

Duke Energy Carolinas, LLC  
North Carolina Annual Fuel and Fuel Related Expense  
Summary Comparison of Fuel and Fuel Related Cost Factors  
Test Period Ended December 31, 2022  
Billing Period September 2023 - August 2024  
Docket E-7, Sub 1282

Clark Rebuttal Revision Exhibit 1

Line #	Description	Reference	Residential cents/kWh	General cents/kWh	Industrial cents/kWh	Composite cents/kWh
<b><u>Current Fuel and Fuel Related Cost Factors (Approved Fuel Rider Docket No. E-7, Sub 1263)</u></b>						
1	Approved Fuel and Fuel Related Costs Factors	Input	2.0003	1.8217	1.8396	1.9010
2	EMF Increment (Decrement) cents/kWh	Input	0.4863	0.6254	0.5726	0.5597
3	EMF Interest Increment (Decrement) cents/kWh	Input	-	-	-	-
4	Approved Net Fuel and Fuel Related Costs Factors	Sum	<b>2.4866</b>	<b>2.4471</b>	<b>2.4122</b>	<b>2.4607</b>
<b><u>Fuel and Fuel Related Cost Factors Required by Rule R8-55</u></b>						
5	Proposed Nuclear Capacity Factor of 93.60% and Normalized Test Period Sales	Exh 2 Sch 2 pg 2	<b>4.2815</b>	<b>3.7902</b>	<b>3.4450</b>	<b>3.9138</b>
6	NERC 5 Year Average Nuclear Capacity Factor of 91.87% and Projected Period Sales	Exh 2 Sch 3 pg 2	<b>4.3355</b>	<b>3.8319</b>	<b>3.5018</b>	<b>3.9654</b>
<b><u>Proposed Fuel and Fuel Related Cost Factors using Proposed Nuclear Capacity Factor of 93.52%</u></b>						
7	Fuel and Fuel Related Costs excluding Purchased Capacity cents/kWh	Exh 2 Sch 1 pg 2	1.5098	1.2979	1.0894	2.2294
8	REPS Compliance and QF Purchased Power - Capacity cents/kWh	Exh 2 Sch 1 pg 2	0.0331	0.0245	0.0214	0.0272
9	Total adjusted Fuel and Fuel Related Costs cents/kWh	Sum	1.5429	1.3224	1.1108	2.2566
10	EMF Increment (Decrement) cents/kWh	Exh 3 pg 2, 3, 4	1.6635	1.6638	1.7256	1.6764
11	EMF Interest Increment (Decrement) cents/kWh	Exh 3 pg 2, 3, 4	-	-	-	-
12	Net Fuel and Fuel Related Costs Factors cents/kWh	Sum	<b>3.2064</b>	<b>2.9862</b>	<b>2.8364</b>	<b>3.9330</b>

Note: Fuel factors exclude regulatory fee

Duke Energy Carolinas, LLC  
 North Carolina Annual Fuel and Fuel Related Expense  
 Calculation of Fuel and Fuel Related Cost Factors Using:  
 Proposed Nuclear Capacity Factor of 93.60%  
 Test Period Ended December 31, 2022  
 Billing Period September 2023 - August 2024  
 Docket E-7, Sub 1282

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Line #	Unit	Reference	Generation (MWh)	Unit Cost (cents/kWh)	Fuel Cost (\$)
			D	E	D * E = F
1	Total Nuclear	Workpaper 1	58,871,920	0.5609	330,239,182
2	Coal	Workpaper 3 & 4	10,197,068	3.9786	405,705,179
3	Gas CT and CC	Workpaper 3 & 4	29,873,528	3.4985	1,045,125,311
4	Reagents and Byproducts	Workpaper 9			25,288,082
5	Total Fossil	Sum	40,070,595		1,476,118,572
6	Hydro	Workpaper 3	5,280,351		
7	Net Pumped Storage	Workpaper 3	(3,799,951)		
8	Total Hydro	Sum	1,480,401		-
9	Solar Distributed Generation	Workpaper 3	359,301		-
10	Total Generation	Line 1 + Line 5 + Line 8 + Line 9	100,782,217		1,806,357,754
11	Less Lee CC Joint Owners	Workpaper 3 & 4	(878,400)		(23,592,537)
12	Less Catawba Joint Owners	Workpaper 3 & 4	(14,888,880)		(160,254,288)
13	Fuel expense recovered through reimbursement	Workpaper 4			(3,687,381)
14	Net Generation	Sum Lines 10-13	85,014,937		1,618,823,548
15	Purchased Power	Workpaper 3 & 4	10,963,165	3.0356	332,801,702
16	JDA Savings Shared	Workpaper 5			115,585,534
17	Total Purchased Power		10,963,165		448,387,237
18	Total Generation and Purchased Power	Line 14 + Line 17	95,978,101	2.1538	2,067,210,785
19	Fuel expense recovered through intersystem sales	Workpaper 3 & 4	(1,028,431)	3.8382	(39,473,663)
20	Line losses and Company use	Line 22-Line 18-Line 19	(5,078,704)		-
21	System Fuel Expense for Fuel Factor	Lines 18 + 19 + 20			2,027,737,121
22	Projected System MWh Sales for Fuel Factor	Workpaper 7	89,870,966		89,870,966
23	Fuel and Fuel Related Costs cents/kWh	Line 21 / Line 22 / 10			2.2563

Note: Rounding differences may occur

Duke Energy Carolinas, LLC  
North Carolina Annual Fuel and Fuel Related Expense  
Calculation of Fuel and Fuel Related Cost Factors Using:  
Proposed Nuclear Capacity Factor of 93.60%  
Test Period Ended December 31, 2022  
Billing Period September 2023 - August 2024  
Docket E-7, Sub 1282

