

AREA/PROJECT/PROGRAM	Distribution - Distribution Automation
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

NPV of COST/BENEFIT STREAM									
	2022	2023	2024	2025	2026	2027	2028	2029	2030
	0	1	2	3	4	5	6	7	8

COSTS

Program Capital Costs	\$ 38,804,477	\$ 1,174,664	\$ 18,172,297	\$ 14,543,615	\$ 8,507,683	\$ 942,153	\$ -	\$ -	\$ -	\$ -
Program Capital Contingency Costs	\$ 4,090,557	\$ 6,945	\$ 1,939,639	\$ 1,599,798	\$ 935,845	\$ 103,637	\$ -	\$ -	\$ -	\$ -
Total Program Capital Costs	\$ 42,895,034	\$ 1,181,608	\$ 20,111,936	\$ 16,143,412	\$ 9,443,528	\$ 1,045,789	\$ -	\$ -	\$ -	\$ -
Program O&M Costs	\$ 862,673	\$ 23,764	\$ 404,476	\$ 324,664	\$ 189,921	\$ 21,032	\$ -	\$ -	\$ -	\$ -
Total Program Costs	\$ 43,757,707	\$ 1,205,372	\$ 20,516,412	\$ 16,468,076	\$ 9,633,449	\$ 1,066,822	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

OPERATIONAL BENEFITS

Outage										
Avoided Outage Benefits (Non-MED)	\$ 3,200,309	\$ -	\$ -	\$ 40,169	\$ 118,944	\$ 185,221	\$ 240,318	\$ 246,326	\$ 252,484	\$ 258,797
Total Operational Benefits	\$ 3,200,309	\$ -	\$ -	\$ 40,169	\$ 118,944	\$ 185,221	\$ 240,318	\$ 246,326	\$ 252,484	\$ 258,797

CUSTOMER BENEFITS

Customer										
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$ 481,452	\$ -	\$ -	\$ 6,043	\$ 17,894	\$ 27,865	\$ 36,153	\$ 37,057	\$ 37,984	\$ 38,933
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$ 9,390,635	\$ -	\$ -	\$ 117,867	\$ 349,016	\$ 543,492	\$ 705,164	\$ 722,793	\$ 740,863	\$ 759,384
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$ 28,953,705	\$ -	\$ -	\$ 363,413	\$ 1,076,106	\$ 1,675,724	\$ 2,174,199	\$ 2,228,554	\$ 2,284,268	\$ 2,341,374
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$ 181,655,288	\$ -	\$ -	\$ 2,280,049	\$ 6,751,477	\$ 10,513,478	\$ 13,640,905	\$ 13,981,927	\$ 14,331,476	\$ 14,689,762
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Customer Benefits	\$ 220,481,081	\$ -	\$ -	\$ 2,767,371	\$ 8,194,493	\$ 12,760,559	\$ 16,556,421	\$ 16,970,332	\$ 17,394,590	\$ 17,829,455

COMBINED COSTS AND BENEFITS

Total PV of Operational Benefits	\$ 3,200,309	\$ -	\$ -	\$ 40,169	\$ 118,944	\$ 185,221	\$ 240,318	\$ 246,326	\$ 252,484	\$ 258,797
Total PV of Customer Benefits	\$ 220,481,081	\$ -	\$ -	\$ 2,767,371	\$ 8,194,493	\$ 12,760,559	\$ 16,556,421	\$ 16,970,332	\$ 17,394,590	\$ 17,829,455
Total PV of Combined Benefits	\$ 223,681,390	\$ -	\$ -	\$ 2,807,540	\$ 8,313,437	\$ 12,945,780	\$ 16,796,739	\$ 17,216,658	\$ 17,647,074	\$ 18,088,251
Total PV Program and On-Going Costs	\$ 43,757,707	\$ 1,205,372	\$ 20,516,412	\$ 16,468,076	\$ 9,633,449	\$ 1,066,822	\$ -	\$ -	\$ -	\$ -
Combined NPV of Program	\$ 179,923,683	\$ (1,205,372)	\$ (20,516,412)	\$ (13,660,537)	\$ (1,320,012)	\$ 11,878,958	\$ 16,796,739	\$ 17,216,658	\$ 17,647,074	\$ 18,088,251

Ratio of NPV Benefits to NPV Costs	5.1
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Cumulative Net Benefits (Payback Period)	\$ (1,205,372)	\$ (21,721,784)	\$ (35,382,321)	\$ (36,702,333)	\$ (24,823,375)	\$ (8,026,635)	\$ 9,190,023	\$ 26,837,097	\$ 44,925,348
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AREA/PROJECT/PROGRAM	Distribution - Distribution Automation
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

NPV of COST/BENEFIT STREAM	YEAR								
	2031	2032	2033	2034	2035	2036	2037	2038	2039
	9	10	11	12	13	14	15	16	17

COSTS

Program Capital Costs	\$ 38,804,477	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program Capital Contingency Costs	\$ 4,090,557	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Capital Costs	\$ 42,895,034	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program O&M Costs	\$ 862,673	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Costs	\$ 43,757,707	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

OPERATIONAL BENEFITS

Outage													
Avoided Outage Benefits (Non-MED)	\$ 3,200,309	\$ 265,267	\$ 271,898	\$ 278,696	\$ 285,663	\$ 292,805	\$ 300,125	\$ 307,628	\$ 315,319	\$ 323,201			
Total Operational Benefits	\$ 3,200,309	\$ 265,267	\$ 271,898	\$ 278,696	\$ 285,663	\$ 292,805	\$ 300,125	\$ 307,628	\$ 315,319	\$ 323,201			

CUSTOMER BENEFITS

Customer													
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$ 481,452	\$ 39,907	\$ 40,904	\$ 41,927	\$ 42,975	\$ 44,049	\$ 45,151	\$ 46,279	\$ 47,436	\$ 48,622			
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$ 9,390,635	\$ 778,369	\$ 797,828	\$ 817,774	\$ 838,218	\$ 859,174	\$ 880,653	\$ 902,669	\$ 925,236	\$ 948,367			
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$ 28,953,705	\$ 2,399,909	\$ 2,459,907	\$ 2,521,404	\$ 2,584,439	\$ 2,649,050	\$ 2,715,277	\$ 2,783,158	\$ 2,852,737	\$ 2,924,056			
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$ 181,655,288	\$ 15,057,007	\$ 15,433,432	\$ 15,819,268	\$ 16,214,749	\$ 16,620,118	\$ 17,035,621	\$ 17,461,511	\$ 17,898,049	\$ 18,345,500			
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Total Customer Benefits	\$ 220,481,081	\$ 18,275,191	\$ 18,732,071	\$ 19,200,373	\$ 19,680,382	\$ 20,172,391	\$ 20,676,701	\$ 21,193,619	\$ 21,723,459	\$ 22,266,546			

COMBINED COSTS AND BENEFITS

Total PV of Operational Benefits	\$ 3,200,309	\$ 265,267	\$ 271,898	\$ 278,696	\$ 285,663	\$ 292,805	\$ 300,125	\$ 307,628	\$ 315,319	\$ 323,201			
Total PV of Customer Benefits	\$ 220,481,081	\$ 18,275,191	\$ 18,732,071	\$ 19,200,373	\$ 19,680,382	\$ 20,172,391	\$ 20,676,701	\$ 21,193,619	\$ 21,723,459	\$ 22,266,546			
Total PV of Combined Benefits	\$ 223,681,390	\$ 18,540,457	\$ 19,003,969	\$ 19,479,068	\$ 19,966,045	\$ 20,465,196	\$ 20,976,826	\$ 21,501,247	\$ 22,038,778	\$ 22,589,747			
Total PV Program and On-Going Costs	\$ 43,757,707	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -			
Combined NPV of Program	\$ 179,923,683	\$ 18,540,457	\$ 19,003,969	\$ 19,479,068	\$ 19,966,045	\$ 20,465,196	\$ 20,976,826	\$ 21,501,247	\$ 22,038,778	\$ 22,589,747			

Ratio of NPV Benefits to NPV Costs	5.1
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Cumulative Net Benefits (Payback Period)	\$ 63,465,806	\$ 82,469,775	\$ 101,948,843	\$ 121,914,888	\$ 142,380,084	\$ 163,356,909	\$ 184,858,156	\$ 206,896,934	\$ 229,486,681
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AREA/PROJECT/PROGRAM	Distribution - Distribution Automation
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

NPV of COST/BENEFIT STREAM									
	2040	2041	2042	2043	2044	2045	2046	2047	2048
	18	19	20	21	22	23	24	25	26

COSTS

Program Capital Costs	\$ 38,804,477	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program Capital Contingency Costs	\$ 4,090,557	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Capital Costs	\$ 42,895,034	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program O&M Costs	\$ 862,673	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Costs	\$ 43,757,707	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

OPERATIONAL BENEFITS

Outage														
Avoided Outage Benefits (Non-MED)	\$ 3,200,309	\$ 331,282	\$ 339,564	\$ 348,053	\$ 356,754	\$ 365,673	\$ 374,815	\$ 384,185	\$ 393,790	\$ 403,634				
Total Operational Benefits	\$ 3,200,309	\$ 331,282	\$ 339,564	\$ 348,053	\$ 356,754	\$ 365,673	\$ 374,815	\$ 384,185	\$ 393,790	\$ 403,634				

CUSTOMER BENEFITS

Customer														
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$ 481,452	\$ 49,838	\$ 51,084	\$ 52,361	\$ 53,670	\$ 55,012	\$ 56,387	\$ 57,797	\$ 59,241	\$ 60,722				
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$ 9,390,635	\$ 972,076	\$ 996,378	\$ 1,021,288	\$ 1,046,820	\$ 1,072,990	\$ 1,099,815	\$ 1,127,310	\$ 1,155,493	\$ 1,184,381				
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$ 28,953,705	\$ 2,997,157	\$ 3,072,086	\$ 3,148,888	\$ 3,227,611	\$ 3,308,301	\$ 3,391,008	\$ 3,475,784	\$ 3,562,678	\$ 3,651,745				
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$ 181,655,288	\$ 18,804,138	\$ 19,274,241	\$ 19,756,097	\$ 20,250,000	\$ 20,756,250	\$ 21,275,156	\$ 21,807,035	\$ 22,352,211	\$ 22,911,016				
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				
Total Customer Benefits	\$ 220,481,081	\$ 22,823,209	\$ 23,393,789	\$ 23,978,634	\$ 24,578,100	\$ 25,192,553	\$ 25,822,366	\$ 26,467,926	\$ 27,129,624	\$ 27,807,864				

COMBINED COSTS AND BENEFITS

Total PV of Operational Benefits	\$ 3,200,309	\$ 331,282	\$ 339,564	\$ 348,053	\$ 356,754	\$ 365,673	\$ 374,815	\$ 384,185	\$ 393,790	\$ 403,634				
Total PV of Customer Benefits	\$ 220,481,081	\$ 22,823,209	\$ 23,393,789	\$ 23,978,634	\$ 24,578,100	\$ 25,192,553	\$ 25,822,366	\$ 26,467,926	\$ 27,129,624	\$ 27,807,864				
Total PV of Combined Benefits	\$ 223,681,390	\$ 23,154,491	\$ 23,733,353	\$ 24,326,687	\$ 24,934,854	\$ 25,558,225	\$ 26,197,181	\$ 26,852,111	\$ 27,523,413	\$ 28,211,499				
Total PV Program and On-Going Costs	\$ 43,757,707	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				
Combined NPV of Program	\$ 179,923,683	\$ 23,154,491	\$ 23,733,353	\$ 24,326,687	\$ 24,934,854	\$ 25,558,225	\$ 26,197,181	\$ 26,852,111	\$ 27,523,413	\$ 28,211,499				

Ratio of NPV Benefits to NPV Costs	5.1
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Cumulative Net Benefits (Payback Period)	\$ 252,641,172	\$ 276,374,525	\$ 300,701,212	\$ 325,636,066	\$ 351,194,291	\$ 377,391,472	\$ 404,243,583	\$ 431,766,996	\$ 459,978,495
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AREA/PROJECT/PROGRAM		Distribution - Distribution Automation			
PERIOD:		2023-2026			
REGULATORY JURISDICTION:		DEP			
STATE:		NC			

		NPV of COST/BENEFIT STREAM						TOTAL
				2049	2050	2051	2052	
				27	28	29	30	
COSTS								
	Program Capital Costs	\$ 38,804,477	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 43,340,410
	Program Capital Contingency Costs	\$ 4,090,557	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,585,863
	Total Program Capital Costs	\$ 42,895,034	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47,926,273
	Program O&M Costs	\$ 862,673	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 963,857
	Total Program Costs	\$ 43,757,707	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 48,890,131
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OPERATIONAL BENEFITS								
	Outage							
	Avoided Outage Benefits (Non-MED)	\$ 3,200,309	\$ 413,725	\$ 424,068	\$ 434,670	\$ 445,537	\$ 445,537	\$ 8,998,609
	Total Operational Benefits	\$ 3,200,309	\$ 413,725	\$ 424,068	\$ 434,670	\$ 445,537	\$ 445,537	\$ 8,998,609
CUSTOMER BENEFITS								
	Customer							
	Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$ 481,452	\$ 62,241	\$ 63,797	\$ 65,391	\$ 67,026	\$ 67,026	\$ 1,353,744
	Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$ 9,390,635	\$ 1,213,990	\$ 1,244,340	\$ 1,275,448	\$ 1,307,335	\$ 1,307,335	\$ 26,404,534
	Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								\$ -
	Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$ 28,953,705	\$ 3,743,039	\$ 3,836,615	\$ 3,932,530	\$ 4,030,843	\$ 4,030,843	\$ 81,411,861
	Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$ 181,655,288	\$ 23,483,792	\$ 24,070,886	\$ 24,672,658	\$ 25,289,475	\$ 25,289,475	\$ 510,777,284
	Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								\$ -
	Total Customer Benefits	\$ 220,481,081	\$ 28,503,061	\$ 29,215,637	\$ 29,946,028	\$ 30,694,679	\$ 30,694,679	\$ 619,947,423
COMBINED COSTS AND BENEFITS								
	Total PV of Operational Benefits	\$ 3,200,309	\$ 413,725	\$ 424,068	\$ 434,670	\$ 445,537	\$ 445,537	\$ 8,998,609
	Total PV of Customer Benefits	\$ 220,481,081	\$ 28,503,061	\$ 29,215,637	\$ 29,946,028	\$ 30,694,679	\$ 30,694,679	\$ 619,947,423
	Total PV of Combined Benefits	\$ 223,681,390	\$ 28,916,786	\$ 29,639,706	\$ 30,380,698	\$ 31,140,216	\$ 31,140,216	\$ 628,946,032
	Total PV Program and On-Going Costs	\$ 43,757,707	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 48,890,131
	Combined NPV of Program	\$ 179,923,683	\$ 28,916,786	\$ 29,639,706	\$ 30,380,698	\$ 31,140,216	\$ 31,140,216	\$ 580,055,901
	Ratio of NPV Benefits to NPV Costs	5.1						
	Cumulative Net Benefits (Payback Period)		\$ 488,895,281	\$ 518,534,987	\$ 548,915,685	\$ 580,055,901	\$ 580,055,901	\$ 1,160,111,802

