERC 5 Year Average Nuclear Capacity Factor of 91.90% and Projected Period Sales
 Billing Period September 2024 through August 2025
 Docket E-7, Sub 1304

Clark Rebuttal Workpaper 7b

Spring 2024 Forecast
 Billed Sales Forecast
 Sales Forecast - MWhs (000)

		Remove impact of			
	Projected sales	SC DERP Net	Adjusted Sales	2022 Cost of Service	Adjusted Projected
	for the Billing	Metered		Line Loss Factors	Sales
	Period	generation			at Generation
North Carolina:					
	Residential		22,870,391	5.4880%	24,198,399
	General		24,349,887	5.8390%	25,859,843
	Industrial		12,348,188	5.5870%	13,078,907
	Lighting		241,040	5.8390%	255,987
	NC RETAIL		59,809,506		63,393,136
		-			
South Carolina:					
	Residential		7,051,738		
	General		5,570,198		
	Industrial		8,525,790		
	Lighting		48,602		
	SC RETAIL		21,196,328	5.8280%	22,667,738
		150,334	21,346,662		
Total Retail Sales					
	Residential		29,922,129		
	General		29,920,085		
	Industrial		20,873,978		
	Lighting		289,642		
	Retail Sales		81,005,834		86,211,208
		150,334	81,156,168		
	Wholesale		9,598,766	2.1900%	9,813,686
		-	9,598,766		
	Projected System MWh Sales for Fuel Factor		90,604,599		96,024,893
		150,334	90,754,933		
	NC as a percentage of total		66.01%		66.02%
	SC as a percentage of total		23.39%		23.61%
	Wholesale as a percentage of total		10.59%		10.22%
			99.99%		99.90%
			100.00%		
	SC Net Metering allocation adjustment				
	Total projected SC NEM MWhs		150,334		
	Marginal fuel rate per MWh for SC NEM		\$ 24.74		
	Fuel benefit to be directly assigned to SC Retail		\$ 3,719,263		
	System Fuel Expense		\$ 2,144,217,436		
	Fuel benefit to be directly assigned to SC Retail		\$ 3,719,263		
	Total Fuel Costs for Allocation		\$ 2,147,936,699		

	MWh at Meter	MWh at Meter Allocation	MWh at Generation (high side of GSU)	MWh at Generation Allocation	Losses
North Carolina					
Residential	22,375,068	25.44%	23,603,052	25.46%	1,227,984
General Service/Light	24,374,324	27.71%	25,797,639	27.83%	1,423,316
Industrial	12,309,569	13.99%	12,997,365	14.02%	687,796
Total NCR	59,058,961	67.14%	62,398,056	67.31%	3,339,095
NCWHS incl. NCEMPA	3,299,248	3.75%	3,373,119	3.64%	73,871
Total NC	62,358,208	70.89%	65,771,175	70.95%	3,412,967
South Carolina					
Residential	6,858,353	7.80%	7,234,752	7.80%	376,399
General Service/Light	5,679,157	6.46%	6,025,412	6.50%	346,255
Industrial	8,371,712	9.52%	8,867,745	9.57%	496,033
Total SCR	20,909,221	23.77%	22,127,908	23.87%	1,218,687
SC Greenwood	46,046	0.05%	48,600	0.05%	
SCWHS	4,650,971	5.29%	4,755,107	5.13%	104,137
Total SC	25,606,238	29.11%	26,931,615	29.05%	1,322,824
Total System	87,964,446	100.00%	92,702,790	100.00%	4,738,344

		Cost of Service Data Summarized			
		MWh @ Meter	MWh @ Generator	Losses (MWh)	Loss Percent
Residential		22,375,068	23,603,052	1,227,984	5.4880%
GS/Lighting		24,374,324	25,797,639	1,423,316	5.8390%
Industrial		12,309,569	12,997,365	687,796	5.5870%
Total NC Retail		59,058,961	62,398,056	3,339,095	5.6540%
Total NC Retail		59,058,961	62,398,056	3,339,095	5.6540%
SC Retail		20,909,221	22,127,908	1,218,687	5.8280%
12ME NEM Generation		150,334	159,095	8,761	5.8280%
Total SC Retail		21,059,555	22,287,004	1,227,448	5.8280%
Wholesale		7,845,930	8,017,730	171,800	2.1900%
Total System		87,964,446	92,702,790	4,738,344	5.3870%