Clark Rebuttal Revised Exhibit 2  
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Line #	Description	Reference	Residential	GS/Lighting	Industrial	Total
1	NC Projected Billing Period MWh Sales	Workpaper 7	23,311,388	24,873,076	12,148,800	60,333,264
<b>Calculation of Renewable and Cogeneration Purchased Power Capacity Rate by Class</b>						<u>Amount</u>
2	Purchased Power for REPS Compliance - Capacity	Workpaper 4				\$ 14,936,094
3	QF Purchased Power - Capacity	Workpaper 4				9,663,863
4	Total of Renewable and QF Purchased Power Capacity	Line 2 + Line 3				\$ 24,599,957
5	NC Portion - Jurisdictional % based on 2021 Production Plant Allocator	Input				66.68%
6	NC Renewable and QF Purchased Power - Capacity	Line 4 * Line 5				\$ 16,403,567
7	2021 Production Plant Allocation Factors	Input	47.04%	37.14%	15.81%	100.00%
8	Renewable and QF Purchased Power - Capacity allocated on 2021 Production Plant Allocator	Line 6 * Line 7	\$ 7,717,004	\$ 6,092,491	\$ 2,594,072	\$ 16,403,567
9	Renewable and QF Purchased Power - Capacity cents/kWh based on Projected Billing Period Sales	Line 8 / Line 1 / 10	0.0331	0.0245	0.0214	0.0272
<b>Summary of Total Rate by Class</b>						
10	Fuel and Fuel Related Costs excluding Purchased Power for REPS Compliance and QF Purchased Capacity cents/kWh	Line 15 - Line 11 - Line 13 - Line 14	1.5098	1.2979	1.0894	2.2294
11	REPS Compliance and QF Purchased Power - Capacity cents/kWh	Line 9	0.0331	0.0245	0.0214	0.0272
12	Total adjusted Fuel and Fuel Related Costs cents/kWh	Line 10 + Line 11	1.5429	1.3224	1.1108	2.2566
13	EMF Increment (Decrement) cents/kWh	Exh 3 pg 2, 3, 4	1.6635	1.6638	1.7256	1.6764
14	EMF Interest Increment (Decrement) cents/kWh	Exh 3 pg 2, 3, 4	-	-	-	-
15	Net Fuel and Fuel Related Costs Factors cents/kWh	Exh 2 Sch 1 Page 3	3.2064	2.9862	2.8364	3.9330

Note: Rounding differences may occur

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Duke Energy Carolinas, LLC  
North Carolina Annual Fuel and Fuel Related Expense  
Calculation of Uniform Percentage Average Bill Adjustment by Customer Class  
Proposed Nuclear Capacity Factor of 93.60%  
Test Period Ended December 31, 2022  
Billing Period September 2023 - August 2024  
Docket E-7, Sub 1282

Clark Rebuttal Revised Exhibit 2  
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Line #	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)	Current Total Fuel Rate (including Capacity and EMF) E-7, Sub 1263	Proposed Total Fuel Rate (including Capacity and EMF)
		Workpaper 7	Workpaper 8	Line 25 as a % of Column B	C / B	If D=0 then 0 if not then (C*100)/(A*1000)	Clark Exhibit 1	E + F = G
1	Residential	23,311,388	\$ 2,466,691,215	\$ 167,784,912	6.80%	0.7198	2.4866	3.2064
2	General Service/Lighting	24,873,076	1,971,226,718	134,083,302	6.80%	0.5391	2.4471	2.9862
3	Industrial	12,148,800	757,602,036	51,532,267	6.80%	0.4242	2.4122	2.8364
4	NC Retail	60,333,264	\$ 5,195,519,969	\$ 353,400,481	6.80%			

**Total Proposed Composite Fuel Rate:**

5	Total Fuel Costs for Allocation	Workpaper 7	\$ 2,032,133,337					
6	Total of Renewable and QF Purchased Power Capacity	Exhibit 2 Sch 1, Page 2	24,599,957					
7	System Other Fuel Costs	Line 5 - Line 6	\$ 2,007,533,380					
8	Adjusted Projected System MWh Sales for Fuel Factor	Workpaper 7	90,050,257					
9	NC Retail Projected Billing Period MWh Sales	Line 4	60,333,264					
10	Allocation %	Line 9 / Line 8	67.00%					
11	NC Retail Other Fuel Costs	Line 7 * Line 10	\$ 1,345,047,364					
12	NC Renewable and QF Purchased Power - Capacity	Exhibit 2 Sch 1, Page 2	16,403,567					
13	NC Retail Total Fuel Costs	Line 11 + Line 12	\$ 1,361,450,931					
14	NC Retail Projected Billing Period MWh Sales	Line 4	60,333,264					
15	Calculated Fuel Rate cents/kWh	Line 13 / Line 14 / 10	2.2566					
16	Proposed Composite EMF Rate cents/kWh	Exhibit 3 Page 1	1.6764					
17	Proposed Composite EMF Rate Interest cents/kWh	Exhibit 3 Page 1	0.0000					
18	Total Proposed Composite Fuel Rate	Sum	3.9330					

**Total Current Composite Fuel Rate - Docket E-7 Sub 1263:**

19	Current composite Fuel Rate cents/kWh	Clark Exhibit 1	1.9010					
20	Current composite EMF Rate cents/kWh	Clark Exhibit 1	0.5597					
21	Current composite EMF Interest Rate cents/kWh	Clark Exhibit 1	0.0000					
22	Total Current Composite Fuel Rate	Sum	2.4607					
23	Increase/(Decrease) in Composite Fuel rate cents/kWh	Line 18 - Line 22	1.4723					
24	NC Retail Projected Billing Period MWh Sales	Line 4	60,333,264					
25	Increase/(Decrease) in Fuel Costs	Line 23 * Line 24 * 10	\$ 888,286,650					
26	EDIT Mitigation		\$ (534,886,169)					
27	Net Increase/(Decrease) in Fuel Costs with EDIT Mitigation		\$ 353,400,481					

