

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 Workpaper 1

	Catawba 1	Catawba 2	McGuire 1	McGuire 2	Oconee 1	Oconee 2	Oconee 3	Total
MWhs	9,447,231	10,027,396	9,446,071	9,372,290	6,881,925	7,468,908	7,564,100	60,207,920
Cost (Gross of Joint Owners)	\$ 53,807,708	\$ 57,846,842	\$ 46,989,141	\$ 52,105,691	\$ 38,433,497	\$ 38,833,229	\$ 44,209,143	\$ 332,225,252
\$/MWh	5.6956	5.7689	4.9745	5.5595	5.5847	5.1993	5.8446	
Avg \$/MWh		5.5180						
Cents per kWh		0.5518						

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	9,447
CATA_UN02	Catawba	GWh	10,027
MCGU_UN01	McGuire	GWh	9,446
MCGU_UN02	McGuire	GWh	9,372
OCUN_UN01	Oconee	GWh	6,882
OCUN_UN02	Oconee	GWh	7,469
OCUN_UN03	Oconee	GWh	7,564
			<u>60,208</u>
Proposed Nuclear Capacity Factor			95.73%

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 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	\$ 51,288,476	\$ 50,850,755	\$ 51,200,047	\$ 51,182,362	\$ 37,940,731	\$ 37,985,525	\$ 38,478,262	\$ 318,926,159

Avg \$/MWh **5.5180**
 Cents per kWh **0.5518**

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 Workpaper 3

<u>Resource Type</u>	<u>Sept 2024 - August 2025</u>	
NUC Total (Gross)	60,207,920	
COAL Total	12,133,505	
Gas CT and CC total (Gross)	25,398,789	
Run of River	4,222,386	
Net pumped Storage	<u>(3,257,750)</u>	
Total Hydro	964,636	
Catawba Joint Owners	(14,116,637)	
Lee CC Joint Owners	(876,000)	
DEC owned solar	431,227	
Total Generation		84,143,439
Purchases for REPS Compliance	1,064,067	
Qualifying Facility Purchases - Non-REPS compliance	2,075,391	
Other Purchases	313,719	
Allocated Economic Purchases	467,186	
Joint Dispatch Purchases	<u>8,665,644</u>	
	12,586,006	
Total Generation and Purchased Power		96,729,446
Fuel Recovered Through Intersystem Sales	(666,675)	

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 Workpaper 4

Resource Type	Sept 2024 - August 2025	
Nuclear Total (Gross)	\$ 332,225,252	
COAL Total	535,009,000	
Gas CT and CC total (Gross)	863,780,065	
Catawba Joint Owner costs	(77,896,854)	
CC Joint Owner costs	(21,752,442)	
Reagents and gain/loss on sale of By-Products	30,185,368	Workpaper 8
Purchases for REPS Compliance - Energy	51,648,652	
Purchases for REPS Compliance - Capacity	11,295,326	
Purchases of Qualifying Facilities - Energy	50,840,078	
Purchases of Qualifying Facilities - Capacity	10,496,458	
Other Purchases	10,583,349	
JDA Savings Shared	34,396,187	Workpaper 5
Allocated Economic Purchase cost	18,114,953	Workpaper 5
Joint Dispatch purchases	240,665,893	Workpaper 6
Total Purchases	<u>428,040,896</u>	
Fuel Expense recovered through intersystem sales	(27,889,431)	Workpaper 5
Total System Fuel and Fuel Related Costs	\$ 2,061,701,854	