Line Loss Calculations for Projected Fuel Costs		
	MWh @ Meter	MWh @ Generator
Residential	22,870,391	24,198,399
GS/Lighting	24,590,927	26,115,830
Industrial	12,348,188	13,078,907
Total NC Retail	59,809,506	63,393,136
Total SC Retail	21,346,662	22,667,738
Wholesale	9,598,766	9,813,686
Total System	90,754,934	95,874,559
Allocation percent - NC retail	65.90%	66.12% WP 7, WP 7b

Line Loss Calculations for Normalized Test Period Sales		
	MWh @ Meter	MWh @ Generator
Residential	22,807,302	24,131,647
GS/Lighting	24,474,032	25,991,687
Industrial	11,704,432	12,397,056
Total NC Retail	58,985,766	62,520,389
Total SC Retail	21,318,412	22,637,740
Wholesale	8,363,838	8,551,107
Total System	88,668,016	93,709,236
Allocation percent - NC retail	66.52%	66.72% WP 7a

Reagent and ByProduct projections

Date	Ammonia	Urea	Limestone	Magnesium Hydroxide	Calcium Carbonate	Lime	Reagent Cost	Gypsum (Gain)/Loss	Ash (Gain)/Loss	Steam (Gain)/Loss	Sale of By-Products (Gain)/Loss
9/1/2024	\$ 662,137	\$ 63,087	\$ 794,542	\$ 36,763	\$ 22,497	\$ 18,972	\$ 1,597,997	\$ 235,728	\$ (60,108)	\$ (189,321)	\$ (13,702)
10/1/2024	\$ 365,026	\$ 34,779	\$ 438,018	\$ 15,829	\$ 9,686	\$ 18,972	\$ 882,309	\$ 88,414	\$ (49,602)	\$ (189,321)	\$ (150,509)
11/1/2024	\$ 947,810	\$ 90,305	\$ 1,137,341	\$ 68,073	\$ 41,657	\$ 18,972	\$ 2,304,157	\$ 387,510	\$ (82,483)	\$ (189,321)	\$ 115,705
12/1/2024	\$ 1,252,199	\$ 119,306	\$ 1,502,597	\$ 124,781	\$ 76,359	\$ 18,972	\$ 3,094,214	\$ 426,775	\$ (120,283)	\$ (189,321)	\$ 117,171
1/1/2025	\$ 2,414,634	\$ 230,060	\$ 2,897,480	\$ 169,764	\$ 103,885	\$ 18,972	\$ 5,834,795	\$ 763,069	\$ (237,738)	\$ (189,321)	\$ 336,010
2/1/2025	\$ 1,970,226	\$ 187,718	\$ 2,364,204	\$ 148,850	\$ 91,087	\$ 18,972	\$ 4,781,057	\$ 701,490	\$ (155,593)	\$ (189,321)	\$ 356,576
3/1/2025	\$ 661,717	\$ 63,047	\$ 794,038	\$ 49,658	\$ 30,387	\$ 18,972	\$ 1,617,818	\$ 259,318	\$ (47,152)	\$ (189,321)	\$ 22,845
4/1/2025	\$ 413,300	\$ 39,378	\$ 495,946	\$ 36,766	\$ 22,499	\$ 18,972	\$ 1,026,860	\$ 158,037	\$ (34,777)	\$ (189,321)	\$ (66,061)
5/1/2025	\$ 533,810	\$ 50,860	\$ 640,554	\$ 39,899	\$ 24,416	\$ 18,972	\$ 1,308,512	\$ 229,335	\$ (39,288)	\$ (189,321)	\$ 725
6/1/2025	\$ 1,259,407	\$ 119,993	\$ 1,511,247	\$ 62,303	\$ 38,126	\$ 18,972	\$ 3,010,047	\$ 462,587	\$ (106,231)	\$ (189,321)	\$ 167,034
7/1/2025	\$ 1,806,168	\$ 172,087	\$ 2,167,341	\$ 72,971	\$ 44,654	\$ 18,972	\$ 4,282,192	\$ 650,598	\$ (157,789)	\$ (235,753)	\$ 257,056
8/1/2025	\$ 1,839,105	\$ 175,225	\$ 2,206,864	\$ 70,000	\$ 42,836	\$ 18,972	\$ 4,353,001	\$ 672,868	\$ (163,119)	\$ (235,753)	\$ 273,996
	\$ 14,125,538	\$ 1,345,843	\$ 16,950,171	\$ 895,657	\$ 525,592	\$ 227,663	\$ 34,092,960	\$ 5,035,729	\$ (1,254,163)	\$ (2,364,719)	\$ 1,416,847