Note: Rounding differences may occur

Duke Energy Carolinas, LLC  
 North Carolina Annual Fuel and Fuel Related Expense  
 Calculation of Fuel and Fuel Related Cost Factors Using:  
 Proposed Nuclear Capacity Factor of 93.60% and Normalized Test Period Sales  
 Test Period Ended December 31, 2022  
 Billing Period September 2023 - August 2024  
 Docket E-7, Sub 1282

Line #	Unit	Reference	Generation (MWh)	Unit Cost (cents/kWh)	Fuel Cost (\$)
			D	E	D * E = F
1	Total Nuclear	Workpaper 1	58,871,920	0.5609	330,239,182
2	Coal	Calculated	9,207,306	3.9786	366,326,086
3	Gas CT and CC	Workpaper 3 & 4	29,873,528	3.4985	1,045,125,311
4	Reagents and Byproducts	Workpaper 9	-		25,288,082
5	Total Fossil	Sum	39,080,834		1,436,739,479
6	Hydro	Workpaper 3	5,280,351		
7	Net Pumped Storage	Workpaper 3	(3,799,951)		
8	Total Hydro	Sum	1,480,401		
9	Solar Distributed Generation	Workpaper 3	359,301		
10	Total Generation	Line 1 + Line 5 + Line 8 + Line 9	99,792,455		1,766,978,661
11	Less Lee CC Joint Owners	Workpaper 3 & 4	(878,400)		(23,592,537)
12	Less Catawba Joint Owners	Workpaper 3 & 4	(14,888,880)		(160,254,288)
13	Fuel expense recovered through reimbursement	Workpaper 4			(3,687,381)
14	Net Generation	Sum	84,025,175		1,579,444,455
15	Purchased Power	Workpaper 3 & 4	10,963,165		332,801,702
16	JDA Savings Shared	Workpaper 5	-		115,585,534
17	Total Purchased Power	Sum	10,963,165		448,387,237
18	Total Generation and Purchased Power	Line 14 + Line 17	94,988,340		2,027,831,691
19	Fuel expense recovered through intersystem sales	Workpaper 3 & 4	(1,028,431)		(39,473,663)
20	Line losses and Company use	Line 22 - Line 19 - Line 18	(5,078,704)		-
21	System Fuel Expense for Fuel Factor	Lines 18 + 19 + 20			1,988,358,028
22	Normalized Test Period MWh Sales	Exhibit 4	88,881,205		88,881,205
23	Fuel and Fuel Related Costs cents/kWh	Line 21 / Line 22 / 10			2.2371

Note: Rounding differences may occur

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North Carolina Annual Fuel and Fuel Related Expense  
Calculation of Fuel and Fuel Related Cost Factors Using:  
Proposed Nuclear Capacity Factor of 93.60% and Normalized Test Period Sales  
Test Period Ended December 31, 2022  
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Docket E-7, Sub 1282

Clark Rebuttal Revised Exhibit 2  
Schedule 2  
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Line #	Description	Reference	Residential	GS/Lighting	Industrial	Total
1	NC Normalized Test Period MWh Sales	Exhibit 4	22,892,401	24,448,017	12,219,040	59,559,458
<b>Calculation of Renewable Purchased Power Capacity Rate by Class</b>						<u>Amount</u>
2	Purchased Power for REPS Compliance - Capacity	Workpaper 4				\$ 14,936,094
3	QF Purchased Power - Capacity	Workpaper 4				9,663,863
4	Total of Renewable and QF Purchased Power Capacity	Line 2 + Line 3				\$ 24,599,957
5	NC Portion - Jurisdictional % based on 2021 Production Plant Allocator	Input				66.68%
6	NC Renewable and QF Purchased Power - Capacity	Line 4 * Line 5				\$ 16,403,567
7	2021 Production Plant Allocation Factors	Input	47.04%	37.14%	15.81%	100.00%
8	Renewable and QF Purchased Power - Capacity allocated on 2021 Production Plant Allocator	Line 6 * Line 7	\$ 7,717,004	\$ 6,092,491	\$ 2,594,072	\$ 16,403,567
9	Renewable and QF Purchased Power - Capacity cents/kWh based on Normalized Test Period Sales	Line 8 / Line 1 / 10	0.0337	0.0249	0.0212	0.0275
<b>Summary of Total Rate by Class</b>						
10	Fuel and Fuel Related Costs excluding Purchased Power for REPS Compliance and QF Purchased Capacity cents/kWh	Line 15 - Line 11 - Line 13 - Line 14	2.5843	2.1015	1.6982	2.2099
11	REPS Compliance and QF Purchased Power - Capacity cents/kWh	Line 9	0.0337	0.0249	0.0212	0.0275
12	Total adjusted Fuel and Fuel Related Costs cents/kWh	Line 10 + Line 11	2.6180	2.1264	1.7194	2.2374
13	EMF Increment (Decrement) cents/kWh	Exh 3 pg 2, 3, 4	1.6635	1.6638	1.7256	1.6764
14	EMF Interest Increment (Decrement) cents/kWh	Exh 3 pg 2, 3, 4	-	-	-	-
15	Net Fuel and Fuel Related Costs Factors cents/kWh	Exh 2 Sch 2 Page 3	4.2815	3.7902	3.4450	3.9138

Note: Rounding differences may occur

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Line #	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)	Current Total Fuel Rate (including Capacity and EMF) E-7, Sub 1263	Proposed Total Fuel Rate (including Capacity and EMF)
		A	B	C	D	E	F	G
		Exhibit 4	Workpaper 8	Line 25 as a % of Column B	C / B	If D=0 then 0 if not then (C*100)/(A*1000)	Clark Exhibit 1	E + F = G
1	Residential	22,892,401	\$ 2,466,691,215	\$ 410,896,090	16.66%	1.7949	2.4866	4.2815
2	General Service/Lighting	24,448,017	\$ 1,971,226,718	328,362,685	16.66%	1.3431	2.4471	3.7902
3	Industrial	12,219,040	\$ 757,602,036	126,199,709	16.66%	1.0328	2.4122	3.4450
4	NC Retail	59,559,458	\$ 5,195,519,969	\$ 865,458,484				