rounding differences may occur

Duke Energy Carolinas, LLC
North Carolina Annual Fuel and Fuel Related Expense
Projected Joint Dispatch Fuel Impacts
Billing Period September 2024 through August 2025
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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	\$ 436,812	\$ 645,500	\$ (632,756)	\$ (817,493)	\$ (23,633,592)	\$ 23,633,592	\$ (5,606,498)	\$ 5,606,498
10/1/2024	\$ 271,867	\$ 414,509	\$ (655,410)	\$ (994,763)	\$ (22,697,388)	\$ 22,697,388	\$ (5,774,653)	\$ 5,774,653
11/1/2024	\$ 368,297	\$ 557,717	\$ (768,230)	\$ (870,196)	\$ (15,549,159)	\$ 15,549,159	\$ (1,949,764)	\$ 1,949,764
12/1/2024	\$ 524,633	\$ 753,841	\$ (1,304,569)	\$ (1,477,550)	\$ (17,819,465)	\$ 17,819,465	\$ (1,388,719)	\$ 1,388,719
1/1/2025	\$ 2,446,075	\$ 3,483,576	\$ (2,052,991)	\$ (2,574,603)	\$ (20,822,899)	\$ 20,822,899	\$ (2,918,522)	\$ 2,918,522
2/1/2025	\$ 1,393,923	\$ 2,027,148	\$ (1,828,720)	\$ (2,527,737)	\$ (23,044,391)	\$ 23,044,391	\$ (2,629,204)	\$ 2,629,204
3/1/2025	\$ 248,720	\$ 353,347	\$ (1,944,697)	\$ (2,148,243)	\$ (10,835,036)	\$ 10,835,036	\$ (1,577,570)	\$ 1,577,570
4/1/2025	\$ 281,105	\$ 419,737	\$ (1,108,299)	\$ (1,589,401)	\$ (20,154,107)	\$ 20,154,107	\$ (4,214,847)	\$ 4,214,847
5/1/2025	\$ 306,089	\$ 440,371	\$ (1,330,210)	\$ (1,812,063)	\$ (14,494,693)	\$ 14,494,693	\$ (2,689,742)	\$ 2,689,742
6/1/2025	\$ 2,127,583	\$ 3,104,942	\$ (991,750)	\$ (1,133,216)	\$ (20,285,202)	\$ 20,285,202	\$ (1,053,147)	\$ 1,053,147
7/1/2025	\$ 2,373,137	\$ 3,320,464	\$ (1,439,263)	\$ (1,566,216)	\$ (21,552,596)	\$ 21,552,596	\$ (4,053,576)	\$ 4,053,576
8/1/2025	\$ 1,822,499	\$ 2,593,800	\$ (1,347,905)	\$ (1,499,489)	\$ (20,898,904)	\$ 20,898,904	\$ (539,944)	\$ 539,944

Sept 24 - Aug 25 \$ 18,114,953 \$ (19,010,968) \$ 231,787,430 \$ 34,396,187

rounding differences may occur

\$ 240,665,893 Workpaper 6 - Transfer - Purchases
\$ (8,878,463) Workpaper 6 - Transfer - Sales
\$ 231,787,430 Sept 24 - Aug 25 Net Fuel Transfer Payment
\$ (8,878,463) Workpaper 6 - Transfer - Sales
\$ (19,010,968) Sept 24 - Aug 25 Economic Sales Cost
\$ (27,889,431) 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

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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	1,034,410	3,988	(107)	107	1,034,410	4,095	22.95	24.73	101,264	23,734,856
10/1/2024	1,053,555	2,994	960	(960)	1,054,515	2,994	21.59	24.35	72,890	22,770,277
11/1/2024	663,811	23,847	(163)	163	663,811	24,011	24.35	25.48	611,700	16,160,859
12/1/2024	666,108	31,407	13	(13)	666,120	31,407	28.12	28.96	909,705	18,729,170
1/1/2025	674,906	36,360	(5,034)	5,034	674,906	41,394	33.01	35.10	1,453,104	22,276,003
2/1/2025	751,943	16,326	(3,124)	3,124	751,943	19,449	31.56	35.21	684,894	23,729,285
3/1/2025	442,991	53,865	(67)	67	442,991	53,932	27.73	26.88	1,449,862	12,284,897
4/1/2025	745,064	11,720	874	(874)	745,938	11,720	27.44	27.13	317,906	20,472,012
5/1/2025	573,643	25,667	160	(160)	573,803	25,667	26.52	28.07	720,462	15,215,155
6/1/2025	701,331	14,494	(5,841)	5,841	701,331	20,334	29.81	30.73	624,928	20,910,130
7/1/2025	685,572	23,909	(7,263)	7,263	685,572	31,173	32.95	33.16	1,033,842	22,586,438
8/1/2025	670,304	19,461	(7,752)	7,752	670,304	27,213	32.52	33.00	897,907	21,796,812
Sept 24 - Aug 25	8,663,637	264,038	(27,345)	27,345	8,665,644	293,389			\$ 8,878,463	\$ 240,665,893
									Net Pre-Net Payments	\$ 231,787,430