Total Reagent cost and Sale of By-products \$ 35,509,807

rounding differences may occur

Duke Energy Carolinas, LLC
North Carolina Annual Fuel and Fuel Related Expense
2.5% Calculation Test
Twelve Months Ended December 31, 2023
Billing Period September 2024 through August 2025
Docket E-7, Sub 1304

Clark Rebuttal Workpaper 9

Line No.	Description	Forecast \$	(Over)/Under Collection \$	Total \$
1	Amount in current docket	91,030,663	2,705,033	93,735,696
2	Amount in Sub 1282, prior year docket	108,889,655	70,794,129	179,683,784
3	Increase/(Decrease)	(17,858,992)	(68,089,097)	(85,948,088)
4	2.5% of 2023 NC retail revenue of \$5,417,293,543			135,432,339
	Excess of purchased power growth over 2.5% of revenue			0
E-7, Sub 1304				
WP 4	Purchases for REPS Compliance - Energy	51,648,652	65.90%	34,036,462
WP 4	Purchases for REPS Compliance - Capacity	11,295,326	0.00%	-
WP 4	Purchases	5,544,352	65.90%	3,653,728
WP 4	QF Energy	51,796,696	65.90%	34,134,023
WP 4	QF Capacity	10,762,375	0.00%	-
WP 4	Allocated Economic Purchase cost	29,144,842	65.90%	19,206,451
		160,192,243		91,030,663
E-7, Sub 1282				
	Purchases for REPS Compliance	68,804,621	67.00%	46,099,096
	Purchases for REPS Compliance Capacity	14,936,094	66.68%	9,959,579
	Purchases	442,692	67.00%	296,604
	QF Energy	46,784,121	67.00%	31,345,361
	QF Capacity	9,663,863	66.68%	6,443,988
	Allocated Economic Purchase cost	22,007,503	67.00%	14,745,027
		162,638,895		108,889,655