**Total Proposed Composite Fuel Rate:**

5	Total Fuel Costs for Allocation	Workpaper 7a	\$ 1,992,754,243					
6	Total of Renewable and QF Purchased Power Capacity	Exhibit 2 Sch 2, Page 2	24,599,957					
7	System Other Fuel Costs	Line 5 - Line 6	\$ 1,968,154,286					
8	Normalized Test Period System MWh Sales for Fuel Factor	Workpaper 7a	89,060,496					
9	NC Retail Normalized Test Period MWh Sales	Exhibit 4	59,559,458					
10	Allocation %	Line 9 / Line 8	66.88%					
11	NC Retail Other Fuel Costs	Line 7 * Line 10	\$ 1,316,208,690					
12	NC Renewable and QF Purchased Power - Capacity	Exhibit 2 Sch 2, Page 2	16,403,567					
13	NC Retail Total Fuel Costs	Line 11 + Line 12	\$ 1,332,612,257					
14	NC Retail Normalized Test Period MWh Sales	Line 9	59,559,458					
15	Calculated Fuel Rate cents/kWh	Line 13 / Line 14 / 10	2.2374					
16	Proposed Composite EMF Rate cents/kWh	Exhibit 3 Page 1	1.6764					
17	Proposed Composite EMF Rate Interest cents/kWh	Exhibit 3 Page 1	0.0000					
18	Total Proposed Composite Fuel Rate	Sum	3.9138					

**Total Current Composite Fuel Rate - Docket E-7 Sub 1263:**

19	Current composite Fuel Rate cents/kWh	Clark Exhibit 1	1.9010					
20	Current composite EMF Rate cents/kWh	Clark Exhibit 1	0.5597					
21	Current composite EMF Interest Rate cents/kWh	Clark Exhibit 1	0.0000					
22	Total Current Composite Fuel Rate	Sum	2.4607					
23	Increase/(Decrease) in Composite Fuel rate cents/kWh	Line 18 - Line 22	1.4531					
24	NC Retail Normalized Test Period MWh Sales	Exhibit 4	59,559,458					
25	Increase/(Decrease) in Fuel Costs	Line 23 * Line 24 * 10	\$ 865,458,484					

Note: Rounding differences may occur

Line #	Unit	Reference	Generation (MWh)	Unit Cost (cents/kWh)	Fuel Cost (\$)
			D	E	D * E = F
1	Total Nuclear	Workpaper 2	57,782,460	0.5609	324,127,910
2	Coal	Calculated	11,010,999	3.9786	438,088,639
3	Gas CT and CC	Workpaper 3 & 4	29,873,528	3.4985	1,045,125,311
4	Reagents and Byproducts	Workpaper 9	-		25,288,082
5	Total Fossil	Sum	40,884,527		1,508,502,032
6	Hydro	Workpaper 3	5,280,351		
7	Net Pumped Storage	Workpaper 3	(3,799,951)		
8	Total Hydro	Sum	1,480,401		
9	Solar Distributed Generation	Workpaper 3	359,301		
10	Total Generation	Line 1 + Line 5 + Line 8 + Line 9	100,506,689		1,832,629,942
11	Less Lee CC Joint Owners	Workpaper 3 & 4	(878,400)		(23,592,537)
12	Less Catawba Joint Owners	Calculated	(14,613,352)		(157,288,682)
13	Fuel expense recovered through reimbursement	Workpaper 4			(3,687,381)
14	Net Generation	Sum	85,014,937		1,648,061,342
15	Purchased Power	Workpaper 3 & 4	10,963,165		332,801,702
16	JDA Savings Shared	Workpaper 5	-		115,585,534
17	Total Purchased Power	Sum	10,963,165		448,387,237
18	Total Generation and Purchased Power	Line 14 + Line 17	95,978,101		2,096,448,579
19	Fuel expense recovered through intersystem sales	Workpaper 3 & 4	(1,028,431)		(39,473,663)
20	Line losses and Company use	Line 22 - Line 19 - Line 18	(5,078,704)		-
21	System Fuel Expense for Fuel Factor	Lines 18 + 19 + 20			2,056,974,915
22	Projected System MWh Sales for Fuel Factor	Workpaper 7b	89,870,966		89,870,966
23	Fuel and Fuel Related Costs cents/kWh	Line 21 / Line 22 / 10			2.2888

Note: Rounding differences may occur



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North Carolina Annual Fuel and Fuel Related Expense  
Calculation of Fuel and Fuel Related Cost Factors Using:  
NERC 5 Year Average Nuclear Capacity Factor of 91.87% and Projected Period Sales  
Test Period Ended December 31, 2022  
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Clark Rebuttal Revised Exhibit 2  
Schedule 3  
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Line #	Description	Reference	Residential	GS/Lighting	Industrial	Total
1	NC Projected Billing Period MWh Sales	Workpaper 7b	23,311,388	24,873,076	12,148,800	60,333,264
<b>Calculation of Renewable Purchased Power Capacity Rate by Class</b>						<u>Amount</u>
2	Purchased Power for REPS Compliance - Capacity	Workpaper 4				\$ 14,936,094
3	QF Purchased Power - Capacity	Workpaper 4				9,663,863
4	Total of Renewable and QF Purchased Power Capacity	Line 2 + Line 3				\$ 24,599,957
5	NC Portion - Jurisdictional % based on 2021 Production Plant Allocator	Input				66.68%
6	NC Renewable and QF Purchased Power - Capacity	Line 4 * Line 5				\$ 16,403,567
7	2021 Production Plant Allocation Factors	Input	47.04%	37.14%	15.81%	100.00%
8	Renewable and QF Purchased Power - Capacity allocated on 2021 Production Plant Allocator	Line 6 * Line 7	\$ 7,717,004	\$ 6,092,491	\$ 2,594,072	\$ 16,403,567
9	Renewable and QF Purchased Power - Capacity cents/kWh based on Projected Billing Period Sales	Line 8 / Line 1 / 10	0.0331	0.0245	0.0214	0.0272
<b>Summary of Total Rate by Class</b>						
10	Fuel and Fuel Related Costs excluding Purchased Power for REPS Compliance and QF Purchased Capacity cents/kWh	Line 15 - Line 11 - Line 13 - Line 14	2.6389	2.1436	1.7548	2.2618
11	REPS Compliance and QF Purchased Power - Capacity cents/kWh	Line 9	0.0331	0.0245	0.0214	0.0272
12	Total adjusted Fuel and Fuel Related Costs cents/kWh	Line 10 + Line 11	2.6720	2.1681	1.7762	2.2890
13	EMF Increment (Decrement) cents/kWh	Exh 3 pg 2, 3, 4	1.6635	1.6638	1.7256	1.6764
14	EMF Interest Increment (Decrement) cents/kWh	Exh 3 pg 2, 3, 4	-	-	-	-
15	Net Fuel and Fuel Related Costs Factors cents/kWh	Exh 2 Sch 3 Page 3	4.3355	3.8319	3.5018	3.9654