rounding differences may occur

Fall 2023 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	8,800,590	-	8,800,590	2.1900%	8,997,638
Projected System MWH Sales for Fuel Factor	89,806,424	150,334	89,956,758		95,058,512
NC as a percentage of total	66.60%		66.49%		66.69%
SC as a percentage of total	23.60%		23.73%		23.85%
Wholesale as a percentage of total	9.80%		9.78%		9.47%
	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	\$ 2,061,701,854	Clark Exhibit 2 Schedule 1 Page 1 of 3
Fuel benefit to be directly assigned to SC Retail	\$ 3,719,263	
Total Fuel Costs for Allocation	\$ 2,065,421,117	Clark Exhibit 2 Schedule 1 Page 3 of 3, L5

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 Workpaper 7a

Fall 2023 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	8,323,875	89,190	96,670	-	8,509,735	2.1900%	8,700,271
Normalized System MWH Sales for Fuel Factor	86,502,621	404,481	1,756,476	150,334	88,813,914		93,858,399
NC as a percentage of total	66.51%				66.42%		66.61%
SC as a percentage of total	23.87%				24.00%		24.12%
Wholesale as a percentage of total	9.62%				9.58%		9.27%
	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	\$ 2,017,938,531						Clark Exhibit 2 Schedule 2 Page 1 of 3
Fuel benefit to be directly assigned to SC Retail	\$ 3,719,263						
Total Fuel Costs for Allocation	\$ 2,021,657,794						Clark Exhibit 2 Schedule 2 Page 3 of 3, L5

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 Workpaper 7b

Fall 2023 Forecast
Billed Sales Forecast
Sales Forecast - MWhs (000)

		Projected sales 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	81,156,168		86,211,208
	Wholesale	8,800,590	-	8,800,590	2.1900%	8,997,638
	Projected System MWh Sales for Fuel Factor	89,806,424	150,334	89,956,758		95,208,846
	NC as a percentage of total	66.60%		66.49%		66.58%
	SC as a percentage of total	23.60%		23.73%		23.81%
	Wholesale as a percentage of total	9.80%		9.78%		9.45%
		100.00%		100.00%		99.80%
	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		\$ 2,132,875,765	Clark Exhibit 2 Schedule 3 Page 1 of 3		
	Fuel benefit to be directly assigned to SC Retail		\$ 3,719,263			
	Total Fuel Costs for Allocation		\$ 2,136,595,028	Clark Exhibit 2 Schedule 3 Page 3 of 3, Line 5		