rounding differences may occur

2023	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	12 ME
System kWh Sales - Sch 4, Adjusted	7,854,287,999	6,934,846,782	6,641,557,020	6,514,366,828	6,146,930,258	7,019,586,081	7,980,161,318	8,668,518,310	8,276,682,129	6,736,893,311	6,257,253,723	7,454,787,248	86,485,871,009
NC Retail kWh Sales - Sch 4	5,297,871,075	4,651,448,264	4,457,422,794	4,384,886,138	4,081,225,729	4,645,595,587	5,265,835,034	5,747,161,460	5,553,369,282	4,434,404,716	4,239,284,678	4,771,175,352	57,529,680,110
NC Retail % of Sales, Actuals (Calc)	67.54%	67.18%	67.22%	67.42%	66.51%	66.28%	66.08%	66.38%	67.18%	65.93%	67.87%	64.10%	66.62%
NC Retail % of Sales, Adjusted (Calc)	67.45%	67.07%	67.11%	67.31%	66.39%	66.18%	65.99%	66.30%	67.10%	65.82%	67.75%	64.00%	66.52%
NC retail production plant%	66.68%	66.68%	66.68%	66.68%	67.59%	67.59%	67.59%	67.59%	67.59%	67.59%	67.59%	67.59%	67.40%
Fuel and Fuel related component of purchased power													
System Actual \$ - Sch 3 Fuel\$:	\$ 16,094,191	\$ 3,933,514	\$ 11,713,010	\$ 8,938,848	\$ 12,094,329	\$ 11,531,053	\$ 16,165,913	\$ 20,551,811	\$ 19,251,830	\$ 24,023,842	\$ 23,932,793	\$ 9,961,878	\$ 178,193,012
System Actual \$ - Sch 3 Fuel-related\$; Economic Purchases	4,490,389	695,666	1,243,143	916,124	952,826	1,326,377	1,881,336	2,622,880	1,602,457	1,568,493	1,720,196	2,480,693	21,500,580
System Actual \$ - Sch 3 Fuel-related\$; Purchased Power for REPS Compliance	3,611,490	7,870,147	3,867,355	5,211,256	5,135,046	5,506,547	5,557,340	5,455,614	5,098,575	4,206,666	3,924,590	3,303,809	58,748,435
System Actual\$ - Sch 3 Fuel-related\$; SC DERP	150,010	263,513	161,232	259,030	244,568	242,598	269,439	270,334	237,447	261,069	232,453	169,028	2,760,721
System Actual\$ - Sch 3 Fuel-related\$; SC ACT 62 (Solar Choice)										102,653	3,046	13,237	118,936
System Actual \$ - Sch 3 Fuel-related\$; HB589 purpa Purchases	2,294,533	3,127,298	2,300,057	3,268,409	3,390,357	3,491,315	3,450,044	3,587,125	3,238,065	3,440,066	2,976,354	2,281,872	36,845,496
Total System Economic & QFS	26,640,613	15,890,138	19,284,797	18,593,667	21,817,127	22,097,890	27,324,072	32,487,764	29,428,373	33,602,789	32,789,431	18,210,518	298,167,179
<u>Less:</u>													
Native Load Transfers, Native Load Transfer Benefit & DE - Progress fees	\$ 12,596,278	\$ 2,192,181	\$ 11,669,944	\$ 8,737,817	\$ 12,131,496	\$ 11,592,645	\$ 16,561,057	\$ 21,669,458	\$ 19,697,648	\$ 23,609,791	\$ 22,989,786	\$ 9,378,130	\$ 172,826,231
Total System Economic \$ without Native Load Transfers	\$ 14,044,335	\$ 13,697,957	\$ 7,614,853	\$ 9,855,850	\$ 9,685,631	\$ 10,505,245	\$ 10,763,016	\$ 10,818,306	\$ 9,730,725	\$ 9,890,346	\$ 9,796,600	\$ 8,819,150	\$ 125,222,013
NC Actual \$ (Calc)	\$ 9,473,179	\$ 9,187,707	\$ 5,110,642	\$ 6,634,072	\$ 6,430,730	\$ 6,952,421	\$ 7,102,145	\$ 7,172,454	\$ 6,528,982	\$ 6,510,092	\$ 6,637,189	\$ 5,644,388	\$ 83,384,001
Billed rate (¢/kWh):	0.1409	0.1409	0.1409	0.1409	0.1409	0.1409	0.1409	0.1409	0.1357	0.1409	0.1409	0.1409	
Billed \$:	\$ 7,463,993	\$ 6,553,270	\$ 6,279,914	\$ 6,177,719	\$ 5,749,902	\$ 6,545,024	\$ 7,418,858	\$ 8,096,983	\$ 7,535,841	\$ 6,247,484	\$ 5,972,586	\$ 6,721,949	\$ 80,763,523
(Over)/ Under \$:	\$ 2,009,186	\$ 2,634,437	\$ (1,169,272)	\$ 456,353	\$ 680,827	\$ 407,397	\$ (316,713)	\$ (924,529)	\$ (1,006,859)	\$ 262,608	\$ 664,603	\$ (1,077,561)	\$ 2,620,478
Capacity component of purchased power													
System Actual \$ - Capacity component of Cherokee County Cogen Purchases	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
System Actual \$ - Capacity component of Purchased Power for REPS Compliance	563,042	1,526,511	652,726	802,906	714,202	872,972	2,529,735	2,398,512	2,301,403	2,088,004	565,199	525,161	15,540,372
System Actual \$ - Capacity component of SC DERP	14,465	25,269	15,564	24,547	24,652	22,927	26,605	26,529	23,759	25,124	22,450	16,201	268,091
System Actual \$ - Capacity component of 5589 PURPA Purchases	350,921	371,971	360,503	458,527	390,711	654,705	1,628,121	1,569,122	1,497,533	1,372,274	539,208	350,819	9,544,415
System Actual \$ - Sch 2 pg 1 ANNUAL VIEW	\$ 928,428	\$ 1,923,752	\$ 1,028,793	\$ 1,285,979	\$ 1,129,564	\$ 1,550,603	\$ 4,184,461	\$ 3,994,163	\$ 3,822,694	\$ 3,485,402	\$ 1,126,858	\$ 892,181	\$ 25,352,878
NC Actual \$ (Calc) (1)	\$ 619,088	\$ 1,282,782	\$ 686,012	\$ 857,507	\$ 763,429	\$ 1,047,993	\$ 2,828,114	\$ 2,699,499	\$ 2,583,610	\$ 2,355,647	\$ 761,599	\$ 602,990	\$ 17,088,272
Billed rate (¢/kWh):	0.0297	0.0297	0.0297	0.0297	0.0297	0.0297	0.0297	0.0297	0.0280	0.0297	0.0297	0.0297	
Billed \$:	\$ 1,574,440	\$ 1,382,334	\$ 1,324,673	\$ 1,303,116	\$ 1,212,873	\$ 1,380,595	\$ 1,564,920	\$ 1,707,962	\$ 1,557,210	\$ 1,317,832	\$ 1,259,846	\$ 1,417,915	\$ 17,003,717
(Over)/Under \$:	\$ (955,353)	\$ (99,552)	\$ (638,661)	\$ (445,609)	\$ (449,445)	\$ (332,602)	\$ 1,263,195	\$ 991,537	\$ 1,026,400	\$ 1,037,815	\$ (498,247)	\$ (814,925)	\$ 84,555
TOTAL (Over)/ Under \$:	\$ 1,053,833	\$ 2,534,886	\$ (1,807,932)	\$ 10,744	\$ 231,383	\$ 74,795	\$ 946,481	\$ 67,008	\$ 19,541	\$ 1,300,423	\$ 166,356	\$ (1,892,486)	\$ 2,705,033