AREA/PROJECT/PROGRAM		Distribution - Equipment Retrofit																								
PERIOD:		2023-2026																								
REGULATORY JURISDICTION:		DEP																								
STATE:		NC																								
		NPV of COST/BENEFIT STREAM																								
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033													
		0	1	2	3	4	5	6	7	8	9	10	11													
COSTS																										
Program Capital Costs	\$	64,402,314	\$	7,114,720	\$	23,599,131	\$	19,713,217	\$	19,177,447	\$	2,476,537	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
Program Capital Contingency Costs	\$	6,179,406	\$	8,757	\$	2,456,338	\$	2,168,454	\$	2,109,519	\$	272,419	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
Total Program Capital Costs	\$	70,581,719	\$	7,123,477	\$	26,055,469	\$	21,881,671	\$	21,286,967	\$	2,748,956	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
Program O&M Costs	\$	159,253	\$	16,073	\$	58,789	\$	49,372	\$	48,030	\$	6,202	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
Total Program Costs	\$	70,740,973	\$	7,139,550	\$	26,114,258	\$	21,931,042	\$	21,334,996	\$	2,755,158	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
Total On-Going Costs	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-		
OPERATIONAL BENEFITS																										
Outage																										
Avoided Outage Benefits (Non-MED)	\$	646,502	\$	-	\$	-	\$	17,442	\$	26,721	\$	36,400	\$	47,754	\$	48,947	\$	50,171	\$	51,425	\$	52,711	\$	54,029	\$	55,379
Avoided Outage Benefits (MED)	\$	32,924	\$	-	\$	-	\$	881	\$	1,356	\$	1,852	\$	2,433	\$	2,494	\$	2,556	\$	2,620	\$	2,685	\$	2,753	\$	2,821
Total Operational Benefits	\$	679,426	\$	-	\$	-	\$	18,323	\$	28,078	\$	38,252	\$	50,186	\$	51,441	\$	52,727	\$	54,045	\$	55,396	\$	56,781	\$	58,201
CUSTOMER BENEFITS																										
Customer																										
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$	1,076,254	\$	-	\$	-	\$	18,690	\$	37,801	\$	56,958	\$	80,933	\$	82,956	\$	85,030	\$	87,156	\$	89,335	\$	91,568	\$	93,857
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$	22,301,871	\$	-	\$	-	\$	387,285	\$	783,307	\$	1,180,278	\$	1,677,067	\$	1,718,993	\$	1,761,968	\$	1,806,017	\$	1,851,168	\$	1,897,447	\$	1,944,883
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$	40,483,354	\$	-	\$	-	\$	703,016	\$	1,421,894	\$	2,142,493	\$	3,044,286	\$	3,120,394	\$	3,198,403	\$	3,278,364	\$	3,360,323	\$	3,444,331	\$	3,530,439
Avoided Sustained Outage Benefits (MED) - Residential Customers	\$	551,273	\$	-	\$	-	\$	14,215	\$	22,877	\$	31,627	\$	40,723	\$	41,742	\$	42,785	\$	43,855	\$	44,951	\$	46,075	\$	47,227
Avoided Sustained Outage Benefits (MED) - Small C&I Customers	\$	22,696,388	\$	-	\$	-	\$	585,252	\$	941,850	\$	1,302,130	\$	1,676,617	\$	1,718,533	\$	1,761,496	\$	1,805,534	\$	1,850,672	\$	1,896,939	\$	1,944,362
Avoided Sustained Outage Benefits (MED) - Medium & Large C&I Customers	\$	27,640,772	\$	-	\$	-	\$	712,748	\$	1,147,031	\$	1,585,798	\$	2,041,867	\$	2,092,913	\$	2,145,236	\$	2,198,867	\$	2,253,839	\$	2,310,185	\$	2,367,939
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$	1,978,855	\$	-	\$	-	\$	34,364	\$	69,503	\$	104,727	\$	148,807	\$	152,527	\$	156,340	\$	160,249	\$	164,255	\$	168,361	\$	172,570
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$	24,830,636	\$	-	\$	-	\$	431,198	\$	872,125	\$	1,314,107	\$	1,867,226	\$	1,913,907	\$	1,961,754	\$	2,010,798	\$	2,061,068	\$	2,112,595	\$	2,165,410
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$	57,300,115	\$	-	\$	-	\$	995,049	\$	2,012,548	\$	3,032,484	\$	4,308,881	\$	4,416,603	\$	4,527,018	\$	4,640,194	\$	4,756,199	\$	4,875,104	\$	4,996,981
Avoided Momentary Outage Benefits (MED) - Residential Customers	\$	235,922	\$	-	\$	-	\$	6,084	\$	9,790	\$	13,535	\$	17,428	\$	17,864	\$	18,310	\$	18,768	\$	19,237	\$	19,718	\$	20,211
Avoided Momentary Outage Benefits (MED) - Small C&I Customers	\$	2,960,348	\$	-	\$	-	\$	76,336	\$	122,848	\$	169,840	\$	218,685	\$	224,153	\$	229,756	\$	235,500	\$	241,388	\$	247,423	\$	253,608
Avoided Momentary Outage Benefits (MED) - Medium & Large C&I Customers	\$	6,831,410	\$	-	\$	-	\$	176,156	\$	283,488	\$	391,930	\$	504,647	\$	517,263	\$	530,195	\$	543,449	\$	557,036	\$	570,962	\$	585,236
Total Customer Benefits	\$	208,887,199	\$	-	\$	-	\$	4,140,391	\$	7,725,063	\$	11,325,907	\$	15,627,168	\$	16,017,847	\$	16,418,293	\$	16,828,750	\$	17,249,469	\$	17,680,706	\$	18,122,724
COMBINED COSTS AND BENEFITS																										
Total PV of Operational Benefits	\$	679,426	\$	-	\$	-	\$	18,323	\$	28,078	\$	38,252	\$	50,186	\$	51,441	\$	52,727	\$	54,045	\$	55,396	\$	56,781	\$	58,201
Total PV of Customer Benefits	\$	208,887,199	\$	-	\$	-	\$	4,140,391	\$	7,725,063	\$	11,325,907	\$	15,627,168	\$	16,017,847	\$	16,418,293	\$	16,828,750	\$	17,249,469	\$	17,680,706	\$	18,122,724
Total PV of Combined Benefits	\$	209,566,625	\$	-	\$	-	\$	4,158,714	\$	7,753,140	\$	11,364,159	\$	15,677,354	\$	16,069,288	\$	16,471,020	\$	16,882,796	\$	17,304,866	\$	17,737,487	\$	18,180,925
Total PV Program and On-Going Costs	\$	70,740,973	\$	7,139,550	\$	26,114,258	\$	21,931,042	\$	21,334,996	\$	2,755,158	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Combined NPV of Program	\$	138,825,653	\$	(7,139,550)	\$	(26,114,258)	\$	(17,772,328)	\$	(13,581,856)	\$	8,609,000	\$	15,677,354	\$	16,069,288	\$	16,471,020	\$	16,882,796	\$	17,304,866	\$	17,737,487	\$	18,180,925
Ratio of NPV Benefits to NPV Costs		3.0																								
Cumulative Net Benefits (Payback Period)			\$	(7,139,550)	\$	(33,253,808)	\$	(51,026,136)	\$	(64,607,992)	\$	(55,998,992)	\$	(40,321,637)	\$	(24,252,349)	\$	(7,781,329)	\$	9,101,467	\$	26,406,333	\$	44,143,820	\$	62,324,744

AREA/PROJECT/PROGRAM	Distribution - Equipment Retrofit
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

		NPV of COST/BENEFIT STREAM							TOTAL	
		2046	2047	2048	2049	2050	2051	2052		
		24	25	26	27	28	29	30		
COSTS										
Program Capital Costs	\$ 64,402,314	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 72,081,052
Program Capital Contingency Costs	\$ 6,179,406	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,015,487
Total Program Capital Costs	\$ 70,581,719	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 79,096,539
Program O&M Costs	\$ 159,253	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 178,465
Total Program Costs	\$ 70,740,973	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 79,275,004
Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OPERATIONAL BENEFITS										
Outage										
Avoided Outage Benefits (Non-MED)	\$ 646,502	\$ 76,341	\$ 78,250	\$ 80,206	\$ 82,211	\$ 84,266	\$ 86,373	\$ 88,532	\$ 1,800,250	
Avoided Outage Benefits (MED)	\$ 32,924	\$ 3,889	\$ 3,987	\$ 4,086	\$ 4,188	\$ 4,293	\$ 4,400	\$ 4,511	\$ 91,702	
Total Operational Benefits	\$ 679,426	\$ 80,231	\$ 82,236	\$ 84,292	\$ 86,400	\$ 88,560	\$ 90,774	\$ 93,043	\$ 1,891,953	
CUSTOMER BENEFITS										
Customer										
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$ 1,076,254	\$ 129,383	\$ 132,618	\$ 135,933	\$ 139,331	\$ 142,815	\$ 146,385	\$ 150,045	\$ 3,027,973	
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$ 22,301,871	\$ 2,681,043	\$ 2,748,069	\$ 2,816,771	\$ 2,887,190	\$ 2,959,370	\$ 3,033,354	\$ 3,109,188	\$ 62,744,906	
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ 40,483,354	\$ 4,866,749	\$ 4,988,418	\$ 5,113,128	\$ 5,240,956	\$ 5,371,980	\$ 5,506,280	\$ 5,643,937	\$ 113,897,358	
Avoided Sustained Outage Benefits (MED) - Residential Customers	\$ 551,273	\$ 65,103	\$ 66,730	\$ 68,398	\$ 70,108	\$ 71,861	\$ 73,658	\$ 75,499	\$ 1,535,239	
Avoided Sustained Outage Benefits (MED) - Small C&I Customers	\$ 22,696,388	\$ 2,680,325	\$ 2,747,333	\$ 2,816,016	\$ 2,886,417	\$ 2,958,577	\$ 3,032,541	\$ 3,108,355	\$ 63,207,087	
Avoided Sustained Outage Benefits (MED) - Medium & Large C&I Customers	\$ 27,640,772	\$ 3,264,231	\$ 3,345,836	\$ 3,429,482	\$ 3,515,219	\$ 3,603,100	\$ 3,693,177	\$ 3,785,507	\$ 76,976,686	
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$ 1,978,855	\$ 237,890	\$ 243,837	\$ 249,933	\$ 256,182	\$ 262,586	\$ 269,151	\$ 275,880	\$ 5,567,383	
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$ 24,830,636	\$ 2,985,041	\$ 3,059,667	\$ 3,136,159	\$ 3,214,563	\$ 3,294,927	\$ 3,377,300	\$ 3,461,733	\$ 69,859,426	
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ 57,300,115	\$ 6,888,394	\$ 7,060,604	\$ 7,237,119	\$ 7,418,047	\$ 7,603,498	\$ 7,793,585	\$ 7,988,425	\$ 161,210,255	
Avoided Momentary Outage Benefits (MED) - Residential Customers	\$ 235,922	\$ 27,861	\$ 28,558	\$ 29,272	\$ 30,003	\$ 30,754	\$ 31,522	\$ 32,310	\$ 657,019	
Avoided Momentary Outage Benefits (MED) - Small C&I Customers	\$ 2,960,348	\$ 349,602	\$ 358,342	\$ 367,300	\$ 376,483	\$ 385,895	\$ 395,542	\$ 405,431	\$ 8,244,261	
Avoided Momentary Outage Benefits (MED) - Medium & Large C&I Customers	\$ 6,831,410	\$ 806,754	\$ 826,923	\$ 847,596	\$ 868,786	\$ 890,505	\$ 912,768	\$ 935,587	\$ 19,024,770	
Total Customer Benefits	\$ 208,887,199	\$ 24,982,375	\$ 25,606,934	\$ 26,247,107	\$ 26,903,285	\$ 27,575,867	\$ 28,265,264	\$ 28,971,895	\$ 585,952,364	
COMBINED COSTS AND BENEFITS										
Total PV of Operational Benefits	\$ 679,426	\$ 80,231	\$ 82,236	\$ 84,292	\$ 86,400	\$ 88,560	\$ 90,774	\$ 93,043	\$ 1,891,953	
Total PV of Customer Benefits	\$ 208,887,199	\$ 24,982,375	\$ 25,606,934	\$ 26,247,107	\$ 26,903,285	\$ 27,575,867	\$ 28,265,264	\$ 28,971,895	\$ 585,952,364	
Total PV of Combined Benefits	\$ 209,566,625	\$ 25,062,605	\$ 25,689,170	\$ 26,331,400	\$ 26,989,685	\$ 27,664,427	\$ 28,356,037	\$ 29,064,938	\$ 587,844,317	
Total PV Program and On-Going Costs	\$ 70,740,973	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 79,275,004	
Combined NPV of Program	\$ 138,825,653	\$ 25,062,605	\$ 25,689,170	\$ 26,331,400	\$ 26,989,685	\$ 27,664,427	\$ 28,356,037	\$ 29,064,938	\$ 508,569,312	
Ratio of NPV Benefits to NPV Costs	3.0									
Cumulative Net Benefits (Payback Period)		\$ 344,473,655	\$ 370,162,825	\$ 396,494,225	\$ 423,483,910	\$ 451,148,336	\$ 479,504,374	\$ 508,569,312	\$ 1,017,138,624	

AREA/PROJECT/PROGRAM	Distribution - HR Laterals
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

		NPV of COST/BENEFIT STREAM											TOTAL
			2044	2045	2046	2047	2048	2049	2050	2051	2052		
			22	23	24	25	26	27	28	29	30		
COSTS													
Program Capital Costs		\$ 130,108,080	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 147,806,400
Program Capital Contingency Costs		\$ 13,375,875	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,309,809
Total Program Capital Costs		\$ 143,483,955	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 163,116,209
Program O&M Costs		\$ 2,740,544	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,115,520
Total Program Costs		\$ 146,224,499	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 166,231,729
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OPERATIONAL BENEFITS													
Outage													
Avoided Outage Benefits (Non-MED)		\$ 8,720,108	\$ 1,016,547	\$ 1,041,961	\$ 1,068,010	\$ 1,094,710	\$ 1,122,078	\$ 1,150,130	\$ 1,178,883	\$ 1,208,355	\$ 1,238,564	\$ 24,795,064	\$ 24,795,064
Avoided Outage Benefits (MED)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Operational Benefits		\$ 8,720,108	\$ 1,016,547	\$ 1,041,961	\$ 1,068,010	\$ 1,094,710	\$ 1,122,078	\$ 1,150,130	\$ 1,178,883	\$ 1,208,355	\$ 1,238,564	\$ 24,795,064	\$ 24,795,064
CUSTOMER BENEFITS													
Customer													
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers		\$ 683,147	\$ 79,638	\$ 81,629	\$ 83,670	\$ 85,761	\$ 87,905	\$ 90,103	\$ 92,356	\$ 94,664	\$ 97,031	\$ 1,942,484	\$ 1,942,484
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers		\$ 15,561,599	\$ 1,814,095	\$ 1,859,447	\$ 1,905,933	\$ 1,953,581	\$ 2,002,421	\$ 2,052,482	\$ 2,103,794	\$ 2,156,388	\$ 2,210,298	\$ 44,248,403	\$ 44,248,403
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers		\$ 40,402,113	\$ 4,709,879	\$ 4,827,626	\$ 4,948,317	\$ 5,072,025	\$ 5,198,826	\$ 5,328,796	\$ 5,462,016	\$ 5,598,567	\$ 5,738,531	\$ 114,880,802	\$ 114,880,802
												\$ -	\$ -
Avoided Sustained Outage Benefits (MED) - Residential Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Sustained Outage Benefits (MED) - Small C&I Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Sustained Outage Benefits (MED) - Medium & Large C&I Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
												\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED & MED) - Residential Customers		\$ 30,440,442	\$ 3,548,597	\$ 3,637,312	\$ 3,728,245	\$ 3,821,451	\$ 3,916,987	\$ 4,014,912	\$ 4,115,284	\$ 4,218,167	\$ 4,323,621	\$ 86,555,434	\$ 86,555,434
Avoided Momentary Outage Benefits (Non-MED & MED) - Small C&I Customers		\$ 382,154,069	\$ 44,549,640	\$ 45,663,381	\$ 46,804,966	\$ 47,975,090	\$ 49,174,467	\$ 50,403,829	\$ 51,663,924	\$ 52,955,522	\$ 54,279,411	\$ 1,086,630,457	\$ 1,086,630,457
Avoided Momentary Outage Benefits (Non-MED & MED) - Medium & Large C&I Customers		\$ 894,098,590	\$ 104,229,612	\$ 106,835,352	\$ 109,506,236	\$ 112,243,892	\$ 115,049,989	\$ 117,926,239	\$ 120,874,395	\$ 123,896,255	\$ 126,993,661	\$ 2,542,311,697	\$ 2,542,311,697
												\$ -	\$ -
Total Customer Benefits		\$ 1,363,339,959	\$ 158,931,461	\$ 162,904,747	\$ 166,977,366	\$ 171,151,800	\$ 175,430,595	\$ 179,816,360	\$ 184,311,769	\$ 188,919,563	\$ 193,642,552	\$ 3,876,569,279	\$ 3,876,569,279
COMBINED COSTS AND BENEFITS													
Total PV of Operational Benefits		\$ 8,720,108	\$ 1,016,547	\$ 1,041,961	\$ 1,068,010	\$ 1,094,710	\$ 1,122,078	\$ 1,150,130	\$ 1,178,883	\$ 1,208,355	\$ 1,238,564	\$ 24,795,064	\$ 24,795,064
Total PV of Customer Benefits		\$ 1,363,339,959	\$ 158,931,461	\$ 162,904,747	\$ 166,977,366	\$ 171,151,800	\$ 175,430,595	\$ 179,816,360	\$ 184,311,769	\$ 188,919,563	\$ 193,642,552	\$ 3,876,569,279	\$ 3,876,569,279
Total PV of Combined Benefits		\$ 1,372,060,066	\$ 159,948,008	\$ 163,946,708	\$ 168,045,376	\$ 172,246,510	\$ 176,552,673	\$ 180,966,490	\$ 185,490,652	\$ 190,127,918	\$ 194,881,116	\$ 3,901,364,342	\$ 3,901,364,342
Total PV Program and On-Going Costs		\$ 146,224,499	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 166,231,729
Combined NPV of Program		\$ 1,225,835,567	\$ 159,948,008	\$ 163,946,708	\$ 168,045,376	\$ 172,246,510	\$ 176,552,673	\$ 180,966,490	\$ 185,490,652	\$ 190,127,918	\$ 194,881,116	\$ 3,735,132,613	\$ 3,735,132,613
Ratio of NPV Benefits to NPV Costs													
		9.4											
Cumulative Net Benefits (Payback Period)			\$ 2,302,875,169	\$ 2,466,821,877	\$ 2,634,867,253	\$ 2,807,113,763	\$ 2,983,666,436	\$ 3,164,632,926	\$ 3,350,123,578	\$ 3,540,251,497	\$ 3,735,132,613	\$ 7,470,265,227	\$ 7,470,265,227