	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	8,800,590	8,997,638
Total System	89,956,758	95,058,512
Allocation percent - NC retail	66.49%	66.69% 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	8,509,735	8,700,271
Total System	88,813,913	93,858,399
Allocation percent - NC retail	66.42%	66.61% 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	\$ 820,679	\$ 78,192	\$ 984,788	\$ 36,763	\$ 22,497	\$ 18,972	\$ 1,961,891	\$ 341,938	\$ (82,102)	\$	\$ (187,229)	\$ 72,608
10/1/2024	\$ 518,622	\$ 49,413	\$ 622,329	\$ 15,829	\$ 9,686	\$ 18,972	\$ 1,234,850	\$ 184,644	\$ (73,654)	\$	\$ (187,229)	\$ (76,238)
11/1/2024	\$ 739,868	\$ 70,493	\$ 887,817	\$ 68,073	\$ 41,657	\$ 18,972	\$ 1,826,879	\$ 285,203	\$ (99,874)	\$	\$ (187,229)	\$ (1,900)
12/1/2024	\$ 1,205,312	\$ 114,839	\$ 1,446,334	\$ 124,781	\$ 76,359	\$ 18,972	\$ 2,986,596	\$ 534,190	\$ (133,045)	\$	\$ (187,229)	\$ 213,916
1/1/2025	\$ 1,668,119	\$ 158,934	\$ 2,001,687	\$ 169,764	\$ 103,885	\$ 18,972	\$ 4,121,360	\$ 778,575	\$ (165,059)	\$	\$ (187,229)	\$ 426,287
2/1/2025	\$ 1,580,992	\$ 150,633	\$ 1,897,137	\$ 148,850	\$ 91,087	\$ 18,972	\$ 3,887,671	\$ 772,758	\$ (125,188)	\$	\$ (187,229)	\$ 460,341
3/1/2025	\$ 325,983	\$ 31,059	\$ 391,169	\$ 49,658	\$ 30,387	\$ 18,972	\$ 847,228	\$ 161,566	\$ (25,768)	\$	\$ (187,229)	\$ (51,430)
4/1/2025	\$ 263,450	\$ 25,101	\$ 316,132	\$ 36,766	\$ 22,499	\$ 18,972	\$ 682,920	\$ 134,964	\$ (26,688)	\$	\$ (187,229)	\$ (78,952)
5/1/2025	\$ 317,527	\$ 30,253	\$ 381,021	\$ 39,899	\$ 24,416	\$ 18,972	\$ 812,088	\$ 159,994	\$ (30,802)	\$	\$ (187,229)	\$ (58,036)
6/1/2025	\$ 989,053	\$ 94,234	\$ 1,186,830	\$ 62,303	\$ 38,126	\$ 18,972	\$ 2,389,518	\$ 454,795	\$ (94,572)	\$	\$ (187,229)	\$ 172,995
7/1/2025	\$ 1,616,811	\$ 154,045	\$ 1,940,118	\$ 72,971	\$ 44,654	\$ 18,972	\$ 3,847,571	\$ 738,176	\$ (150,146)	\$	\$ (221,902)	\$ 366,128
8/1/2025	\$ 1,592,680	\$ 151,746	\$ 1,911,162	\$ 70,000	\$ 42,836	\$ 18,972	\$ 3,787,397	\$ 731,125	\$ (155,541)	\$	\$ (221,902)	\$ 353,682
	\$ 11,639,095	\$ 1,108,942	\$ 13,966,522	\$ 895,657	\$ 525,592	\$ 227,663	\$ 28,385,967	\$ 5,277,930	\$ (1,162,439)	\$	\$ (2,316,089)	\$ 1,799,401

Total Reagent cost and Sale of By-products \$ 30,185,368

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 Workpaper 9

Line No.	Description	Forecast \$	(Over)/Under Collection \$	Total \$
1	Amount in current docket	101,757,298	2,705,033	104,462,331
2	Amount in Sub 1282, prior year docket	108,889,655	70,794,129	179,683,784
3	Increase/(Decrease)	(7,132,357)	(68,089,097)	(75,221,453)
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	66.49%	34,341,189
WP 4	Purchases for REPS Compliance - Capacity	11,295,326	66.68%	7,531,868
WP 4	Purchases	10,583,349	66.49%	7,036,869
WP 4	QF Energy	50,840,078	66.49%	33,803,568
WP 4	QF Capacity	10,496,458	66.68%	6,999,173
WP 4	Allocated Economic Purchase cost	18,114,953	66.49%	12,044,632
		152,978,816		101,757,298
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, Actuals	7,843,597,546	6,924,227,615	6,631,247,215	6,503,583,986	6,136,163,890	7,008,836,135	7,969,442,680	8,657,828,158	8,266,012,697	6,726,216,362	6,246,014,428	7,443,553,219	86,356,723,933
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	
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 & QF\$	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
Less:													
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 (c/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 (c/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.

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.

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 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

	Residential	Commercial	Industrial	
	TOTAL MWH	TOTAL MWH	TOTAL MWH	
2023	ADJUSTMENT	ADJUSTMENT	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 1.0675
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