Note: Rounding differences may occur

Line #	Rate Class	Projected Billing Period	Annual Revenue at	Allocate Fuel Costs	Increase/Decrease as	Total Fuel Rate	Current Total Fuel Rate	Proposed Total Fuel
		MWh Sales	Current rates	Increase/(Decrease) to Customer Class	% of Annual Revenue at Current Rates	Increase/(Decrease)	(including Capacity and EMF) E-7, Sub 1263	Rate (including Capacity and EMF)
		A	B	C	C / B = D	E	F	G
		Workpaper 7b	Workpaper 8	Line 25 as a % of Column B	C / B	If D=0 then 0 if not then (C*100)/(A*1000)	Clark Exhibit 1	E + F = G
1	Residential	23,311,388	\$ 2,466,691,215	\$ 431,015,127	17.47%	1.8489	2.4866	4.3355
2	General Service/Lighting	24,873,076	\$ 1,971,226,718	\$ 344,440,573	17.47%	1.3848	2.4471	3.8319
3	Industrial	12,148,800	\$ 757,602,036	\$ 132,378,928	17.47%	1.0896	2.4122	3.5018
4	NC Retail	60,333,264	\$ 5,195,519,969	\$ 907,834,628				

**Total Proposed Composite Fuel Rate:**

5	Total Fuel Costs for Allocation	Workpaper 7b	\$ 2,061,371,131					
6	Total of Renewable and QF Purchased Power Capacity	Exhibit 2 Sch 3, Page 2	24,599,957					
7	System Other Fuel Costs	Line 5 - Line 6	\$ 2,036,771,174					
8	Adjusted Projected System MWh Sales for Fuel Factor	Workpaper 7b	90,050,257					
9	NC Retail Projected Billing Period MWh Sales	Line 4	60,333,264					
10	Allocation %	Line 9 / Line 8	67.00%					
11	NC Retail Other Fuel Costs	Line 7 * Line 10	\$ 1,364,636,686					
12	NC Renewable and QF Purchased Power - Capacity	Exhibit 2 Sch 3, Page 2	16,403,567					
13	NC Retail Total Fuel Costs	Line 11 + Line 12	\$ 1,381,040,253					
14	NC Retail Projected Billing Period MWh Sales	Line 4	60,333,264					
15	Calculated Fuel Rate cents/kWh	Line 13 / Line 14 / 10	2.2890					
16	Proposed Composite EMF Rate cents/kWh	Exhibit 3 Page 1	1.6764					
17	Proposed Composite EMF Rate Interest cents/kWh	Exhibit 3 Page 1	0.0000					
18	Total Proposed Composite Fuel Rate	Sum	3.9654					

**Total Current Composite Fuel Rate - Docket E-7 Sub 1263:**

19	Current composite Fuel Rate cents/kWh	Clark Exhibit 1	1.9010					
20	Current composite EMF Rate cents/kWh	Clark Exhibit 1	0.5597					
21	Current composite EMF Interest Rate cents/kWh	Clark Exhibit 1	0.0000					
22	Total Current Composite Fuel Rate	Sum	2.4607					
23	Increase/(Decrease) in Composite Fuel rate cents/kWh	Line 18 - Line 22	1.5047					
24	NC Retail Projected Billing Period MWh Sales	Line 4	60,333,264					
25	Increase/(Decrease) in Fuel Costs	Line 23 * Line 24 * 10	\$ 907,834,628					

Note: Rounding differences may occur

Duke Energy Carolinas, LLC  
 North Carolina Annual Fuel and Fuel Related Expense  
 Proposed Nuclear Capacity Factor  
 Billing Period September 2023 through August 2024  
 Docket E-7, Sub 1282

Clark Rebuttal Revised Workpaper 1

	Catawba 1	Catawba 2	McGuire 1	McGuire 2	Oconee 1	Oconee 2	Oconee 3	Total
MWhs	9,980,344	9,191,590	8,868,313	9,887,079	7,345,341	6,787,188	6,812,066	58,871,920
Cost (Gross of Joint Owners)	\$ 62,084,118	\$ 50,530,499	\$ 46,895,042	\$ 53,798,314	\$ 41,957,266	\$ 34,678,076	\$ 40,295,868	\$ 330,239,182
\$/MWh	6.2206	5.4975	5.2879	5.4413	5.7121	5.1093	5.9154	
<b>Avg \$/MWh</b>		<b>5.6095</b>						
<b>Cents per kWh</b>		<b>0.5609</b>						