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AREA/PROJECT/PROGRAM	Distribution - HR Public Interference
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

NPV of COST/BENEFIT STREAM													
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
		0	1	2	3	4	5	6	7	8	9	10	11
COSTS													
Program Capital Costs	\$ 13,915,164	\$ 45,450	\$ 6,595,031	\$ 6,264,912	\$ 2,575,446	\$ 42,130	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program Capital Contingency Costs	\$ 1,530,668	\$ 4,999	\$ 725,453	\$ 689,140	\$ 283,299	\$ 4,634	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Capital Costs	\$ 15,445,832	\$ 50,449	\$ 7,320,485	\$ 6,954,053	\$ 2,858,745	\$ 46,764	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program O&M Costs	\$ 295,015	\$ 964	\$ 139,821	\$ 132,822	\$ 54,602	\$ 893	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Costs	\$ 15,740,847	\$ 51,413	\$ 7,460,306	\$ 7,086,875	\$ 2,913,347	\$ 47,657	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OPERATIONAL BENEFITS													
Outage													
Avoided Outage Benefits (Non-MED)	\$ 144,191	\$ -	\$ -	\$ 3,901	\$ 3,998	\$ 8,302	\$ 10,771	\$ 11,041	\$ 11,317	\$ 11,600	\$ 11,890	\$ 12,187	\$ 12,492
Avoided Outage Benefits (MED)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Operational Benefits	\$ 144,191	\$ -	\$ -	\$ 3,901	\$ 3,998	\$ 8,302	\$ 10,771	\$ 11,041	\$ 11,317	\$ 11,600	\$ 11,890	\$ 12,187	\$ 12,492
CUSTOMER BENEFITS													
Customer													
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$ 126,222	\$ -	\$ -	\$ 3,415	\$ 3,500	\$ 7,267	\$ 9,429	\$ 9,665	\$ 9,906	\$ 10,154	\$ 10,408	\$ 10,668	\$ 10,935
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$ 2,986,888	\$ -	\$ -	\$ 80,807	\$ 82,827	\$ 171,972	\$ 223,128	\$ 228,706	\$ 234,424	\$ 240,285	\$ 246,292	\$ 252,449	\$ 258,760
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ 5,122,903	\$ -	\$ -	\$ 138,594	\$ 142,059	\$ 294,954	\$ 382,694	\$ 392,261	\$ 402,068	\$ 412,119	\$ 422,422	\$ 432,983	\$ 443,807
Avoided Sustained Outage Benefits (MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Sustained Outage Benefits (MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Sustained Outage Benefits (MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Customer Benefits	\$ 8,236,014	\$ -	\$ -	\$ 222,815	\$ 228,386	\$ 474,193	\$ 615,251	\$ 630,632	\$ 646,398	\$ 662,558	\$ 679,122	\$ 696,100	\$ 713,502
COMBINED COSTS AND BENEFITS													
Total PV of Operational Benefits	\$ 144,191	\$ -	\$ -	\$ 3,901	\$ 3,998	\$ 8,302	\$ 10,771	\$ 11,041	\$ 11,317	\$ 11,600	\$ 11,890	\$ 12,187	\$ 12,492
Total PV of Customer Benefits	\$ 8,236,014	\$ -	\$ -	\$ 222,815	\$ 228,386	\$ 474,193	\$ 615,251	\$ 630,632	\$ 646,398	\$ 662,558	\$ 679,122	\$ 696,100	\$ 713,502
Total PV of Combined Benefits	\$ 8,380,205	\$ -	\$ -	\$ 226,716	\$ 232,384	\$ 482,495	\$ 626,022	\$ 641,673	\$ 657,715	\$ 674,158	\$ 691,012	\$ 708,287	\$ 725,994
Total PV Program and On-Going Costs	\$ 15,740,847	\$ 51,413	\$ 7,460,306	\$ 7,086,875	\$ 2,913,347	\$ 47,657	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Combined NPV of Program	\$ (7,360,643)	\$ (51,413)	\$ (7,460,306)	\$ (6,860,159)	\$ (2,680,963)	\$ 434,838	\$ 626,022	\$ 641,673	\$ 657,715	\$ 674,158	\$ 691,012	\$ 708,287	\$ 725,994
Ratio of NPV Benefits to NPV Costs	0.5												
Cumulative Net Benefits (Payback Period)		\$ (51,413)	\$ (7,511,718)	\$ (14,371,877)	\$ (17,052,840)	\$ (16,618,002)	\$ (15,991,980)	\$ (15,350,307)	\$ (14,692,592)	\$ (14,018,434)	\$ (13,327,423)	\$ (12,619,136)	\$ (11,893,142)

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AREA/PROJECT/PROGRAM	Distribution - HR Public Interference
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

NPV of COST/BENEFIT STREAM		YEAR											
		2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
		12	13	14	15	16	17	18	19	20	21	22	23
COSTS													
Program Capital Costs	\$ 13,915,164	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program Capital Contingency Costs	\$ 1,530,668	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Capital Costs	\$ 15,445,832	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program O&M Costs	\$ 295,015	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Costs	\$ 15,740,847	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OPERATIONAL BENEFITS													
Outage													
Avoided Outage Benefits (Non-MED)	\$ 144,191	\$ 12,804	\$ 13,124	\$ 13,452	\$ 13,788	\$ 14,133	\$ 14,486	\$ 14,849	\$ 15,220	\$ 15,600	\$ 15,990	\$ 16,390	\$ 16,800
Avoided Outage Benefits (MED)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Operational Benefits	\$ 144,191	\$ 12,804	\$ 13,124	\$ 13,452	\$ 13,788	\$ 14,133	\$ 14,486	\$ 14,849	\$ 15,220	\$ 15,600	\$ 15,990	\$ 16,390	\$ 16,800
CUSTOMER BENEFITS													
Customer													
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$ 126,222	\$ 11,208	\$ 11,488	\$ 11,776	\$ 12,070	\$ 12,372	\$ 12,681	\$ 12,998	\$ 13,323	\$ 13,656	\$ 13,998	\$ 14,347	\$ 14,706
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$ 2,986,888	\$ 265,229	\$ 271,860	\$ 278,656	\$ 285,623	\$ 292,763	\$ 300,082	\$ 307,585	\$ 315,274	\$ 323,156	\$ 331,235	\$ 339,516	\$ 348,004
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ 5,122,903	\$ 454,903	\$ 466,275	\$ 477,932	\$ 489,880	\$ 502,127	\$ 514,681	\$ 527,548	\$ 540,736	\$ 554,255	\$ 568,111	\$ 582,314	\$ 596,872
Avoided Sustained Outage Benefits (MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Sustained Outage Benefits (MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Sustained Outage Benefits (MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Customer Benefits	\$ 8,236,014	\$ 731,340	\$ 749,624	\$ 768,364	\$ 787,573	\$ 807,263	\$ 827,444	\$ 848,130	\$ 869,333	\$ 891,067	\$ 913,343	\$ 936,177	\$ 959,581
COMBINED COSTS AND BENEFITS													
Total PV of Operational Benefits	\$ 144,191	\$ 12,804	\$ 13,124	\$ 13,452	\$ 13,788	\$ 14,133	\$ 14,486	\$ 14,849	\$ 15,220	\$ 15,600	\$ 15,990	\$ 16,390	\$ 16,800
Total PV of Customer Benefits	\$ 8,236,014	\$ 731,340	\$ 749,624	\$ 768,364	\$ 787,573	\$ 807,263	\$ 827,444	\$ 848,130	\$ 869,333	\$ 891,067	\$ 913,343	\$ 936,177	\$ 959,581
Total PV of Combined Benefits	\$ 8,380,205	\$ 744,144	\$ 762,747	\$ 781,816	\$ 801,362	\$ 821,396	\$ 841,931	\$ 862,979	\$ 884,553	\$ 906,667	\$ 929,334	\$ 952,567	\$ 976,381
Total PV Program and On-Going Costs	\$ 15,740,847	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Combined NPV of Program	\$ (7,360,643)	\$ 744,144	\$ 762,747	\$ 781,816	\$ 801,362	\$ 821,396	\$ 841,931	\$ 862,979	\$ 884,553	\$ 906,667	\$ 929,334	\$ 952,567	\$ 976,381
Ratio of NPV Benefits to NPV Costs	0.5												
Cumulative Net Benefits (Payback Period)		\$ (11,148,998)	\$ (10,386,250)	\$ (9,604,434)	\$ (8,803,073)	\$ (7,981,677)	\$ (7,139,747)	\$ (6,276,768)	\$ (5,392,215)	\$ (4,485,547)	\$ (3,556,214)	\$ (2,603,647)	\$ (1,627,265)

	Distribution - HR Public Interference
AREA/PROJECT/PROGRAM	
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

		NPV of COST/BENEFIT STREAM								TOTAL	
			2046	2047	2048	2049	2050	2051	2052		
			24	25	26	27	28	29	30		
COSTS											
Program Capital Costs		\$ 13,915,164	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,522,969
Program Capital Contingency Costs		\$ 1,530,668	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,707,527
Total Program Capital Costs		\$ 15,445,832	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,230,495
Program O&M Costs		\$ 295,015	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 329,102
Total Program Costs		\$ 15,740,847	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,559,598
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OPERATIONAL BENEFITS											
Outage											
Avoided Outage Benefits (Non-MED)		\$ 144,191	\$ 17,220	\$ 17,650	\$ 18,092	\$ 18,544	\$ 19,007	\$ 19,483	\$ 19,970	\$ 404,099	
Avoided Outage Benefits (MED)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Operational Benefits		\$ 144,191	\$ 17,220	\$ 17,650	\$ 18,092	\$ 18,544	\$ 19,007	\$ 19,483	\$ 19,970	\$ 404,099	
CUSTOMER BENEFITS											
Customer											
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers		\$ 126,222	\$ 15,074	\$ 15,451	\$ 15,837	\$ 16,233	\$ 16,639	\$ 17,055	\$ 17,481	\$ 353,740	
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers		\$ 2,986,888	\$ 356,704	\$ 365,621	\$ 374,762	\$ 384,131	\$ 393,734	\$ 403,578	\$ 413,667	\$ 8,370,828	
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers		\$ 5,122,903	\$ 611,793	\$ 627,088	\$ 642,766	\$ 658,835	\$ 675,306	\$ 692,188	\$ 709,493	\$ 14,357,063	
										\$ -	
Avoided Sustained Outage Benefits (MED) - Residential Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Sustained Outage Benefits (MED) - Small C&I Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Sustained Outage Benefits (MED) - Medium & Large C&I Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
										\$ -	
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
										\$ -	
Avoided Momentary Outage Benefits (MED) - Residential Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Small C&I Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Medium & Large C&I Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Customer Benefits		\$ 8,236,014	\$ 983,571	\$ 1,008,160	\$ 1,033,364	\$ 1,059,198	\$ 1,085,678	\$ 1,112,820	\$ 1,140,641	\$ 23,081,632	
COMBINED COSTS AND BENEFITS											
Total PV of Operational Benefits		\$ 144,191	\$ 17,220	\$ 17,650	\$ 18,092	\$ 18,544	\$ 19,007	\$ 19,483	\$ 19,970	\$ 404,099	
Total PV of Customer Benefits		\$ 8,236,014	\$ 983,571	\$ 1,008,160	\$ 1,033,364	\$ 1,059,198	\$ 1,085,678	\$ 1,112,820	\$ 1,140,641	\$ 23,081,632	
Total PV of Combined Benefits		\$ 8,380,205	\$ 1,000,791	\$ 1,025,811	\$ 1,051,456	\$ 1,077,742	\$ 1,104,686	\$ 1,132,303	\$ 1,160,610	\$ 23,485,731	
Total PV Program and On-Going Costs		\$ 15,740,847	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17,559,598
Combined NPV of Program		\$ (7,360,643)	\$ 1,000,791	\$ 1,025,811	\$ 1,051,456	\$ 1,077,742	\$ 1,104,686	\$ 1,132,303	\$ 1,160,610	\$ 5,926,133	
Ratio of NPV Benefits to NPV Costs											0.5
Cumulative Net Benefits (Payback Period)											\$ (626,475) \$ 399,336 \$ 1,450,792 \$ 2,528,534 \$ 3,633,220 \$ 4,765,523 \$ 5,926,133 \$ 11,852,266

AREA/PROJECT/PROGRAM	Distribution - HR Storm
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