Note: The billed rate for September and October are pro-rated based on number of billing days in cycle on new rate schedules.
 (1) January - April NC actual capacity shown herein is adjusted to reflect use of 2022 production plant allocation factor. Actual true-up related to allocator was made as prior period adjustment in May 2023 of Schedule 4.

rounding differences may occur

2022	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	12 ME
System kWh Sales - Sch 4, Adjusted	7,587,345,694	7,631,271,992	6,790,067,074	6,455,104,305	6,544,372,277	7,852,382,055	8,386,958,942	8,886,608,895	8,009,959,106	6,516,474,006	6,148,600,623	7,600,126,412	88,409,271,381
NC Retail kWh Sales - Sch 4	4,988,913,451	5,189,555,709	4,642,701,985	4,283,391,409	4,361,033,505	5,223,755,139	5,560,704,210	6,010,616,462	5,369,219,189	4,315,776,539	4,103,701,351	5,009,748,290	59,059,117,240
NC Retail % of Sales, Actuals (Calc)	69.73%	70.21%	69.17%	69.31%	69.39%	70.06%	66.93%	69.27%	62.78%	63.80%	66.07%	72.66%	68.21%
NC Retail % of Sales, Adjusted (Calc)	65.75%	68.00%	68.37%	66.36%	66.64%	66.52%	66.30%	67.64%	67.03%	66.23%	66.74%	65.92%	66.80%
NC retail production demand %	66.68%	66.68%	66.68%	66.68%	66.68%	66.68%	66.68%	66.68%	66.68%	66.68%	66.68%	66.68%	66.68%
Fuel and Fuel related component of purchased power													
System Actual \$ - Sch 3 Fuel\$:	\$ 37,348,658	\$ 40,334,882	\$ 28,936,616	\$ 49,553,437	\$ 53,977,979	\$ 76,187,119	\$ 84,243,384	\$ 92,288,328	\$ 54,398,279	\$ 11,798,321	\$ 41,689,819	\$ 94,911,581	\$ 665,668,403
System Actual \$ - Sch 3 Fuel-related\$; Economic Purchases	7,928,235	(1,570,627)	3,557,135	4,369,558	7,286,679	6,129,379	10,685,578	9,921,881	9,510,435	1,184,100	3,142,043	8,875,341	71,019,737
System Actual \$ - Sch 3 Fuel-related\$; Purchased Power for REPS Compliance	4,142,352	3,490,134	3,995,856	3,290,332	5,192,821	5,283,840	5,430,924	5,998,047	5,270,163	5,163,446	4,802,114	4,257,583	56,317,611
System Actual\$ - Sch 3 Fuel-related\$; SC DERP	153,840	153,265	196,932	137,675	248,854	297,053	290,834	285,229	257,994	240,417	248,173	229,623	2,739,889
System Actual \$ - Sch 3 Fuel-related\$; HB589 Purpa Purchases	1,977,570	1,777,710	2,215,962	1,745,571	2,647,918	3,816,224	3,554,345	3,225,136	3,434,693	3,359,816	3,414,696	2,956,940	34,126,582
Total System Economic & QF\$	51,550,655	44,185,364	38,902,502	59,096,573	69,354,250	91,713,615	104,205,065	111,718,622	72,871,564	21,746,101	53,296,844	111,231,068	829,872,222
Less:													
Native Load Transfers, Native Load Transfer Benefit & DE - Progress fees	\$ 30,480,569	\$ 37,453,029	\$ 26,486,545	\$ 48,026,753	\$ 49,193,125	\$ 74,564,244	\$ 75,622,595	\$ 87,008,500	\$ 47,113,469	\$ 10,577,023	\$ 40,068,662	\$ 74,950,979	\$ 601,545,494