**Sept 2023 -  
August 2024**

<b>MDC</b>			
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
OCON_UN01	Oconee	MW	847.0
OCON_UN02	Oconee	MW	848.0
OCON_UN03	Oconee	MW	859.0
			<u>7,179.7</u>
<b>Hours In Year</b>			8,760
<b>Generation GWhs</b>			
CATA_UN01	Catawba	GWh	9,980
CATA_UN02	Catawba	GWh	9,192
MCGU_UN01	McGuire	GWh	8,868
MCGU_UN02	McGuire	GWh	9,887
OCON_UN01	Oconee	GWh	7,345
OCON_UN02	Oconee	GWh	6,787
OCON_UN03	Oconee	GWh	6,812
			<u>58,872</u>
<b>Proposed Nuclear Capacity Factor</b>			93.60%

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 2023 through August 2024  
 Docket E-7, Sub 1282

Clark Rebuttal Revised Workpaper 2

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	Catawba 1	Catawba 2	McGuire 1	McGuire 2	Oconee 1	Oconee 2	Oconee 3	Total
MWhs with NERC applied	9,272,460	9,193,324	9,256,473	9,253,276	6,900,340	6,908,486	6,998,101	57,782,460
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	91.25%	91.25%	91.25%	91.25%	93.00%	93.00%	93.00%	91.87%
Cost	\$ 52,013,415	\$ 51,569,507	\$ 51,923,737	\$ 51,905,801	\$ 38,707,121	\$ 38,752,820	\$ 39,255,510	\$ 324,127,910

Avg \$/MWh **5.6095**  
 Cents per kWh **0.5609**

2017-2021	Capacity Rating	NCF Rating	Weighted Average
Oconee 1	847.0	93.00	10.97%
Oconee 2	848.0	93.00	10.98%
Oconee 3	859.0	93.00	11.13%
McGuire 1	1,158.0	91.25	14.72%
McGuire 2	1,157.6	91.25	14.71%
Catawba 1	1,160.0	91.25	14.74%
Catawba 2	1,150.1	91.25	14.62%
	<u>7,179.7</u>		<b>91.87%</b>

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 2023 through August 2024  
 Docket E-7, Sub 1282

Clark Rebuttal Revised Workpaper 3

Resource Type	Sept 2023 - August 2024	
NUC Total (Gross)	58,871,920	
COAL Total	10,197,068	
Gas CT and CC total (Gross)	29,873,528	
Run of River	5,280,351	
Net pumped Storage	(3,799,951)	
Total Hydro	1,480,401	
Catawba Joint Owners	(14,888,880)	
Lee CC Joint Owners	(878,400)	
DEC owned solar	359,301	
Total Generation		85,014,937
Purchases for REPS Compliance	1,436,977	
Qualifying Facility Purchases - Non-REPS compliance	1,788,429	
Other Purchases	166,722	
Allocated Economic Purchases	504,389	
Joint Dispatch Purchases	7,066,647	
	10,963,165	
Total Generation and Purchased Power		95,978,101
Fuel Recovered Through Intersystem Sales	(1,028,431)	

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 2023 through August 2024  
 Docket E-7, Sub 1282

Clark Rebuttal Revised Workpaper 4

Resource Type	Sept 2023 - August 2024	
Nuclear Total (Gross)	\$ 330,239,182	
COAL Total	405,705,179	
Gas CT and CC total (Gross)	1,045,125,311	
Catawba Joint Owner costs	(160,254,288)	
CC Joint Owner costs	(23,592,537)	
Non-Economic Fuel Expense Recovered through Reimbursement	(3,687,381)	*use the average of the
Reagents and gain/loss on sale of By-Products	25,288,082	Workpaper 9
Purchases for REPS Compliance - Energy	68,804,621	
Purchases for REPS Compliance - Capacity	14,936,094	
Purchases of Qualifying Facilities - Energy	46,784,121	
Purchases of Qualifying Facilities - Capacity	9,663,863	
Other Purchases	442,692	
JDA Savings Shared	115,585,534	Workpaper 5
Allocated Economic Purchase cost	22,007,503	Workpaper 5
Joint Dispatch purchases	170,162,808	Workpaper 6
<b>Total Purchases</b>	<u>448,387,237</u>	
<b>Fuel Expense recovered through intersystem sales</b>	(39,473,663)	Workpaper 5
<b>Total System Fuel and Fuel Related Costs</b>	<b>\$ 2,027,737,121</b>	

rounding differences may occur



Duke Energy Carolinas, LLC  
 North Carolina Annual Fuel and Fuel Related Expense  
 Projected Merger Payments  
 Billing Period September 2023 through August 2024  
 Docket E-7, Sub 1282

Clark Rebuttal Revised Workpaper 6

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	Transfer Projection		Purchase Allocation Delta		Purchase		Sale		Fossil Gen Cost		Pre-Net Payments	
	PECToDEC	DECtoPEC	PEC	DEC	PECToDEC	DECtoPEC	PEC	DEC	PEC	DEC	PECToDEC	DECtoPEC
9/1/2023	888,206	6,167	12,746	(12,746)	900,952	6,167	21.69	19.50	120,285		19,544,370	
10/1/2023	759,078	22,356	24,443	(24,443)	783,521	22,356	20.73	19.03	425,482		16,241,475	
11/1/2023	707,022	10,465	36,802	(36,802)	743,824	10,465	17.98	22.78	238,408		13,375,445	
12/1/2023	668,931	8,104	(1,330)	1,330	668,931	9,435	26.35	28.09	265,028		17,627,583	
1/1/2024	440,541	10,654	7,184	(7,184)	447,724	10,654	29.99	32.85	350,028		13,425,347	
2/1/2024	372,757	14,658	(2,015)	2,015	372,757	16,673	29.44	29.98	499,850		10,974,346	
3/1/2024	320,748	229,436	(1,388)	1,388	320,748	230,824	28.06	24.38	5,627,246		8,998,605	
4/1/2024	368,059	68,107	26,423	(26,423)	394,482	68,107	22.61	23.72	1,615,378		8,918,750	
5/1/2024	599,170	44,714	3,506	(3,506)	602,676	44,714	20.39	24.74	1,106,424		12,290,668	
6/1/2024	565,913	29,299	58,422	(58,422)	624,334	29,299	24.95	24.99	732,110		15,577,092	
7/1/2024	613,464	22,701	16,901	(16,901)	630,366	22,701	27.59	26.81	608,571		17,389,897	
8/1/2024	552,420	15,664	23,912	(23,912)	576,332	15,664	27.41	26.11	409,076		15,799,230	
Sept 23 - Aug 24	6,856,310	482,326	205,604	(205,604)	7,066,647	487,060			\$ 11,997,888		\$ 170,162,808	
											Net Pre-Net Payments	\$ 158,164,920

rounding differences may occur



Duke Energy Carolinas, LLC  
North Carolina Annual Fuel and Fuel Related Expense  
Projected and Adjusted Projected Sales and Costs  
Proposed Nuclear Capacity Factor of 93.60%  
Billing Period September 2023 through August 2024  
Docket E-7, Sub 1282