		NPV of COST/BENEFIT STREAM											
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
		0	1	2	3	4	5	6	7	8	9	10	11
COSTS													
Program Capital Costs	\$ 57,410,525	\$ 42,371	\$ 14,864,802	\$ 22,540,662	\$ 25,814,638	\$ 2,863,968	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program Capital Contingency Costs	\$ 6,315,158	\$ 4,661	\$ 1,635,128	\$ 2,479,473	\$ 2,839,610	\$ 315,036	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Capital Costs	\$ 63,725,683	\$ 47,032	\$ 16,499,931	\$ 25,020,135	\$ 28,654,249	\$ 3,179,004	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program O&M Costs	\$ 1,217,161	\$ 898	\$ 315,149	\$ 477,885	\$ 547,296	\$ 60,719	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Costs	\$ 64,942,844	\$ 47,930	\$ 16,815,079	\$ 25,498,020	\$ 29,201,545	\$ 3,239,723	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OPERATIONAL BENEFITS													
Outage													
Avoided Outage Benefits (Non-MED)	\$ 2,110,529	\$ -	\$ -	\$ 3,073	\$ 40,950	\$ 79,105	\$ 165,474	\$ 169,611	\$ 173,851	\$ 178,198	\$ 182,653	\$ 187,219	\$ 191,900
Avoided Outage Benefits (MED)	\$ 13,324,967	\$ -	\$ -	\$ 19,403	\$ 258,542	\$ 499,433	\$ 1,044,733	\$ 1,070,852	\$ 1,097,623	\$ 1,125,064	\$ 1,153,190	\$ 1,182,020	\$ 1,211,570
Total Operational Benefits	\$ 15,435,496	\$ -	\$ -	\$ 22,476	\$ 299,492	\$ 578,538	\$ 1,210,208	\$ 1,240,463	\$ 1,271,474	\$ 1,303,261	\$ 1,335,843	\$ 1,369,239	\$ 1,403,470
CUSTOMER BENEFITS													
Customer													
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$ 1,150,404	\$ -	\$ -	\$ 1,675	\$ 22,321	\$ 43,118	\$ 90,197	\$ 92,451	\$ 94,763	\$ 97,132	\$ 99,560	\$ 102,049	\$ 104,600
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$ 27,273,732	\$ -	\$ -	\$ 39,714	\$ 529,187	\$ 1,022,248	\$ 2,138,375	\$ 2,191,834	\$ 2,246,630	\$ 2,302,796	\$ 2,360,366	\$ 2,419,375	\$ 2,479,860
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ 52,288,700	\$ -	\$ -	\$ 76,139	\$ 1,014,548	\$ 1,959,834	\$ 4,099,654	\$ 4,202,145	\$ 4,307,199	\$ 4,414,879	\$ 4,525,250	\$ 4,638,382	\$ 4,754,341
Avoided Sustained Outage Benefits (MED) - Residential Customers	\$ 4,837,352	\$ -	\$ -	\$ 7,044	\$ 93,858	\$ 181,309	\$ 379,269	\$ 388,750	\$ 398,469	\$ 408,431	\$ 418,642	\$ 429,108	\$ 439,835
Avoided Sustained Outage Benefits (MED) - Small C&I Customers	\$ 196,093,757	\$ -	\$ -	\$ 285,536	\$ 3,804,773	\$ 7,349,796	\$ 15,374,574	\$ 15,758,938	\$ 16,152,911	\$ 16,556,734	\$ 16,970,653	\$ 17,394,919	\$ 17,829,792
Avoided Sustained Outage Benefits (MED) - Medium & Large C&I Customers	\$ 268,153,803	\$ -	\$ -	\$ 390,465	\$ 5,202,941	\$ 10,050,681	\$ 21,024,384	\$ 21,549,993	\$ 22,088,743	\$ 22,640,962	\$ 23,206,986	\$ 23,787,160	\$ 24,381,839
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Customer Benefits	\$ 549,797,749	\$ -	\$ -	\$ 800,573	\$ 10,667,629	\$ 20,606,986	\$ 43,106,451	\$ 44,184,113	\$ 45,288,715	\$ 46,420,933	\$ 47,581,457	\$ 48,770,993	\$ 49,990,268
COMBINED COSTS AND BENEFITS													
Total PV of Operational Benefits	\$ 15,435,496	\$ -	\$ -	\$ 22,476	\$ 299,492	\$ 578,538	\$ 1,210,208	\$ 1,240,463	\$ 1,271,474	\$ 1,303,261	\$ 1,335,843	\$ 1,369,239	\$ 1,403,470
Total PV of Customer Benefits	\$ 549,797,749	\$ -	\$ -	\$ 800,573	\$ 10,667,629	\$ 20,606,986	\$ 43,106,451	\$ 44,184,113	\$ 45,288,715	\$ 46,420,933	\$ 47,581,457	\$ 48,770,993	\$ 49,990,268
Total PV of Combined Benefits	\$ 565,233,245	\$ -	\$ -	\$ 823,048	\$ 10,967,121	\$ 21,185,525	\$ 44,316,659	\$ 45,424,575	\$ 46,560,190	\$ 47,724,195	\$ 48,917,299	\$ 50,140,232	\$ 51,393,738
Total PV Program and On-Going Costs	\$ 64,942,844	\$ 47,930	\$ 16,815,079	\$ 25,498,020	\$ 29,201,545	\$ 3,239,723	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Combined NPV of Program	\$ 500,290,401	\$ (47,930)	\$ (16,815,079)	\$ (24,674,971)	\$ (18,234,424)	\$ 17,945,802	\$ 44,316,659	\$ 45,424,575	\$ 46,560,190	\$ 47,724,195	\$ 48,917,299	\$ 50,140,232	\$ 51,393,738
Ratio of NPV Benefits to NPV Costs	8.7												
Cumulative Net Benefits (Payback Period)		\$ (47,930)	\$ (16,863,010)	\$ (41,537,981)	\$ (59,772,405)	\$ (41,826,603)	\$ 2,490,056	\$ 47,914,631	\$ 94,474,821	\$ 142,199,016	\$ 191,116,315	\$ 241,256,547	\$ 292,650,285

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AREA/PROJECT/PROGRAM	Distribution - HR Storm
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

		NPV of COST/BENEFIT STREAM							TOTAL	
		2046	2047	2048	2049	2050	2051	2052		
		24	25	26	27	28	29	30		
COSTS										
Program Capital Costs	\$ 57,410,525	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 66,126,442
Program Capital Contingency Costs	\$ 6,315,158	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,273,909
Total Program Capital Costs	\$ 63,725,683	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 73,400,350
Program O&M Costs	\$ 1,217,161	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,401,947
Total Program Costs	\$ 64,942,844	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 74,802,297
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OPERATIONAL BENEFITS										
Outage										
Avoided Outage Benefits (Non-MED)	\$ 2,110,529	\$ 264,536	\$ 271,149	\$ 277,928	\$ 284,876	\$ 291,998	\$ 299,298	\$ 306,780	\$ 6,082,142	
Avoided Outage Benefits (MED)	\$ 13,324,967	\$ 1,670,163	\$ 1,711,917	\$ 1,754,715	\$ 1,798,583	\$ 1,843,548	\$ 1,889,636	\$ 1,936,877	\$ 38,400,010	
Total Operational Benefits	\$ 15,435,496	\$ 1,934,699	\$ 1,983,066	\$ 2,032,643	\$ 2,083,459	\$ 2,135,545	\$ 2,188,934	\$ 2,243,657	\$ 44,482,152	
CUSTOMER BENEFITS										
Customer										
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$ 1,150,404	\$ 144,193	\$ 147,797	\$ 151,492	\$ 155,280	\$ 159,162	\$ 163,141	\$ 167,219	\$ 3,315,245	
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$ 27,273,732	\$ 3,418,514	\$ 3,503,977	\$ 3,591,576	\$ 3,681,365	\$ 3,773,400	\$ 3,867,734	\$ 3,964,428	\$ 78,597,688	
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ 52,288,700	\$ 6,553,912	\$ 6,717,760	\$ 6,885,704	\$ 7,057,846	\$ 7,234,293	\$ 7,415,150	\$ 7,600,529	\$ 150,686,050	
									\$ -	
Avoided Sustained Outage Benefits (MED) - Residential Customers	\$ 4,837,352	\$ 606,318	\$ 621,476	\$ 637,013	\$ 652,938	\$ 669,262	\$ 685,993	\$ 703,143	\$ 13,940,325	
Avoided Sustained Outage Benefits (MED) - Small C&I Customers	\$ 196,093,757	\$ 24,578,565	\$ 25,193,029	\$ 25,822,855	\$ 26,468,426	\$ 27,130,137	\$ 27,808,390	\$ 28,503,600	\$ 565,104,763	
Avoided Sustained Outage Benefits (MED) - Medium & Large C&I Customers	\$ 268,153,803	\$ 33,610,635	\$ 34,450,901	\$ 35,312,173	\$ 36,194,978	\$ 37,099,852	\$ 38,027,348	\$ 38,978,032	\$ 772,768,054	
									\$ -	
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
									\$ -	
Avoided Momentary Outage Benefits (MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Avoided Momentary Outage Benefits (MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Avoided Momentary Outage Benefits (MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Customer Benefits	\$ 549,797,749	\$ 68,912,136	\$ 70,634,940	\$ 72,400,813	\$ 74,210,834	\$ 76,066,104	\$ 77,967,757	\$ 79,916,951	\$ 1,584,412,125	
COMBINED COSTS AND BENEFITS										
Total PV of Operational Benefits	\$ 15,435,496	\$ 1,934,699	\$ 1,983,066	\$ 2,032,643	\$ 2,083,459	\$ 2,135,545	\$ 2,188,934	\$ 2,243,657	\$ 44,482,152	
Total PV of Customer Benefits	\$ 549,797,749	\$ 68,912,136	\$ 70,634,940	\$ 72,400,813	\$ 74,210,834	\$ 76,066,104	\$ 77,967,757	\$ 79,916,951	\$ 1,584,412,125	
Total PV of Combined Benefits	\$ 565,233,245	\$ 70,846,835	\$ 72,618,006	\$ 74,433,456	\$ 76,294,292	\$ 78,201,650	\$ 80,156,691	\$ 82,160,608	\$ 1,628,894,277	
Total PV Program and On-Going Costs	\$ 64,942,844	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 74,802,297
Combined NPV of Program	\$ 500,290,401	\$ 70,846,835	\$ 72,618,006	\$ 74,433,456	\$ 76,294,292	\$ 78,201,650	\$ 80,156,691	\$ 82,160,608	\$ 1,554,091,980	
Ratio of NPV Benefits to NPV Costs		8.7								
Cumulative Net Benefits (Payback Period)		\$ 1,090,227,276	\$ 1,162,845,282	\$ 1,237,278,738	\$ 1,313,573,031	\$ 1,391,774,681	\$ 1,471,931,372	\$ 1,554,091,980	\$ 3,108,183,960	

AREA/PROJECT/PROGRAM	Distribution - LDI
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

		NPV of COST/BENEFIT STREAM							TOTAL		
		2046	2047	2048	2049	2050	2051	2052			
		24	25	26	27	28	29	30			
COSTS											
Program Capital Costs	\$ 1,954,181	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,219,033
Program Capital Contingency Costs	\$ 214,960	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 244,094
Total Program Capital Costs	\$ 2,169,141	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,463,126
Program O&M Costs	\$ 77,118	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 87,570
Total Program Costs	\$ 2,246,259	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,550,696
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OPERATIONAL BENEFITS											
Outage											
Avoided Outage Benefits (Non-MED)	\$ 80,671	\$ 9,982	\$ 10,232	\$ 10,488	\$ 10,750	\$ 11,019	\$ 11,294	\$ 11,577	\$ 11,577	\$ 230,766	
Avoided Outage Benefits (MED)	\$ 137,724	\$ 17,042	\$ 17,469	\$ 17,905	\$ 18,353	\$ 18,812	\$ 19,282	\$ 19,764	\$ 19,764	\$ 393,973	
Total Operational Benefits	\$ 218,394	\$ 27,025	\$ 27,701	\$ 28,393	\$ 29,103	\$ 29,830	\$ 30,576	\$ 31,341	\$ 31,341	\$ 624,738	
CUSTOMER BENEFITS											
Customer											
Avoided Sustained Outage Benefits (Non-MED) - Residential Customers	\$ 225,853	\$ 27,948	\$ 28,647	\$ 29,363	\$ 30,097	\$ 30,849	\$ 31,621	\$ 32,411	\$ 32,411	\$ 646,075	
Avoided Sustained Outage Benefits (Non-MED) - Small C&I Customers	\$ 6,361,909	\$ 787,247	\$ 806,928	\$ 827,101	\$ 847,779	\$ 868,973	\$ 890,697	\$ 912,965	\$ 912,965	\$ 18,198,854	
Avoided Sustained Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ 10,344,747	\$ 1,280,098	\$ 1,312,100	\$ 1,344,903	\$ 1,378,526	\$ 1,412,989	\$ 1,448,313	\$ 1,484,521	\$ 1,484,521	\$ 29,592,145	
										\$ -	
Avoided Sustained Outage Benefits (MED) - Residential Customers	\$ 139,771	\$ 17,296	\$ 17,728	\$ 18,171	\$ 18,626	\$ 19,091	\$ 19,569	\$ 20,058	\$ 20,058	\$ 399,829	
Avoided Sustained Outage Benefits (MED) - Small C&I Customers	\$ 6,015,559	\$ 744,388	\$ 762,998	\$ 782,073	\$ 801,624	\$ 821,665	\$ 842,207	\$ 863,262	\$ 863,262	\$ 17,208,085	
Avoided Sustained Outage Benefits (MED) - Medium & Large C&I Customers	\$ 8,087,985	\$ 1,000,838	\$ 1,025,859	\$ 1,051,505	\$ 1,077,793	\$ 1,104,738	\$ 1,132,356	\$ 1,160,665	\$ 1,160,665	\$ 23,136,461	
										\$ -	
Avoided Momentary Outage Benefits (Non-MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Avoided Momentary Outage Benefits (Non-MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Avoided Momentary Outage Benefits (Non-MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
										\$ -	
Avoided Momentary Outage Benefits (MED) - Residential Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Avoided Momentary Outage Benefits (MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Avoided Momentary Outage Benefits (MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Customer Benefits	\$ 31,175,825	\$ 3,857,814	\$ 3,954,259	\$ 4,053,116	\$ 4,154,444	\$ 4,258,305	\$ 4,364,763	\$ 4,473,882	\$ 4,473,882	\$ 89,181,449	
COMBINED COSTS AND BENEFITS											
Total PV of Operational Benefits	\$ 218,394	\$ 27,025	\$ 27,701	\$ 28,393	\$ 29,103	\$ 29,830	\$ 30,576	\$ 31,341	\$ 31,341	\$ 624,738	
Total PV of Customer Benefits	\$ 31,175,825	\$ 3,857,814	\$ 3,954,259	\$ 4,053,116	\$ 4,154,444	\$ 4,258,305	\$ 4,364,763	\$ 4,473,882	\$ 4,473,882	\$ 89,181,449	
Total PV of Combined Benefits	\$ 31,394,220	\$ 3,884,839	\$ 3,981,960	\$ 4,081,509	\$ 4,183,547	\$ 4,288,135	\$ 4,395,339	\$ 4,505,222	\$ 4,505,222	\$ 89,806,188	
Total PV Program and On-Going Costs	\$ 2,246,259	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,550,696	
Combined NPV of Program	\$ 29,147,960	\$ 3,884,839	\$ 3,981,960	\$ 4,081,509	\$ 4,183,547	\$ 4,288,135	\$ 4,395,339	\$ 4,505,222	\$ 4,505,222	\$ 87,255,492	
Ratio of NPV Benefits to NPV Costs		14.0									
Cumulative Net Benefits (Payback Period)		\$ 61,819,779	\$ 65,801,739	\$ 69,883,248	\$ 74,066,795	\$ 78,354,930	\$ 82,750,269	\$ 87,255,492	\$ 87,255,492	\$ 174,510,983	

Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026

Sources

	Units		NPV (calculated)	2022 0	2023 1
Benefits			\$ 1,128,716,443		\$ -
Costs			\$ 206,436,732	\$ 15,979,175	\$ 46,849,993
Net			\$ 922,279,711	\$ (15,979,175)	\$ (46,849,993)
BCR			5.5		