Total System Economic \$ without Native Load Transfers	\$ 21,070,086	\$ 6,732,335	\$ 12,415,956	\$ 11,069,820	\$ 20,161,125	\$ 17,149,371	\$ 28,582,470	\$ 24,710,121	\$ 25,758,095	\$ 11,169,078	\$ 13,228,182	\$ 36,280,089	\$ 228,326,728
NC Actual \$ (Calc)	\$ 13,854,230	\$ 4,578,244	\$ 8,489,398	\$ 7,345,562	\$ 13,434,954	\$ 11,408,527	\$ 18,950,690	\$ 16,713,131	\$ 17,266,113	\$ 7,397,136	\$ 8,828,758	\$ 23,914,617	\$ 152,181,363
Billed rate (c/kWh):	0.1378	0.1378	0.1378	0.1378	0.1378	0.1378	0.1378	0.1378	0.1367	0.1378	0.1378	0.1378	
Billed \$:	\$ 6,874,552	\$ 7,151,030	\$ 6,397,484	\$ 5,902,367	\$ 6,009,355	\$ 7,198,156	\$ 7,662,460	\$ 8,282,423	\$ 7,340,000	\$ 5,946,992	\$ 5,654,760	\$ 6,903,261	\$ 81,322,839
(Over)/ Under \$:	\$ 6,979,678	\$ (2,572,786)	\$ 2,091,914	\$ 1,443,196	\$ 7,425,600	\$ 4,210,372	\$ 11,288,231	\$ 8,430,708	\$ 9,926,113	\$ 1,450,144	\$ 3,173,998	\$ 17,011,356	\$ 70,858,524
Capacity component of purchased power													
System Actual \$ - Capacity component of Cherokee County Cogen Purchases	\$ -	\$ (215,310)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (215,310)
System Actual \$ - Capacity component of Purchased Power for REPS Compliance	631,201	645,219	680,737	463,766	802,115	701,461	827,443	2,753,196	2,319,960	2,511,631	2,238,491	639,202	15,214,422
System Actual \$ - Capacity component of HB589 Purpa QF purchases	14,255	14,801	19,366	14,471	24,039	29,036	28,404	28,368	25,409	23,627	24,299	22,399	268,474
System Actual \$ - Capacity component of SC DERP	312,476	340,840	349,198	316,395	389,774	481,428	581,279	1,661,830	1,443,022	1,553,118	1,525,519	414,939	9,369,818
System Actual \$ - Sch 2 pg 1 ANNUAL VIEW	\$ 957,932	\$ 785,549	\$ 1,049,301	\$ 794,633	\$ 1,215,927	\$ 1,211,925	\$ 1,437,127	\$ 4,443,394	\$ 3,788,390	\$ 4,088,375	\$ 3,788,310	\$ 1,076,540	\$ 24,637,403
NC Actual \$ (Calc) (1)	\$ 638,761	\$ 523,814	\$ 699,688	\$ 529,871	\$ 810,796	\$ 808,127	\$ 958,294	\$ 2,962,912	\$ 2,526,147	\$ 2,726,181	\$ 2,526,093	\$ 717,850	\$ 16,428,536
Billed rate (c/kWh):	0.0294	0.0294	0.0294	0.0294	0.0294	0.0294	0.0294	0.0294	0.0291	0.0289	0.0289	0.0289	
Billed \$:	\$ 1,390,793	\$ 1,446,727	\$ 1,294,277	\$ 1,194,110	\$ 1,215,755	\$ 1,456,261	\$ 1,550,195	\$ 1,675,620	\$ 1,525,438	\$ 1,203,138	\$ 1,144,016	\$ 1,396,601	\$ 16,492,931
(Over)/Under \$:	\$ (752,032)	\$ (922,913)	\$ (594,589)	\$ (664,238)	\$ (404,959)	\$ (648,134)	\$ (591,900)	\$ 1,287,293	\$ 1,000,709	\$ 1,523,043	\$ 1,382,077	\$ (678,752)	\$ (64,395)
TOTAL (Over)/ Under \$:	\$ 6,227,647	\$ (3,495,699)	\$ 1,497,325	\$ 778,957	\$ 7,020,641	\$ 3,562,238	\$ 10,696,330	\$ 9,718,001	\$ 10,926,822	\$ 2,973,187	\$ 4,556,076	\$ 16,332,604	\$ 70,794,129