Clark Rebuttal Revised Workpaper 7

Fall 2022 Forecast  
Billed Sales Forecast  
Sales Forecast - MWhs (000)

	Projected sales for the Billing Period	Remove impact of SC DERP Net Metered Generation	Adjusted Sales
North Carolina:			
Residential	23,311,388		23,311,388
General	24,631,092		24,631,092
Industrial	12,148,800		12,148,800
Lighting	241,984		241,984
NC RETAIL	60,333,264	-	60,333,264
South Carolina:			
Residential	7,175,070	136,278	7,311,348
General	5,591,750	42,584	5,634,334
Industrial	8,402,177	429	8,402,606
Lighting	49,483	-	49,483
SC RETAIL	21,218,481	179,291	21,397,771
Total Retail Sales			
Residential	30,486,458	136,278	30,622,736
General	30,222,842	42,584	30,265,426
Industrial	20,550,977	429	20,551,406
Lighting	291,467	-	291,467
Retail Sales	81,551,744	179,291	81,731,035
Wholesale	8,319,222	-	8,319,222
Projected System MWH Sales for Fuel Factor	89,870,966	179,291	90,050,257
NC as a percentage of total	67.13%		67.00%
SC as a percentage of total	23.61%		23.76%
Wholesale as a percentage of total	9.26%		9.24%
	100.00%		100.00%
<b>SC Net Metering allocation adjustment</b>			
Total projected SC NEM MWhs		179,291	
Marginal fuel rate per MWh for SC NEM	\$	24.52	
Fuel benefit to be directly assigned to SC Retail	\$	4,396,215	
System Fuel Expense	\$	2,027,737,121	Clark Exhibit 2 Schedule 1 Page 1 of 3
Fuel benefit to be directly assigned to SC Retail	\$	4,396,215	
Total Fuel Costs for Allocation	\$	2,032,133,337	Clark Exhibit 2 Schedule 1 Page 3 of 3, LS

Reconciliation	System	NC Retail Customers		South Carolina Retail	
		Wholesale		Wholesale	Retail
Total system fuel expense from Clark Exhibit 2 Schedule 1 Page 1	\$	2,027,737,121			
QF and REPS Compliance Purchased Power - Capacity	\$	24,599,957			
Other fuel costs	\$	2,003,137,164			
SC Net Metering Fuel Allocation adjustment	\$	4,396,215			
Jurisdictional fuel costs after adj.	\$	2,007,533,380			
<b>Allocation to states/classes</b>			67.00%	9.24%	23.76%
Jurisdictional fuel costs	\$	2,007,533,380	\$ 1,345,047,364	\$ 185,496,084	\$ 476,989,931
Direct Assignment of Fuel benefit to SC Retail	\$	(4,396,215)			\$ (4,396,215)
Total system actual fuel costs	\$	2,003,137,164	\$ 1,345,047,364	\$ 185,496,084	\$ 472,593,716
QF and REPS Compliance Purchased Power - Capacity	\$	24,599,957	16,403,567		
Total system fuel expense from Clark Exhibit 2 Schedule 1 Page 1	\$	2,027,737,121	\$ 1,361,450,931		

Exh.2, Sch. 1 page 3, Line 13

rounding differences may occur

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Duke Energy Carolinas, LLC  
 North Carolina Annual Fuel and Fuel Related Expense  
 Projected and Adjusted Projected Sales and Costs  
 Proposed Nuclear Capacity Factor of 93.60% and Normalized Test Period Sales  
 Billing Period September 2023 through August 2024  
 Docket E-7, Sub 1282

Clark Rebuttal Revised Workpaper 7a

Fall 2022 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
NC RETAIL	59,059,117	162,487	337,854	-	59,559,458
SC RETAIL	20,955,111	(8,320)	99,613	179,291	21,225,695
Wholesale	8,269,814	5,836	(306)	-	8,275,343
<b>Normalized System MWH Sales for Fuel Factor</b>	<b>88,284,042</b>	<b>160,003</b>	<b>437,160</b>	<b>179,291</b>	<b>89,060,496</b>
NC as a percentage of total	<b>66.90%</b>				<b>66.88%</b>
SC as a percentage of total	23.74%				23.83%
Wholesale as a percentage of total	9.37%				9.29%
	100.00%				100.00%

**SC Net Metering allocation adjustment**

Total projected SC NEM MWhs	179,291
Marginal fuel rate per MWh for SC NEM	\$ 24.52
Fuel benefit to be directly assigned to SC Retail	\$ 4,396,215

System Fuel Expense	\$ 1,988,358,028	Clark Exhibit 2 Schedule 2 Page 1 of 3
Fuel benefit to be directly assigned to SC Retail	\$ 4,396,215	
Total Fuel Costs for Allocation	\$ 1,992,754,243	Clark Exhibit 2 Schedule 2 Page 3 of 3, L5