COSTS

PROGRAM COSTS (Full & Partial SOG)					
Switch Automation, Circuit Segmenation & Capacity	\$		\$ 163,376,618	\$ 15,738,234	\$ 42,774,237
Contingency	\$		\$ 15,021,733	\$ 9,389	\$ 3,396,861
Implementation O&M			\$ 2,623,147	\$ 231,551	\$ 678,894
Total Program Costs	\$		\$ 181,021,498	\$ 15,979,175	\$ 46,849,993

ONGOING COSTS					
IT / TELECOM	\$		\$ -		
Cellular	\$		\$ 1,706,664		\$ -
Operations Support	\$		\$ 479,443		\$ -
DISTRIBUTION	\$		\$ -		
Equipment Replacements	\$		\$ 23,229,127		\$ -
Total Ongoing Costs	\$		\$ 25,415,234		\$ -

TOTAL COSTS					
Program Costs	\$		\$ 181,021,498	\$ 15,979,175	\$ 46,849,993
Ongoing Costs	\$		\$ 25,415,234	\$ -	\$ -
Total Cost	\$		\$ 206,436,732	\$ 15,979,175	\$ 46,849,993

BENEFITS

RELIABILITY					
CI Savings	outages				
CMI Savings	min				
Typical Duration	hr				
Residential Customer %	%				
Small C&I Customer %	%				
Large C&I Customer %	%				
Residential Outage Value	\$/outage				
Small C&I Outage Value	\$/outage				
Large C&I Outage Value	\$/outage				
Residential Momentary Value	\$/momentary				
Small C&I Momentary Value	\$/momentary				
Large C&I Momentary Value	\$/momentary				
Momentary Outages Avoided	momentaries				
Customer Avoided Outage Costs: Residential	\$		\$ 7,238,997	\$ -	\$0
Customer Avoided Outage Costs: Small C&I	\$		\$ 291,246,346	\$ -	\$0
Customer Avoided Outage Costs: Large C&I	\$		\$ 417,142,311	\$ -	\$0
Customer Avoided Outage Costs	\$		\$ 715,627,654	\$ -	\$ -
Customer Avoided Momentary Interruption Costs: Residential	\$		\$ 9,470,119	\$ -	\$0
Customer Avoided Momentary Interruption Costs: Small C&I	\$		\$ 118,830,886	\$ -	\$0
Customer Avoided Momentary Interruption Costs: Large C&I	\$		\$ 274,218,647	\$ -	\$0
Customer Avoided Momentary Interruption Costs	\$		\$ 402,519,652	\$ -	\$ -

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with DSDR deployment to achieve maximum voltage reduction)					
Capacity Savings from additional IVVC peak shaving	MW				0
Capacity Value	\$/kW			\$ -	-
Capacity Savings (IVVC)	\$		\$ -	\$ -	-

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with DSDR deployment to achieve maximum voltage reduction)					
Capacity factor for energy savings	-				0.4%
Energy Savings from additional IVVC peak shaving	MWh				0
Energy Value	\$/MWh			\$ 16	16
Energy Savings (IVVC)	\$		\$ -	\$ -	-

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was completed with DSDR deployment to achieve maximum voltage reduction)					
Value: SOx	\$/ton				
Value: NOx	\$/ton				
Value: CO2	\$/ton				
Energy: SOx reduction	ton/MWh				
Energy: NOx reduction	ton/MWh				
Energy: CO2 reduction	ton/MWh				
Environmental Benefits	\$		\$ -		
Environmental Benefits (IVVC)	\$		\$ -	\$ -	-

Peak Shaving Benefits	\$		\$ -	\$ -	-
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DER ENABLEMENT					
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)			
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	PV Forecast from Net Meter Data		145
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)			
Limit (without SOG)	MW	Total NC (DEC & DEP)			
Limit (with SOG)	MW	Total NC (DEC & DEP)			
PV derate factor for capacity	-	Total NC (DEC & DEP)			
PV Enablement	MW	Total NC (DEC & DEP)			
Energy Savings	MWh/MW	Total NC (DEC & DEP)			
DER Enablement: Capacity Savings	\$	DEP NC = 40% of total D	\$ -	\$ -	0
DER Enablement: Energy Savings	\$	DEP NC = 40% of total D	\$ 6,367,625	\$ -	0
DER Enablement: Environmental Benefits	\$	DEP NC = 40% of total D	\$ 4,201,511	\$ -	0
DER/PV Enablement Benefits	\$		\$ 10,569,136	\$ -	-

TOTAL BENEFITS					
Customer Avoided Outage Costs	\$		\$ 715,627,654	\$ -	\$ -
Customer Avoided Momentary Interruption Costs	\$		\$ 402,519,652	\$ -	\$ -
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -	\$ -
DER/PV Enablement Benefits	\$		\$ 10,569,136	\$ -	\$ -
Total Benefits	\$	\$ -	\$ 1,128,716,443	\$ -	\$ -

NPV			
	NPV Costs	NPV Benefits	BCR
Switch Automation, Circuit Segmenation & Capacity	163.4		5.5
Contingency	15.0		
Ongoing Costs	25.4		
Customer Avoided Outage Costs		715.6	
Customer Avoided Momentary Interruption Costs		402.5	
Peak Shaving Benefits		0.0	
DER/PV Enablement Benefits		10.6	

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Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026
Sources

	Units	2024	2025	2026
		2	3	4
Benefits		\$ 31,073,699	\$ 44,009,813	\$ 67,343,079
Costs		\$ 70,010,352	\$ 65,635,701	\$ 7,486,263
Net		\$ (38,936,653)	\$ (21,625,887)	\$ 59,856,815
BCR				

COSTS

PROGRAM COSTS (Full & Partial SOG)				
Switch Automation, Circuit Segmenation & Capacity	\$	\$ 62,028,955	\$ 58,042,883	\$ 6,281,253
Contingency	\$	\$ 6,823,185	\$ 6,384,717	\$ 690,938
Implementation O&M	\$	\$ 1,012,393	\$ 947,335	\$ 102,518
Total Program Costs	\$	\$ 69,864,533	\$ 65,374,935	\$ 7,074,709

ONGOING COSTS				
IT / TELECOM	\$			
Cellular	\$	\$ 35,955	\$ 64,298	\$ 101,479
Operations Support	\$	\$ 9,988	\$ 17,861	\$ 28,189
DISTRIBUTION	\$			
Equipment Replacements	\$	\$ 99,876	\$ 178,606	\$ 281,887
Total Ongoing Costs	\$	\$ 145,819	\$ 260,765	\$ 411,555

TOTAL COSTS				
Program Costs	\$	\$ 69,864,533	\$ 65,374,935	\$ 7,074,709
Ongoing Costs	\$	\$ 145,819	\$ 260,765	\$ 411,555
Total Cost	\$	\$ 70,010,352	\$ 65,635,701	\$ 7,486,263

BENEFITS

RELIABILITY				
CI Savings	outages	49,078	65,444	95,195
CMI Savings	min	8,554,420	11,948,621	17,941,165
Typical Duration	hr	2.91	3.04	3.14
Residential Customer %	%	85.7%	85.7%	85.7%
Small C&I Customer %	%	12.1%	12.1%	12.1%
Large C&I Customer %	%	2.1%	2.1%	2.1%
Residential Outage Value	\$/outage	\$ 11	\$ 12	\$ 12
Small C&I Outage Value	\$/outage	\$ 1,913	\$ 2,038	\$ 2,145
Large C&I Outage Value	\$/outage	\$ 18,248	\$ 19,303	\$ 20,221
Residential Momentary Value	\$/momentary	\$ 6	\$ 7	\$ 7
Small C&I Momentary Value	\$/momentary	\$ 564	\$ 578	\$ 592
Large C&I Momentary Value	\$/momentary	\$ 7,340	\$ 7,523	\$ 7,712
Momentary Outages Avoided	momentaries	49,078	65,444	95,195
Customer Avoided Outage Costs: Residential	\$	\$ 199,409	\$ 287,395	\$ 445,532
Customer Avoided Outage Costs: Small C&I	\$	\$ 8,026,869	\$ 11,609,082	\$ 18,016,417
Customer Avoided Outage Costs: Large C&I	\$	\$ 11,494,415	\$ 16,596,009	\$ 25,740,859
Customer Avoided Outage Costs	\$	\$ 19,720,693	\$ 28,492,487	\$ 44,202,808
Customer Avoided Momentary Interruption Costs: Residential	\$	\$ 267,103	\$ 365,078	\$ 544,318
Customer Avoided Momentary Interruption Costs: Small C&I	\$	\$ 3,351,607	\$ 4,580,988	\$ 6,830,092
Customer Avoided Momentary Interruption Costs: Large C&I	\$	\$ 7,734,296	\$ 10,571,261	\$ 15,761,378
Customer Avoided Momentary Interruption Costs	\$	\$ 11,353,006	\$ 15,517,327	\$ 23,135,788

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with C				
Capacity Savings from additional IVVC peak shaving	MW	0	0	0
Capacity Value	\$/kW	\$ -	\$ -	\$ -
Capacity Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with D				
Capacity factor for energy savings	-	0.4%	0.4%	0.4%
Energy Savings from additional IVVC peak shaving	MWh	0	0	0
Energy Value	\$/MWh	\$ 15	\$ 14	\$ 14
Energy Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was compledition)				
Value: SOx	\$/ton	\$ -	\$ -	\$ -
Value: NOx	\$/ton	\$ -	\$ -	\$ -
Value: CO2	\$/ton	\$ -	\$ -	\$ -
Energy: SOx reduction	ton/MWh	0.00	0.00	0.00
Energy: NOx reduction	ton/MWh	0.00	0.00	0.00
Energy: CO2 reduction	ton/MWh	0.25	0.25	0.24
Environmental Benefits	\$	\$ -	\$ -	\$ -
Environmental Benefits (IVVC)	\$	\$ -	\$ -	\$ -

Peak Shaving Benefits	\$	\$ -	\$ -	\$ -
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DER ENABLEMENT				
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)	56	56
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	201	257
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)	4%	11%
Limit (without SOG)	MW	Total NC (DEC & DEP)	310	310
Limit (with SOG)	MW	Total NC (DEC & DEP)	522	522
PV derate factor for capacity	-	Total NC (DEC & DEP)	19%	19%
PV Enablement	MW	Total NC (DEC & DEP)	0	0
Energy Savings	MWh/MW	Total NC (DEC & DEP)	1,936	1,936
DER Enablement: Capacity Savings	\$	DER NC = 40% of total D	\$ -	\$ -
DER Enablement: Energy Savings	\$	DER NC = 40% of total D	\$ -	\$ 4,482.68
DER Enablement: Environmental Benefits	\$	DER NC = 40% of total D	\$ -	\$ -
DER/PV Enablement Benefits	\$		\$ -	\$ 4,483

TOTAL BENEFITS				
Customer Avoided Outage Costs	\$		\$ 19,720,693	\$ 28,492,487
Customer Avoided Momentary Interruption Costs	\$		\$ 11,353,006	\$ 15,517,327
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -
DER/PV Enablement Benefits	\$		\$ -	\$ 4,483
Total Benefits	\$	\$ -	\$ 31,073,699	\$ 44,009,813

NPV		
	NPV Costs	NPV Benefits
Switch Automation, Circuit Segmenation & Capacity	163.4	
Contingency	15.0	
Ongoing Costs	25.4	
Customer Avoided Outage Costs		715.6
Customer Avoided Momentary Interruption Costs		402.5
Peak Shaving Benefits		0.0
DER/PV Enablement Benefits		10.6

Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026

Sources

	Units			
		2027	2028	2029
		5	6	7
Benefits		\$ 82,495,319	\$ 84,639,051	\$ 86,893,907
Costs		\$ 514,983	\$ 1,070,688	\$ 953,189
Net		\$ 81,980,336	\$ 83,568,363	\$ 85,940,718
BCR				

COSTS

PROGRAM COSTS (Full & Partial SOG)				
Switch Automation, Circuit Segmenation & Capacity	\$			
Contingency	\$			
Implementation O&M				
Total Program Costs	\$		\$ -	\$ -

ONGOING COSTS				
IT / TELECOM	\$			
Cellular	\$	\$ 126,873	\$ 130,045	\$ 133,296
Operations Support	\$	\$ 35,684	\$ 36,576	\$ 37,491
DISTRIBUTION	\$			
Equipment Replacements	\$	352,425	904,067	782,403
Total Ongoing Costs	\$	\$ 514,983	\$ 1,070,688	\$ 953,189

TOTAL COSTS				
Program Costs	\$		\$ -	\$ -
Ongoing Costs	\$		\$ 514,983	\$ 1,070,688
Total Cost	\$		\$ 514,983	\$ 1,070,688

BENEFITS

RELIABILITY				
CI Savings	outages		119,393	119,393
CMI Savings	min		21,059,216	21,059,216
Typical Duration	hr		2.94	2.94
Residential Customer %	%		85.7%	85.7%
Small C&I Customer %	%		12.1%	12.1%
Large C&I Customer %	%		2.1%	2.1%
Residential Outage Value	\$/outage	\$ 12	\$ 12	\$ 13
Small C&I Outage Value	\$/outage	\$ 2,081	\$ 2,133	\$ 2,186
Large C&I Outage Value	\$/outage	\$ 19,810	\$ 20,305	\$ 20,812
Residential Momentary Value	\$/momentary	\$ 7	\$ 7	\$ 7
Small C&I Momentary Value	\$/momentary	\$ 607	\$ 622	\$ 638
Large C&I Momentary Value	\$/momentary	\$ 7,904	\$ 8,102	\$ 8,304
Momentary Outages Avoided	momentaries		119,393	119,393
Customer Avoided Outage Costs: Residential	\$	\$ 532,790	\$ 546,109	\$ 559,762
Customer Avoided Outage Costs: Small C&I	\$	\$ 21,426,434	\$ 21,962,094	\$ 22,511,147
Customer Avoided Outage Costs: Large C&I	\$	\$ 30,694,691	\$ 31,462,058	\$ 32,248,609
Customer Avoided Outage Costs	\$	\$ 52,653,914	\$ 53,970,261	\$ 55,319,518
Customer Avoided Momentary Interruption Costs: Residential	\$	\$ 699,747	\$ 717,240	\$ 735,171
Customer Avoided Momentary Interruption Costs: Small C&I	\$	\$ 8,780,410	\$ 8,999,920	\$ 9,224,918
Customer Avoided Momentary Interruption Costs: Large C&I	\$	\$ 20,262,006	\$ 20,768,557	\$ 21,287,771
Customer Avoided Momentary Interruption Costs	\$	\$ 29,742,163	\$ 30,485,717	\$ 31,247,860

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with C				
Capacity Savings from additional IVVC peak shaving	MW		0	0
Capacity Value	\$/kW	\$ -	\$ -	\$ -
Capacity Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with D				
Capacity factor for energy savings	-		0.4%	0.4%
Energy Savings from additional IVVC peak shaving	MWh		0	0
Energy Value	\$/MWh	\$ 14	\$ 14	\$ 14
Energy Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was complet				
Value: SOx	\$/ton	\$ -	\$ -	\$ -
Value: NOx	\$/ton	\$ -	\$ -	\$ -
Value: CO2	\$/ton	\$ -	\$ -	\$ 5
Energy: SOx reduction	ton/MWh	0.00	0.00	0.00
Energy: NOx reduction	ton/MWh	0.00	0.00	0.00
Energy: CO2 reduction	ton/MWh	0.24	0.24	0.23
Environmental Benefits	\$	\$ -	\$ -	\$ -
Environmental Benefits (IVVC)	\$	\$ -	\$ -	\$ -