Note: The billed rate for September and October are pro-rated based on number of billing days in cycle on new rate schedules.
 (1) January - May NC actual capacity shown herein is adjusted to reflect use of 2021 production plant allocation factor. Actual true-up related to allocator was made as prior period adjustment in June 2022 of Schedule 4.

rounding differences may occur

Duke Energy Carolinas, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 Actual Sales by Jurisdiction - Subject to Weather
 Twelve Months Ended December 31, 2023
 Docket E-7, Sub 1304

Clark Rebuttal Workpaper 10

Line #	Description	Reference	MWhs			% NC	% SC
			NORTH CAROLINA	SOUTH CAROLINA	TOTAL COMPANY		
1	Residential	Company Records	21,544,402	6,701,513	28,245,915	76.27	23.73
2	Total General Service	Company Records	24,310,321	5,910,025	30,220,346		
3	less Lighting and Traffic Signals		558,737	170,306	729,044		
4	General Service subject to weather		23,751,583	5,739,719	29,491,302	80.54	19.46
5	Industrial	Company Records	11,674,957	8,037,528	19,712,485	59.23	40.77
6	Total Retail Sales	1+2+5	57,529,680	20,649,066	78,178,746		
7	Total Retail Sales subject to weather	1+4+5	56,970,943	20,478,760	77,449,703	73.56	26.44

This does not exclude Greenwood and includes the impact of SC DERP net metering generation rounding differences may occur

Duke Energy Carolinas, LLC
 North Carolina Annual Fuel and Fuel Related Expense
 Weather Normalization Adjustment
 Twelve Months Ended December 31, 2023
 Docket E-7, Sub 1304