Reconciliation	System	NC Retail Customers	Wholesale	South Carolina Retail
Total system fuel expense from Clark Exhibit 2 Schedule 2 Page 1	\$ 1,988,358,028			
QF and REPS Compliance Purchased Power - Capacity	\$ 24,599,957			
Other fuel costs	\$ 1,963,758,071			
SC Net Metering Fuel Allocation adjustment	\$ 4,396,215			
Jurisdictional fuel costs after adj.	\$ 1,968,154,286			
Allocation to states/classes		66.88%	9.29%	23.83%
Jurisdictional fuel costs	\$ 1,968,154,275	\$ 1,316,208,690	\$ 182,877,409	\$ 469,068,167
Direct Assignment of Fuel benefit to SC Retail	\$ (4,396,215)		\$ -	\$ (4,396,215)
Total system actual fuel costs	\$ 1,963,758,060	\$ 1,316,208,690	\$ 182,877,409	\$ 464,671,952
QF and REPS Compliance Purchased Power - Capacity	24,599,957	16,403,567		
Total system fuel expense from Clark Exhibit 2 Schedule 2 Page 1	\$ 1,988,358,017	\$ 1,332,612,257		

Exh. 2, Sch 2 page 3, Line 13

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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 91.87% and Projected Period Sales  
 Billing Period September 2023 through August 2024  
 Docket E-7, Sub 1282

Clark Rebuttal Revised Workpaper 7b

Spring 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
<b>North Carolina:</b>			
Residential	23,311,388		23,311,388
General	24,631,092		24,631,092
Industrial	12,148,800		12,148,800
Lighting	241,984		241,984
NC RETAIL	60,333,264	-	60,333,264
<b>South Carolina:</b>			
Residential	7,175,070	136,278	7,311,348
General	5,591,750	42,584	5,634,334
Industrial	8,402,177	429	8,402,606
Lighting	49,483	0	49,483
SC RETAIL	21,218,481	179,291	21,397,772
<b>Total Retail Sales</b>			
Residential	30,486,458	136,278	30,622,736
General	30,222,842	42,584	30,265,426
Industrial	20,550,977	429	20,551,406
Lighting	291,467	-	291,467
Retail Sales	81,551,745	179,291	81,731,036
Wholesale	8,319,222	-	8,319,222
<b>Projected System MWh Sales for Fuel Factor</b>	89,870,966	179,291	90,050,257
NC as a percentage of total	<b>67.13%</b>		<b>67.00%</b>
SC as a percentage of total	23.61%		23.76%
Wholesale as a percentage of total	9.26%		9.24%
	100.00%		100.00%

**SC Net Metering allocation adjustment**

Total projected SC NEM MWhs	179,291	
Marginal fuel rate per MWh for SC NEM	\$ 24.52	
Fuel benefit to be directly assigned to SC Retail	\$ 4,396,215	
System Fuel Expense	\$ 2,056,974,915	Clark Exhibit 2 Schedule 3 Page 1 of 3
Fuel benefit to be directly assigned to SC Retail	\$ 4,396,215	
Total Fuel Costs for Allocation	\$ 2,061,371,131	Clark Exhibit 2 Schedule 3 Page 3 of 3, Line 5

**Reconciliation**

	System	NC Retail Customers	Wholesale	South Carolina Retail
Total system fuel expense from Clark Exhibit 2 Schedule 3 Page 1	\$ 2,056,974,915			
QF and REPS Compliance Purchased Power - Capacity	\$ 24,599,957			
Other fuel costs	\$ 2,032,374,958			
SC Net Metering Fuel Allocation adjustment	\$ 4,396,215			
Jurisdictional fuel costs after adj.	\$ 2,036,771,174			
Allocation to states/classes		67.00%	9.24%	23.76%
Jurisdictional fuel costs	\$ 2,036,771,174	\$ 1,364,636,686	\$ 188,197,656	\$ 483,936,831
Direct Assignment of Fuel benefit to SC Retail	\$ (4,396,215)		\$ -	\$ (4,396,215)
Total system actual fuel costs	\$ 2,032,374,958	\$ 1,364,636,686	\$ 188,197,656	\$ 479,540,616
QF and REPS Compliance Purchased Power - Capacity	24,599,957	16,403,567		
Total system fuel expense from Clark Exhibit 2 Schedule 3 Page 1	\$ 2,056,974,915	\$ 1,381,040,253		

Exh. 2, Sch.3 page 3, Line 13

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Duke Energy Carolinas, LLC  
North Carolina Annual Fuel and Fuel Related Expense  
2.5% Calculation Test  
Twelve Months Ended December 31, 2022  
Billing Period September 2023 through August 2024  
Docket E-7, Sub 1282

Clark Rebuttal Revised Workpaper 10

Line No.	Description	Forecast \$	(Over)/Under Collection \$	Total \$
1	Amount in current docket	108,889,655	70,794,129	179,683,784
2	Amount in Sub 1263, prior year docket	100,735,755	13,526,437	114,262,192
3	Increase/(Decrease)	8,153,900	57,267,693	65,421,592
4	2.5% of 2022 NC retail revenue of \$4,944,339,147			123,608,479
	Excess of purchased power growth over 2.5% of revenue			0
<b>E-7, Sub 1282</b>				
WP 4	Purchases for REPS Compliance - Energy	68,804,621	67.00%	46,099,096
WP 4	Purchases for REPS Compliance - Capacity	14,936,094	66.68%	9,959,579
WP 4	Purchases	442,692	67.00%	296,604
WP 4	QF Energy	46,784,121	67.00%	31,345,361
WP 4	QF Capacity	9,663,863	66.68%	6,443,988
WP 4	Allocated Economic Purchase cost	22,007,503	67.00%	14,745,027
		162,638,895		108,889,655
<b>E-7, Sub 1263</b>				
	Purchases for REPS Compliance	66,782,210	66.08%	44,126,819
	Purchases for REPS Compliance Capacity	14,610,064	66.68%	9,742,178
	Purchases	7,489,994	66.08%	4,949,066
	QF Energy	40,652,503	66.08%	26,861,429
	QF Capacity	8,445,498	66.68%	5,631,567
	Allocated Economic Purchase cost	14,263,480	66.08%	9,424,695
		152,243,749		100,735,755

rounding differences may occur