Peak Shaving Benefits	\$	\$ -	\$ -	\$ -
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DER ENABLEMENT				
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)	43	37
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	355	392
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)	20%	20%
Limit (without SOG)	MW	Total NC (DEC & DEP)	310	310
Limit (with SOG)	MW	Total NC (DEC & DEP)	522	522
PV derate factor for capacity	-	Total NC (DEC & DEP)	19%	19%
PV Enablement	MW	Total NC (DEC & DEP)	9	17
Energy Savings	MWh/MW	Total NC (DEC & DEP)	1,936	1,936
DER Enablement: Capacity Savings	\$	DEP NC = 40% of total D	\$ -	\$ -
DER Enablement: Energy Savings	\$	DEP NC = 40% of total D	\$ 99,241.66	\$ 183,072.44
DER Enablement: Environmental Benefits	\$	DEP NC = 40% of total D	\$ -	\$ 54,270
DER/PV Enablement Benefits	\$		\$ 99,242	\$ 183,072

TOTAL BENEFITS				
Customer Avoided Outage Costs	\$		\$ 52,653,914	\$ 53,970,261
Customer Avoided Momentary Interruption Costs	\$		\$ 29,742,163	\$ 30,485,717
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -
DER/PV Enablement Benefits	\$		\$ 99,242	\$ 183,072
Total Benefits	\$	\$ -	\$ 82,495,319	\$ 84,639,051

NPV		
	NPV Costs	NPV Benefits
Switch Automation, Circuit Segmenation & Capacity	163.4	
Contingency	15.0	
Ongoing Costs	25.4	
Customer Avoided Outage Costs		715.6
Customer Avoided Momentary Interruption Costs		402.5
Peak Shaving Benefits		0.0
DER/PV Enablement Benefits		10.6

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Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026

Sources

			2030	2031	2032
	Units		8	9	10
Benefits			\$ 89,226,077	\$ 91,611,019	\$ 93,984,424
Costs			\$ 1,091,133	\$ 909,821	\$ 582,656
Net			\$ 88,134,944	\$ 90,701,198	\$ 93,401,768
BCR					

COSTS

PROGRAM COSTS (Full & Partial SOG)						
Switch Automation, Circuit Segmenation & Capacity	\$					
Contingency	\$					
Implementation O&M						
Total Program Costs	\$		\$ -	\$ -	\$ -	

ONGOING COSTS						
IT / TELECOM	\$					
Cellular	\$		\$ 136,628	\$ 140,044	\$ 143,545	
Operations Support	\$		\$ 38,428	\$ 39,389	\$ 40,373	
DISTRIBUTION	\$					
Equipment Replacements	\$		916,077	730,388	398,737	
Total Ongoing Costs	\$		\$ 1,091,133	\$ 909,821	\$ 582,656	

TOTAL COSTS						
Program Costs	\$		\$ -	\$ -	\$ -	
Ongoing Costs	\$		\$ 1,091,133	\$ 909,821	\$ 582,656	
Total Cost	\$		\$ 1,091,133	\$ 909,821	\$ 582,656	

BENEFITS

RELIABILITY						
CI Savings	outages		119,393	119,393	119,393	
CMI Savings	min		21,059,216	21,059,216	21,059,216	
Typical Duration	hr		2.94	2.94	2.94	
Residential Customer %	%		85.7%	85.7%	85.7%	
Small C&I Customer %	%		12.1%	12.1%	12.1%	
Large C&I Customer %	%		2.1%	2.1%	2.1%	
Residential Outage Value	\$/outage		\$ 13	\$ 13	\$ 14	
Small C&I Outage Value	\$/outage		\$ 2,241	\$ 2,297	\$ 2,354	
Large C&I Outage Value	\$/outage		\$ 21,333	\$ 21,866	\$ 22,413	
Residential Momentary Value	\$/momentary		\$ 7	\$ 8	\$ 8	
Small C&I Momentary Value	\$/momentary		\$ 654	\$ 670	\$ 687	
Large C&I Momentary Value	\$/momentary		\$ 8,512	\$ 8,725	\$ 8,943	
Momentary Outages Avoided	momentaries		119,393	119,393	119,393	
Customer Avoided Outage Costs: Residential	\$		\$ 573,756	\$ 588,100	\$ 602,802	
Customer Avoided Outage Costs: Small C&I	\$		\$ 23,073,925	\$ 23,650,774	\$ 24,242,043	
Customer Avoided Outage Costs: Large C&I	\$		\$ 33,054,825	\$ 33,881,195	\$ 34,728,225	
Customer Avoided Outage Costs	\$		\$ 56,702,506	\$ 58,120,069	\$ 59,573,070	
Customer Avoided Momentary Interruption Costs: Residential	\$		\$ 753,551	\$ 772,390	\$ 791,699	
Customer Avoided Momentary Interruption Costs: Small C&I	\$		\$ 9,455,541	\$ 9,691,930	\$ 9,934,228	
Customer Avoided Momentary Interruption Costs: Large C&I	\$		\$ 21,819,965	\$ 22,365,464	\$ 22,924,601	
Customer Avoided Momentary Interruption Costs	\$		\$ 32,029,057	\$ 32,829,783	\$ 33,650,528	

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with C						
Capacity Savings from additional IVVC peak shaving	MW		0	0	0	
Capacity Value	\$/kW		\$ -	\$ -	\$ -	
Capacity Savings (IVVC)	\$		\$ -	\$ -	\$ -	

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with D						
Capacity factor for energy savings	-		0.4%	0.4%	0.4%	
Energy Savings from additional IVVC peak shaving	MWh		0	0	0	
Energy Value	\$/MWh		\$ 15	\$ 15	\$ 15	
Energy Savings (IVVC)	\$		\$ -	\$ -	\$ -	

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was complet						
Value: SOx	\$/ton		\$ -	\$ -	\$ -	
Value: NOx	\$/ton		\$ -	\$ -	\$ -	
Value: CO2	\$/ton		\$ 8	\$ 11	\$ 14	
Energy: SOx reduction	ton/MWh		0.00	0.00	0.00	
Energy: NOx reduction	ton/MWh		0.00	0.00	0.00	
Energy: CO2 reduction	ton/MWh		0.23	0.22	0.22	
Environmental Benefits	\$		\$ -	\$ -	\$ -	
Environmental Benefits (IVVC)	\$		\$ -	\$ -	\$ -	

Peak Shaving Benefits	\$		\$ -	\$ -	\$ -	
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DER ENABLEMENT						
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)	41	41	41	
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	472	513	554	
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)	20%	20%	20%	
Limit (without SOG)	MW	Total NC (DEC & DEP)	310	310	310	
Limit (with SOG)	MW	Total NC (DEC & DEP)	522	522	522	
PV derate factor for capacity	-	Total NC (DEC & DEP)	19%	19%	19%	
PV Enablement	MW	Total NC (DEC & DEP)	33	41	43	
Energy Savings	MWh/MW	Total NC (DEC & DEP)	1,936	1,936	1,936	
DER Enablement: Capacity Savings	\$	DEP NC = 40% of total D	\$ -	\$ -	\$ -	
DER Enablement: Energy Savings	\$	DEP NC = 40% of total D	\$ 376,279.89	\$ 466,677	\$ 507,304	
DER Enablement: Environmental Benefits	\$	DEP NC = 40% of total D	\$ 118,234	\$ 194,490	\$ 253,522	
DER/PV Enablement Benefits	\$		\$ 494,514	\$ 661,167	\$ 760,825	

TOTAL BENEFITS						
Customer Avoided Outage Costs	\$		\$ 56,702,506	\$ 58,120,069	\$ 59,573,070	
Customer Avoided Momentary Interruption Costs	\$		\$ 32,029,057	\$ 32,829,783	\$ 33,650,528	
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -	\$ -	
DER/PV Enablement Benefits	\$		\$ 494,514	\$ 661,167	\$ 760,825	
Total Benefits	\$	\$ -	\$ 89,226,077	\$ 91,611,019	\$ 93,984,424	

NPV		
	NPV Costs	NPV Benefits
Switch Automation, Circuit Segmenation & Capacity	163.4	
Contingency	15.0	
Ongoing Costs	25.4	
Customer Avoided Outage Costs		715.6
Customer Avoided Momentary Interruption Costs		402.5
Peak Shaving Benefits		0.0
DER/PV Enablement Benefits		10.6

Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026

Sources

	Units	2033	2034	2035
		11	12	13
Benefits		\$ 96,389,610	\$ 98,926,635	\$ 101,474,390
Costs		\$ 6,772,007	\$ 5,309,071	\$ 6,732,891
Net		\$ 89,617,604	\$ 93,617,564	\$ 94,741,499
BCR				

COSTS

PROGRAM COSTS (Full & Partial SOG)				
Switch Automation, Circuit Segmenation & Capacity	\$			
Contingency	\$			
Implementation O&M				
Total Program Costs	\$		\$ -	\$ -

ONGOING COSTS				
IT / TELECOM	\$			
Cellular	\$	\$ 147,134	\$ 150,812	\$ 154,583
Operations Support	\$	\$ 41,383	\$ 42,417	\$ 43,478
DISTRIBUTION	\$			
Equipment Replacements	\$	6,583,490	5,115,842	6,534,831
Total Ongoing Costs	\$	\$ 6,772,007	\$ 5,309,071	\$ 6,732,891

TOTAL COSTS				
Program Costs	\$		\$ -	\$ -
Ongoing Costs	\$		\$ 6,772,007	\$ 5,309,071
Total Cost	\$		\$ 6,772,007	\$ 5,309,071

BENEFITS

RELIABILITY				
CI Savings	outages		119,393	119,393
CMI Savings	min		21,059,216	21,059,216
Typical Duration	hr		2.94	2.94
Residential Customer %	%		85.7%	85.7%
Small C&I Customer %	%		12.1%	12.1%
Large C&I Customer %	%		2.1%	2.1%
Residential Outage Value	\$/outage	\$ 14	\$ 14	\$ 15
Small C&I Outage Value	\$/outage	\$ 2,413	\$ 2,473	\$ 2,535
Large C&I Outage Value	\$/outage	\$ 22,973	\$ 23,547	\$ 24,136
Residential Momentary Value	\$/momentary	\$ 8	\$ 8	\$ 8
Small C&I Momentary Value	\$/momentary	\$ 704	\$ 721	\$ 739
Large C&I Momentary Value	\$/momentary	\$ 9,167	\$ 9,396	\$ 9,631
Momentary Outages Avoided	momentaries		119,393	119,393
Customer Avoided Outage Costs: Residential	\$	\$ 617,873	\$ 633,319	\$ 649,152
Customer Avoided Outage Costs: Small C&I	\$	\$ 24,848,094	\$ 25,469,296	\$ 26,106,029
Customer Avoided Outage Costs: Large C&I	\$	\$ 35,596,431	\$ 36,486,341	\$ 37,398,500
Customer Avoided Outage Costs	\$	\$ 61,062,397	\$ 62,588,957	\$ 64,153,681
Customer Avoided Momentary Interruption Costs: Residential	\$	\$ 811,492	\$ 831,779	\$ 852,574
Customer Avoided Momentary Interruption Costs: Small C&I	\$	\$ 10,182,584	\$ 10,437,148	\$ 10,698,077
Customer Avoided Momentary Interruption Costs: Large C&I	\$	\$ 23,497,716	\$ 24,085,158	\$ 24,687,287
Customer Avoided Momentary Interruption Costs	\$	\$ 34,491,791	\$ 35,354,086	\$ 36,237,938

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with C				
Capacity Savings from additional IVVC peak shaving	MW		0	0
Capacity Value	\$/kW	\$ -	\$ -	\$ -
Capacity Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with D				
Capacity factor for energy savings	-		0.4%	0.4%
Energy Savings from additional IVVC peak shaving	MWh		0	0
Energy Value	\$/MWh	\$ 16	\$ 19	\$ 20
Energy Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was complet				
Value: SOx	\$/ton	\$ -	\$ -	\$ -
Value: NOx	\$/ton	\$ -	\$ -	\$ -
Value: CO2	\$/ton	\$ 17	\$ 20	\$ 23
Energy: SOx reduction	ton/MWh	0.00	0.00	0.00
Energy: NOx reduction	ton/MWh	0.00	0.00	0.00
Energy: CO2 reduction	ton/MWh	0.21	0.22	0.21
Environmental Benefits	\$	\$ -	\$ -	\$ -
Environmental Benefits (IVVC)	\$	\$ -	\$ -	\$ -

Peak Shaving Benefits	\$	\$ -	\$ -	\$ -
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DER ENABLEMENT				
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)	41	42
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	596	637
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)	20%	20%
Limit (without SOG)	MW	Total NC (DEC & DEP)	310	310
Limit (with SOG)	MW	Total NC (DEC & DEP)	522	522
PV derate factor for capacity	-	Total NC (DEC & DEP)	19%	19%
PV Enablement	MW	Total NC (DEC & DEP)	43	43
Energy Savings	MWh/MW	Total NC (DEC & DEP)	1,936	1,936
DER Enablement: Capacity Savings	\$	DEP NC = 40% of total D	\$ -	\$ -
DER Enablement: Energy Savings	\$	DEP NC = 40% of total D	\$ 537,655	\$ 620,038
DER Enablement: Environmental Benefits	\$	DEP NC = 40% of total D	\$ 297,767	\$ 363,554
DER/PV Enablement Benefits	\$		\$ 835,422	\$ 983,592

TOTAL BENEFITS				
Customer Avoided Outage Costs	\$		\$ 61,062,397	\$ 62,588,957
Customer Avoided Momentary Interruption Costs	\$		\$ 34,491,791	\$ 35,354,086
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -
DER/PV Enablement Benefits	\$		\$ 835,422	\$ 983,592
Total Benefits	\$	\$ -	\$ 96,389,610	\$ 98,926,635

NPV		
	NPV Costs	NPV Benefits
Switch Automation, Circuit Segmenation & Capacity	163.4	
Contingency	15.0	
Ongoing Costs	25.4	
Customer Avoided Outage Costs		715.6
Customer Avoided Momentary Interruption Costs		402.5
Peak Shaving Benefits		0.0
DER/PV Enablement Benefits		10.6

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Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026
Sources

	Units	2036	2037	2038
		14	15	16
Benefits		\$ 104,144,531	\$ 106,854,242	\$ 109,532,038
Costs		\$ 4,541,202	\$ 658,656	\$ 1,370,571
Net		\$ 99,603,328	\$ 106,195,586	\$ 108,161,467
BCR				

COSTS

PROGRAM COSTS (Full & Partial SOG)				
Switch Automation, Circuit Segmenation & Capacity	\$			
Contingency	\$			
Implementation O&M				
Total Program Costs	\$		\$ -	\$ -

ONGOING COSTS				
IT / TELECOM	\$			
Cellular	\$	\$ 158,447	\$ 162,408	\$ 166,469
Operations Support	\$	\$ 44,565	\$ 45,679	\$ 46,821
DISTRIBUTION	\$			
Equipment Replacements	\$	4,338,191	450,569	1,157,282
Total Ongoing Costs	\$	\$ 4,541,202	\$ 658,656	\$ 1,370,571

TOTAL COSTS				
Program Costs	\$	\$ -	\$ -	\$ -
Ongoing Costs	\$	\$ 4,541,202	\$ 658,656	\$ 1,370,571
Total Cost	\$	\$ 4,541,202	\$ 658,656	\$ 1,370,571