Line #	Description	REFERENCE	Total Company MWh	NC RETAIL		SC RETAIL	
				% To Total	MWh	% To Total	MWh
<u>Residential</u>							
1	Total Residential		1,372,504	76.27	1,046,809	23.73	325,695
<u>General Service</u>							
2	Total General Service		258,325	80.54	208,055	19.46	50,270
<u>Industrial</u>							
3	Total Industrial		28,978	59.23	17,164	40.77	11,814
4	Total Retail	L1+ L2+ L3	1,659,807		1,272,028		387,779
5	Wholesale		96,670				
6	Total Company	L4 + L5	<u>1,756,476</u>		<u>1,272,028</u>		<u>387,779</u>

rounding differences may occur

2023	Residential	Commercial	Industrial	
	TOTAL MWH ADJUSTMENT	TOTAL MWH ADJUSTMENT	TOTAL MWH ADJUSTMENT	
JAN	3,252	174	63	
FEB	448,879	57,747	(3,691)	
MAR	510,625	61,216	(232)	
APR	(2,771)	(13,121)	(2,366)	
MAY	(17,315)	504	97	
JUN	195,771	81,420	18,779	
JUL	238,738	97,595	24,057	
AUG	39,565	14,459	2,857	
SEP	(78,495)	(33,878)	(5,882)	
OCT	6,510	9,725	2,870	
NOV	(43,933)	(16,036)	(3,982)	
DEC	71,678	(1,480)	(3,592)	
Total	1,372,504	258,325	28,978	1,659,807

Wholesale			
2023	TOTAL MWH ADJUSTMENT	Note:	The Resale customers include:
JAN	30,698	1	Concord ¹
FEB	28,349	2	Dallas
MAR	9,055	3	Forest City
APR	4	4	Kings Mountain ¹
MAY	6,787	5	Due West
JUN	16,729	6	Prosperity ²
JUL	(4,162)	7	Lockhart
AUG	(4,297)	8	Western Carolina University
SEP	886	9	City of Highlands
OCT	1,185	10	Haywood
NOV	(2,457)	11	Piedmont
DEC	13,892	12	Rutherford
		13	Blue Ridge
Total	96,670	14	Greenwood ¹

¹Wholesale load is no longer being served by Duke as of December 2018.

²Wholesale load is no longer being served by Duke as of December 2019.

rounding differences may occur

Line	Estimation Method ¹	Rate Schedule	NC	SC	Wholesale	Total Company
			Proposed kWh ¹ Adjustment	Proposed kWh Adjustment	Proposed kWh Adjustment	
1	<i>Regression</i>	Residential	216,090,295	85,430,235		
2						
3		General Service (Excluding Lighting):				
4	<i>Customer</i>	General Service Small and Large	(44,006,237)	38,784,745		
5	<i>Regression</i>	Miscellaneous	(1,237,688)	(879,613)		
6		Total General	(45,243,925)	37,905,132		
7						
8		Lighting:				
9	<i>Regression</i>	T & T2 (GL/FL/PL/OL) ²	901,291	513,822		
10	<i>Regression</i>	TS	(783)	9,422		
11		Total Lighting	900,508	523,244		
12						
13		Industrial:				
14	<i>Customer</i>	I - Textile	(6,516,599)	382,943		
15	<i>Customer</i>	I - Nontextile	18,827,765	6,991,721		
16		Total Industrial	12,311,166	7,374,664		
17						
18						
19		Total	184,058,044	131,233,275	89,189,968	404,481,287
					WP 12-2	

Notes:

¹Two approved methods are used for estimating the growth adjustment depending on the class/schedule:

"Regression" refers to the use of Ordinary Least Squares Regression

"Customer" refers to the use of the Customer by Customer approach.

²T and T2 were combined due to North Carolina's FL & GL schedules being merged into OL & PL.

rounding differences may occur

Calculation of Customer Growth Adjustment to kWh Sales - Wholesale

<u>Line No.</u>	<u>Reference</u>	
1	Total System Resale (kWh Sales)	Company Records 9,787,128,802
2	Less Intersystem Sales	Exhibit 6, Sch 1 <u>1,431,968,808</u>
3	Total kWh Sales Excluding Intersystem Sales	L1 - L2 8,355,159,994
4	Residential Growth Factor	Line 8 <u>1.0675</u>
5	Adjustment to kWhs - Wholesale	L3 * L4 / 100 <u><u>89,189,968</u></u>
6	Total System Retail Residential kWh Sales	Company Records 28,245,915,203
7	2023 Proposed Adjustment kWh - Residential (NC+SC)	WP 12-1 301,520,530
8	Percent Adjustment	L7 / L6 * 100 1.0675

rounding differences may occur