BENEFITS

RELIABILITY				
CI Savings	outages		119,393	119,393
CMI Savings	min		21,059,216	21,059,216
Typical Duration	hr		2.94	2.94
Residential Customer %	%		85.7%	85.7%
Small C&I Customer %	%		12.1%	12.1%
Large C&I Customer %	%		2.1%	2.1%
Residential Outage Value	\$/outage	\$ 15	\$ 15	\$ 16
Small C&I Outage Value	\$/outage	\$ 2,599	\$ 2,664	\$ 2,730
Large C&I Outage Value	\$/outage	\$ 24,739	\$ 25,358	\$ 25,992
Residential Momentary Value	\$/momentary	\$ 9	\$ 9	\$ 9
Small C&I Momentary Value	\$/momentary	\$ 758	\$ 777	\$ 796
Large C&I Momentary Value	\$/momentary	\$ 9,871	\$ 10,118	\$ 10,371
Momentary Outages Avoided	momentaries		119,393	119,393
Customer Avoided Outage Costs: Residential	\$	\$ 665,381	\$ 682,016	\$ 699,066
Customer Avoided Outage Costs: Small C&I	\$	\$ 26,758,679	\$ 27,427,646	\$ 28,113,338
Customer Avoided Outage Costs: Large C&I	\$	\$ 38,333,462	\$ 39,291,799	\$ 40,274,094
Customer Avoided Outage Costs	\$	\$ 65,757,523	\$ 67,401,461	\$ 69,086,498
Customer Avoided Momentary Interruption Costs: Residential	\$	\$ 873,888	\$ 895,735	\$ 918,128
Customer Avoided Momentary Interruption Costs: Small C&I	\$	\$ 10,965,529	\$ 11,239,667	\$ 11,520,659
Customer Avoided Momentary Interruption Costs: Large C&I	\$	\$ 25,304,470	\$ 25,937,081	\$ 26,585,508
Customer Avoided Momentary Interruption Costs	\$	\$ 37,143,886	\$ 38,072,484	\$ 39,024,296

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with C				
Capacity Savings from additional IVVC peak shaving	MW		0	0
Capacity Value	\$/kW	\$ -	\$ -	\$ -
Capacity Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with D				
Capacity factor for energy savings	-		0.4%	0.4%
Energy Savings from additional IVVC peak shaving	MWh		0	0
Energy Value	\$/MWh	\$ 23	\$ 25	\$ 25
Energy Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was complet				
Value: SOx	\$/ton	\$ -	\$ -	\$ -
Value: NOx	\$/ton	\$ -	\$ -	\$ -
Value: CO2	\$/ton	\$ 26	\$ 29	\$ 32
Energy: SOx reduction	ton/MWh	0.00	0.00	0.00
Energy: NOx reduction	ton/MWh	0.00	0.00	0.00
Energy: CO2 reduction	ton/MWh	0.22	0.23	0.22
Environmental Benefits	\$	\$ -	\$ -	\$ -
Environmental Benefits (IVVC)	\$	\$ -	\$ -	\$ -

Peak Shaving Benefits	\$	\$ -	\$ -	\$ -
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DER ENABLEMENT				
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)	43	44
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	724	767
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)	20%	20%
Limit (without SOG)	MW	Total NC (DEC & DEP)	310	310
Limit (with SOG)	MW	Total NC (DEC & DEP)	522	522
PV derate factor for capacity	-	Total NC (DEC & DEP)	19%	19%
PV Enablement	MW	Total NC (DEC & DEP)	43	43
Energy Savings	MWh/MW	Total NC (DEC & DEP)	1,936	1,936
DER Enablement: Capacity Savings	\$	DEP NC = 40% of total D	\$ -	\$ -
DER Enablement: Energy Savings	\$	DEP NC = 40% of total D	\$ 759,455	\$ 823,159
DER Enablement: Environmental Benefits	\$	DEP NC = 40% of total D	\$ 483,667	\$ 557,138
DER/PV Enablement Benefits	\$		\$ 1,243,121	\$ 1,380,297

TOTAL BENEFITS				
Customer Avoided Outage Costs	\$	\$ 65,757,523	\$ 67,401,461	\$ 69,086,498
Customer Avoided Momentary Interruption Costs	\$	\$ 37,143,886	\$ 38,072,484	\$ 39,024,296
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -
DER/PV Enablement Benefits	\$	\$ 1,243,121	\$ 1,380,297	\$ 1,421,245
Total Benefits	\$	\$ -	\$ 104,144,531	\$ 106,854,242

NPV		
	NPV Costs	NPV Benefits
Switch Automation, Circuit Segmenation & Capacity	163.4	
Contingency	15.0	
Ongoing Costs	25.4	
Customer Avoided Outage Costs		715.6
Customer Avoided Momentary Interruption Costs		402.5
Peak Shaving Benefits		0.0
DER/PV Enablement Benefits		10.6

Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026

Sources

	Units	2039	2040	2041
		17	18	19
Benefits		\$ 112,280,218	\$ 115,101,298	\$ 118,034,590
Costs		\$ 1,220,163	\$ 1,396,742	\$ 1,164,647
Net		\$ 111,060,055	\$ 113,704,556	\$ 116,869,943
BCR				

COSTS

PROGRAM COSTS (Full & Partial SOG)				
Switch Automation, Circuit Segmenation & Capacity	\$			
Contingency	\$			
Implementation O&M				
Total Program Costs	\$	\$ -	\$ -	\$ -

ONGOING COSTS				
IT / TELECOM	\$			
Cellular	\$	\$ 170,630	\$ 174,896	\$ 179,268
Operations Support	\$	\$ 47,991	\$ 49,191	\$ 50,421
DISTRIBUTION	\$			
Equipment Replacements	\$	1,001,542	1,172,656	934,958
Total Ongoing Costs	\$	\$ 1,220,163	\$ 1,396,742	\$ 1,164,647

TOTAL COSTS				
Program Costs	\$	\$ -	\$ -	\$ -
Ongoing Costs	\$	\$ 1,220,163	\$ 1,396,742	\$ 1,164,647
Total Cost	\$	\$ 1,220,163	\$ 1,396,742	\$ 1,164,647

BENEFITS

RELIABILITY				
CI Savings	outages		119,393	119,393
CMI Savings	min		21,059,216	21,059,216
Typical Duration	hr		2.94	2.94
Residential Customer %	%		85.7%	85.7%
Small C&I Customer %	%		12.1%	12.1%
Large C&I Customer %	%		2.1%	2.1%
Residential Outage Value	\$/outage	\$ 16	\$ 17	\$ 17
Small C&I Outage Value	\$/outage	\$ 2,798	\$ 2,868	\$ 2,940
Large C&I Outage Value	\$/outage	\$ 26,642	\$ 27,308	\$ 27,990
Residential Momentary Value	\$/momentary	\$ 9	\$ 9	\$ 10
Small C&I Momentary Value	\$/momentary	\$ 816	\$ 837	\$ 858
Large C&I Momentary Value	\$/momentary	\$ 10,630	\$ 10,896	\$ 11,169
Momentary Outages Avoided	momentaries		119,393	119,393
Customer Avoided Outage Costs: Residential	\$	\$ 716,543	\$ 734,456	\$ 752,818
Customer Avoided Outage Costs: Small C&I	\$	\$ 28,816,171	\$ 29,536,575	\$ 30,274,990
Customer Avoided Outage Costs: Large C&I	\$	\$ 41,280,946	\$ 42,312,970	\$ 43,370,794
Customer Avoided Outage Costs	\$	\$ 70,813,660	\$ 72,584,002	\$ 74,398,602
Customer Avoided Momentary Interruption Costs: Residential	\$	\$ 941,082	\$ 964,609	\$ 988,724
Customer Avoided Momentary Interruption Costs: Small C&I	\$	\$ 11,808,675	\$ 12,103,892	\$ 12,406,490
Customer Avoided Momentary Interruption Costs: Large C&I	\$	\$ 27,250,146	\$ 27,931,400	\$ 28,629,685
Customer Avoided Momentary Interruption Costs	\$	\$ 39,999,903	\$ 40,999,901	\$ 42,024,898

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with C				
Capacity Savings from additional IVVC peak shaving	MW		0	0
Capacity Value	\$/kW	\$ -	\$ -	\$ -
Capacity Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with D				
Capacity factor for energy savings	-		0.4%	0.4%
Energy Savings from additional IVVC peak shaving	MWh		0	0
Energy Value	\$/MWh	\$ 26	\$ 26	\$ 28
Energy Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was complet				
Value: SOx	\$/ton	\$ -	\$ -	\$ -
Value: NOx	\$/ton	\$ -	\$ -	\$ -
Value: CO2	\$/ton	\$ 35	\$ 38	\$ 41
Energy: SOx reduction	ton/MWh	0.00	0.00	0.00
Energy: NOx reduction	ton/MWh	0.00	0.00	0.00
Energy: CO2 reduction	ton/MWh	0.21	0.20	0.20
Environmental Benefits	\$	\$ -	\$ -	\$ -
Environmental Benefits (IVVC)	\$	\$ -	\$ -	\$ -

Peak Shaving Benefits	\$	\$ -	\$ -	\$ -
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DER ENABLEMENT				
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)	45	45
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	857	901
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)	20%	20%
Limit (without SOG)	MW	Total NC (DEC & DEP)	310	310
Limit (with SOG)	MW	Total NC (DEC & DEP)	522	522
PV derate factor for capacity	-	Total NC (DEC & DEP)	19%	19%
PV Enablement	MW	Total NC (DEC & DEP)	43	43
Energy Savings	MWh/MW	Total NC (DEC & DEP)	1,936	1,936
DER Enablement: Capacity Savings	\$	DEP NC = 40% of total D	\$ -	\$ -
DER Enablement: Energy Savings	\$	DEP NC = 40% of total D	\$ 861,516	\$ 875,524
DER Enablement: Environmental Benefits	\$	DEP NC = 40% of total D	\$ 605,139	\$ 641,872
DER/PV Enablement Benefits	\$		\$ 1,466,655	\$ 1,517,396

TOTAL BENEFITS				
Customer Avoided Outage Costs	\$		\$ 70,813,660	\$ 72,584,002
Customer Avoided Momentary Interruption Costs	\$		\$ 39,999,903	\$ 40,999,901
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -
DER/PV Enablement Benefits	\$		\$ 1,466,655	\$ 1,517,396
Total Benefits	\$	\$ -	\$ 112,280,218	\$ 115,101,298

NPV		
	NPV Costs	NPV Benefits
Switch Automation, Circuit Segmenation & Capacity	163.4	
Contingency	15.0	
Ongoing Costs	25.4	
Customer Avoided Outage Costs		715.6
Customer Avoided Momentary Interruption Costs		402.5
Peak Shaving Benefits		0.0
DER/PV Enablement Benefits		10.6

Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026
Sources

	Units	2042		2043		2044	
		20		21		22	
Benefits		\$	121,053,216	\$	124,131,025	\$	127,276,160
Costs		\$	745,848	\$	8,668,741	\$	6,796,060
Net		\$	120,307,367	\$	115,462,284	\$	120,480,101
BCR							

COSTS

PROGRAM COSTS (Full & Partial SOG)							
Switch Automation, Circuit Segmenation & Capacity	\$						
Contingency	\$						
Implementation O&M							
Total Program Costs	\$		\$ -	\$ -	\$ -		

ONGOING COSTS							
IT / TELECOM	\$						
Cellular	\$		\$ 183,750	\$ 188,344	\$ 193,052		
Operations Support	\$		\$ 51,681	\$ 52,973	\$ 54,298		
DISTRIBUTION	\$						
Equipment Replacements	\$		510,417	8,427,424	6,548,710		
Total Ongoing Costs	\$		\$ 745,848	\$ 8,668,741	\$ 6,796,060		

TOTAL COSTS							
Program Costs	\$		\$ -	\$ -	\$ -		
Ongoing Costs	\$		745,848	8,668,741	6,796,060		
Total Cost	\$		\$ 745,848	\$ 8,668,741	\$ 6,796,060		

BENEFITS

RELIABILITY							
CI Savings	outages		119,393	119,393	119,393		
CMI Savings	min		21,059,216	21,059,216	21,059,216		
Typical Duration	hr		2.94	2.94	2.94		
Residential Customer %	%		85.7%	85.7%	85.7%		
Small C&I Customer %	%		12.1%	12.1%	12.1%		
Large C&I Customer %	%		2.1%	2.1%	2.1%		
Residential Outage Value	\$/outage		\$ 17	\$ 18	\$ 18		
Small C&I Outage Value	\$/outage		\$ 3,014	\$ 3,089	\$ 3,166		
Large C&I Outage Value	\$/outage		\$ 28,690	\$ 29,407	\$ 30,143		
Residential Momentary Value	\$/momentary		\$ 10	\$ 10	\$ 10		
Small C&I Momentary Value	\$/momentary		\$ 879	\$ 901	\$ 923		
Large C&I Momentary Value	\$/momentary		\$ 11,448	\$ 11,734	\$ 12,027		
Momentary Outages Avoided	momentaries		119,393	119,393	119,393		
Customer Avoided Outage Costs: Residential	\$		\$ 771,638	\$ 790,929	\$ 810,702		
Customer Avoided Outage Costs: Small C&I	\$		\$ 31,031,864	\$ 31,807,661	\$ 32,602,853		
Customer Avoided Outage Costs: Large C&I	\$		\$ 44,455,064	\$ 45,566,441	\$ 46,705,602		
Customer Avoided Outage Costs	\$		\$ 76,258,567	\$ 78,165,031	\$ 80,119,157		
Customer Avoided Momentary Interruption Costs: Residential	\$		\$ 1,013,442	\$ 1,038,778	\$ 1,064,747		
Customer Avoided Momentary Interruption Costs: Small C&I	\$		\$ 12,716,652	\$ 13,034,568	\$ 13,360,432		
Customer Avoided Momentary Interruption Costs: Large C&I	\$		\$ 29,345,427	\$ 30,079,062	\$ 30,831,039		
Customer Avoided Momentary Interruption Costs	\$		\$ 43,075,521	\$ 44,152,409	\$ 45,256,219		

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with C							
Capacity Savings from additional IVVC peak shaving	MW		0	0	0		
Capacity Value	\$/kW		\$ -	\$ -	\$ -		
Capacity Savings (IVVC)	\$		\$ -	\$ -	\$ -		

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with D							
Capacity factor for energy savings	-		0.4%	0.4%	0.4%		
Energy Savings from additional IVVC peak shaving	MWh		0	0	0		
Energy Value	\$/MWh		\$ 29	\$ 31	\$ 32		
Energy Savings (IVVC)	\$		\$ -	\$ -	\$ -		

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was complet							
Value: SOx	\$/ton		\$ -	\$ -	\$ -		
Value: NOx	\$/ton		\$ -	\$ -	\$ -		
Value: CO2	\$/ton		\$ 44	\$ 47	\$ 50		
Energy: SOx reduction	ton/MWh		0.00	0.00	0.00		
Energy: NOx reduction	ton/MWh		0.00	0.00	0.00		
Energy: CO2 reduction	ton/MWh		0.20	0.20	0.20		
Environmental Benefits	\$		\$ -	\$ -	\$ -		
Environmental Benefits (IVVC)	\$		\$ -	\$ -	\$ -		

Peak Shaving Benefits	\$		\$ -	\$ -	\$ -		
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DER ENABLEMENT							
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)	45	46	46		
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	992	1,038	1,084		
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)	20%	20%	20%		
Limit (without SOG)	MW	Total NC (DEC & DEP)	310	310	310		
Limit (with SOG)	MW	Total NC (DEC & DEP)	522	522	522		
PV derate factor for capacity	-	Total NC (DEC & DEP)	19%	19%	19%		
PV Enablement	MW	Total NC (DEC & DEP)	43	43	43		
Energy Savings	MWh/MW	Total NC (DEC & DEP)	1,936	1,936	1,936		
DER Enablement: Capacity Savings	\$	DEP NC = 40% of total D	\$ -	\$ -	\$ -		
DER Enablement: Energy Savings	\$	DEP NC = 40% of total D	\$ 980,587	\$ 1,029,616	\$ 1,062,970		
DER Enablement: Environmental Benefits	\$	DEP NC = 40% of total D	\$ 738,541	\$ 783,969	\$ 837,815		
DER/PV Enablement Benefits	\$		\$ 1,719,128	\$ 1,813,586	\$ 1,900,785		

TOTAL BENEFITS							
Customer Avoided Outage Costs	\$		\$ 76,258,567	\$ 78,165,031	\$ 80,119,157		
Customer Avoided Momentary Interruption Costs	\$		\$ 43,075,521	\$ 44,152,409	\$ 45,256,219		
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -	\$ -		
DER/PV Enablement Benefits	\$		\$ 1,719,128	\$ 1,813,586	\$ 1,900,785		
Total Benefits	\$	\$ -	\$ 121,053,216	\$ 124,131,025	\$ 127,276,160		

NPV		
	NPV Costs	NPV Benefits
Switch Automation, Circuit Segmenation & Capacity	163.4	
Contingency	15.0	
Ongoing Costs	25.4	
Customer Avoided Outage Costs		715.6
Customer Avoided Momentary Interruption Costs		402.5
Peak Shaving Benefits		0.0
DER/PV Enablement Benefits		10.6

Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026

Sources

		2045	2046	2047
	Units	23	24	25
Benefits		\$ 130,512,978	\$ 133,752,678	\$ 137,123,754
Costs		\$ 8,618,670	\$ 5,813,123	\$ 843,859
Net		\$ 121,894,309	\$ 127,939,555	\$ 136,279,895
BCR				

COSTS

PROGRAM COSTS (Full & Partial SOG)				
Switch Automation, Circuit Segmenation & Capacity	\$			
Contingency	\$			
Implementation O&M				
Total Program Costs	\$	\$ -	\$ -	\$ -

ONGOING COSTS				
IT / TELECOM	\$			
Cellular	\$	\$ 197,879	\$ 202,826	\$ 207,896
Operations Support	\$	\$ 55,655	\$ 57,046	\$ 58,472
DISTRIBUTION	\$			
Equipment Replacements	\$	8,365,136	5,553,251	577,490
Total Ongoing Costs	\$	\$ 8,618,670	\$ 5,813,123	\$ 843,859

TOTAL COSTS				
Program Costs	\$	\$ -	\$ -	\$ -
Ongoing Costs	\$	\$ 8,618,670	\$ 5,813,123	\$ 843,859
Total Cost	\$	\$ 8,618,670	\$ 5,813,123	\$ 843,859

BENEFITS

RELIABILITY				
CI Savings	outages		119,393	119,393
CMI Savings	min		21,059,216	21,059,216
Typical Duration	hr		2.94	2.94
Residential Customer %	%		85.7%	85.7%
Small C&I Customer %	%		12.1%	12.1%
Large C&I Customer %	%		2.1%	2.1%
Residential Outage Value	\$/outage	\$ 19	\$ 19	\$ 20
Small C&I Outage Value	\$/outage	\$ 3,245	\$ 3,326	\$ 3,410
Large C&I Outage Value	\$/outage	\$ 30,896	\$ 31,669	\$ 32,460
Residential Momentary Value	\$/momentary	\$ 11	\$ 11	\$ 11
Small C&I Momentary Value	\$/momentary	\$ 947	\$ 970	\$ 994
Large C&I Momentary Value	\$/momentary	\$ 12,328	\$ 12,636	\$ 12,952
Momentary Outages Avoided	momentaries		119,393	119,393
Customer Avoided Outage Costs: Residential	\$	\$ 830,970	\$ 851,744	\$ 873,038
Customer Avoided Outage Costs: Small C&I	\$	\$ 33,417,924	\$ 34,253,372	\$ 35,109,706
Customer Avoided Outage Costs: Large C&I	\$	\$ 47,873,242	\$ 49,070,073	\$ 50,296,825
Customer Avoided Outage Costs	\$	\$ 82,122,135	\$ 84,175,189	\$ 86,279,569
Customer Avoided Momentary Interruption Costs: Residential	\$	\$ 1,091,366	\$ 1,118,650	\$ 1,146,617
Customer Avoided Momentary Interruption Costs: Small C&I	\$	\$ 13,694,443	\$ 14,036,804	\$ 14,387,724
Customer Avoided Momentary Interruption Costs: Large C&I	\$	\$ 31,601,815	\$ 32,391,860	\$ 33,201,657
Customer Avoided Momentary Interruption Costs	\$	\$ 46,387,624	\$ 47,547,315	\$ 48,735,998

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with C				
Capacity Savings from additional IVVC peak shaving	MW		0	0
Capacity Value	\$/kW	\$ -	\$ -	\$ -
Capacity Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with D				
Capacity factor for energy savings	-		0.4%	0.4%
Energy Savings from additional IVVC peak shaving	MWh		0	0
Energy Value	\$/MWh	\$ 33	\$ 34	\$ 35
Energy Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was complet				
Value: SOx	\$/ton	\$ -	\$ -	\$ -
Value: NOx	\$/ton	\$ -	\$ -	\$ -
Value: CO2	\$/ton	\$ 53	\$ 56	\$ 59
Energy: SOx reduction	ton/MWh	0.00	0.00	0.00
Energy: NOx reduction	ton/MWh	0.00	0.00	0.00
Energy: CO2 reduction	ton/MWh	0.20	0.19	0.19
Environmental Benefits	\$	\$ -	\$ -	\$ -
Environmental Benefits (IVVC)	\$	\$ -	\$ -	\$ -

Peak Shaving Benefits	\$	\$ -	\$ -	\$ -
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DER ENABLEMENT				
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)	47	49
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	1,131	1,180
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)	20%	20%
Limit (without SOG)	MW	Total NC (DEC & DEP)	310	310
Limit (with SOG)	MW	Total NC (DEC & DEP)	522	522
PV derate factor for capacity	-	Total NC (DEC & DEP)	19%	19%
PV Enablement	MW	Total NC (DEC & DEP)	43	43
Energy Savings	MWh/MW	Total NC (DEC & DEP)	1,936	1,936
DER Enablement: Capacity Savings	\$	DEP NC = 40% of total D	\$ -	\$ -
DER Enablement: Energy Savings	\$	DEP NC = 40% of total D	\$ 1,105,328	\$ 1,142,684
DER Enablement: Environmental Benefits	\$	DEP NC = 40% of total D	\$ 897,890	\$ 887,490
DER/PV Enablement Benefits	\$		\$ 2,003,219	\$ 2,030,174

TOTAL BENEFITS				
Customer Avoided Outage Costs	\$		\$ 82,122,135	\$ 84,175,189
Customer Avoided Momentary Interruption Costs	\$		\$ 46,387,624	\$ 47,547,315
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -
DER/PV Enablement Benefits	\$		\$ 2,003,219	\$ 2,030,174
Total Benefits	\$	\$ -	\$ 130,512,978	\$ 133,752,678

NPV		
	NPV Costs	NPV Benefits
Switch Automation, Circuit Segmenation & Capacity	163.4	
Contingency	15.0	
Ongoing Costs	25.4	
Customer Avoided Outage Costs		715.6
Customer Avoided Momentary Interruption Costs		402.5
Peak Shaving Benefits		0.0
DER/PV Enablement Benefits		10.6

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Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026
Sources

		2048	2049	2050
	Units	26	27	28
Benefits		\$ 140,576,247	\$ 144,105,022	\$ 147,664,638
Costs		\$ 1,754,447	\$ 1,561,912	\$ 1,787,948
Net		\$ 138,821,800	\$ 142,543,110	\$ 145,876,690
BCR				

COSTS

PROGRAM COSTS (Full & Partial SOG)				
Switch Automation, Circuit Segmenation & Capacity	\$			
Contingency	\$			
Implementation O&M				
Total Program Costs	\$	\$ -	\$ -	\$ -

ONGOING COSTS				
IT / TELECOM	\$			
Cellular	\$	\$ 213,094	\$ 218,421	\$ 223,882
Operations Support	\$	\$ 59,934	\$ 61,433	\$ 62,968
DISTRIBUTION	\$			
Equipment Replacements	\$	1,481,419	1,282,058	1,501,098
Total Ongoing Costs	\$	\$ 1,754,447	\$ 1,561,912	\$ 1,787,948

TOTAL COSTS				
Program Costs	\$	\$ -	\$ -	\$ -
Ongoing Costs	\$	\$ 1,754,447	\$ 1,561,912	\$ 1,787,948
Total Cost	\$	\$ 1,754,447	\$ 1,561,912	\$ 1,787,948

BENEFITS

RELIABILITY				
CI Savings	outages		119,393	119,393
CMI Savings	min		21,059,216	21,059,216
Typical Duration	hr		2.94	2.94
Residential Customer %	%		85.7%	85.7%
Small C&I Customer %	%		12.1%	12.1%
Large C&I Customer %	%		2.1%	2.1%
Residential Outage Value	\$/outage	\$ 20	\$ 21	\$ 21
Small C&I Outage Value	\$/outage	\$ 3,495	\$ 3,582	\$ 3,672
Large C&I Outage Value	\$/outage	\$ 33,272	\$ 34,104	\$ 34,956
Residential Momentary Value	\$/momentary	\$ 11	\$ 12	\$ 12
Small C&I Momentary Value	\$/momentary	\$ 1,019	\$ 1,045	\$ 1,071
Large C&I Momentary Value	\$/momentary	\$ 13,276	\$ 13,608	\$ 13,948
Momentary Outages Avoided	momentaries		119,393	119,393
Customer Avoided Outage Costs: Residential	\$	\$ 894,864	\$ 917,235	\$ 940,166
Customer Avoided Outage Costs: Small C&I	\$	\$ 35,987,449	\$ 36,887,135	\$ 37,809,313
Customer Avoided Outage Costs: Large C&I	\$	\$ 51,554,245	\$ 52,843,101	\$ 54,164,179
Customer Avoided Outage Costs	\$	\$ 88,436,558	\$ 90,647,472	\$ 92,913,659
Customer Avoided Momentary Interruption Costs: Residential	\$	\$ 1,175,282	\$ 1,204,664	\$ 1,234,781
Customer Avoided Momentary Interruption Costs: Small C&I	\$	\$ 14,747,417	\$ 15,116,103	\$ 15,494,005
Customer Avoided Momentary Interruption Costs: Large C&I	\$	\$ 34,031,698	\$ 34,882,491	\$ 35,754,553
Customer Avoided Momentary Interruption Costs	\$	\$ 49,954,398	\$ 51,203,258	\$ 52,483,339

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with C				
Capacity Savings from additional IVVC peak shaving	MW		0	0
Capacity Value	\$/kW	\$ -	\$ -	\$ -
Capacity Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with D				
Capacity factor for energy savings	-		0.4%	0.4%
Energy Savings from additional IVVC peak shaving	MWh		0	0
Energy Value	\$/MWh	\$ 35	\$ 36	\$ 37
Energy Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was complet				
Value: SOx	\$/ton	\$ -	\$ -	\$ -
Value: NOx	\$/ton	\$ -	\$ -	\$ -
Value: CO2	\$/ton	\$ 62	\$ 65	\$ 68
Energy: SOx reduction	ton/MWh	0.00	0.00	0.00
Energy: NOx reduction	ton/MWh	0.00	0.00	0.00
Energy: CO2 reduction	ton/MWh	0.19	0.19	0.18
Environmental Benefits	\$	\$ -	\$ -	\$ -
Environmental Benefits (IVVC)	\$	\$ -	\$ -	\$ -

Peak Shaving Benefits	\$	\$ -	\$ -	\$ -
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DER ENABLEMENT				
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)	49	51
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	1,278	1,329
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)	20%	20%
Limit (without SOG)	MW	Total NC (DEC & DEP)	310	310
Limit (with SOG)	MW	Total NC (DEC & DEP)	522	522
PV derate factor for capacity	-	Total NC (DEC & DEP)	19%	19%
PV Enablement	MW	Total NC (DEC & DEP)	43	43
Energy Savings	MWh/MW	Total NC (DEC & DEP)	1,936	1,936
DER Enablement: Capacity Savings	\$	DEP NC = 40% of total D	\$ -	\$ -
DER Enablement: Energy Savings	\$	DEP NC = 40% of total D	\$ 1,183,375	\$ 1,207,723
DER Enablement: Environmental Benefits	\$	DEP NC = 40% of total D	\$ 1,001,917	\$ 1,046,569
DER/PV Enablement Benefits	\$		\$ 2,185,292	\$ 2,254,292

TOTAL BENEFITS				
Customer Avoided Outage Costs	\$		\$ 88,436,558	\$ 90,647,472
Customer Avoided Momentary Interruption Costs	\$		\$ 49,954,398	\$ 51,203,258
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -
DER/PV Enablement Benefits	\$		\$ 2,185,292	\$ 2,254,292
Total Benefits	\$	\$ -	\$ 140,576,247	\$ 144,105,022

NPV		
	NPV Costs	NPV Benefits
Switch Automation, Circuit Segmenation & Capacity	163.4	
Contingency	15.0	
Ongoing Costs	25.4	
Customer Avoided Outage Costs		715.6
Customer Avoided Momentary Interruption Costs		402.5
Peak Shaving Benefits		0.0
DER/PV Enablement Benefits		10.6

Duke Energy Progress North Carolina Combined DEP Self Optimized Grid (SOG) Years 2022-2026
Sources

	Units	2051	2052	TOTAL
		29	30	
Benefits		\$ 151,356,967	\$ 155,154,897	\$ 3,146,721,520
Costs		\$ 1,490,847	\$ 954,749	\$ 263,306,933
Net		\$ 149,866,119	\$ 154,200,148	\$ 2,883,414,587
BCR				

COSTS

PROGRAM COSTS (Full & Partial SOG)				
Switch Automation, Circuit Segmenation & Capacity	\$			\$ 169,127,328
Contingency	\$			\$ 17,295,702
Implementation O&M				
Total Program Costs	\$		\$ - \$ -	\$ 186,423,029

ONGOING COSTS				
IT / TELECOM	\$			\$ -
Cellular	\$	\$ 229,479	\$ 235,216	\$ 4,770,651
Operations Support	\$	\$ 64,543	\$ 66,156	\$ 1,341,081
DISTRIBUTION	\$			\$ -
Equipment Replacements	\$	1,196,826	653,377	\$ 68,031,031
Total Ongoing Costs	\$	\$ 1,490,847	\$ 954,749	\$ 74,142,763

TOTAL COSTS				
Program Costs	\$	\$ -	\$ -	\$ 189,164,170
Ongoing Costs	\$	\$ 1,490,847	\$ 954,749	\$ 74,142,763
Total Cost	\$	\$ 1,490,847	\$ 954,749	\$ 263,306,933

BENEFITS

RELIABILITY				
CI Savings	outages		119,393	119,393
CMI Savings	min		21,059,216	21,059,216
Typical Duration	hr		2.94	2.94
Residential Customer %	%		85.7%	85.7%
Small C&I Customer %	%		12.1%	12.1%
Large C&I Customer %	%		2.1%	2.1%
Residential Outage Value	\$/outage	\$ 22	\$ 22	
Small C&I Outage Value	\$/outage	\$ 3,764	\$ 3,858	
Large C&I Outage Value	\$/outage	\$ 35,830	\$ 36,726	
Residential Momentary Value	\$/momentary	\$ 12	\$ 13	
Small C&I Momentary Value	\$/momentary	\$ 1,098	\$ 1,125	
Large C&I Momentary Value	\$/momentary	\$ 14,297	\$ 14,654	
Momentary Outages Avoided	momentaries		119,393	119,393
Customer Avoided Outage Costs: Residential	\$	\$ 963,670	\$ 987,762	
Customer Avoided Outage Costs: Small C&I	\$	\$ 38,754,546	\$ 39,723,410	
Customer Avoided Outage Costs: Large C&I	\$	\$ 55,518,283	\$ 56,906,240	
Customer Avoided Outage Costs	\$	\$ 95,236,500	\$ 97,617,412	
Customer Avoided Momentary Interruption Costs: Residential	\$	\$ 1,265,650	\$ 1,297,291	
Customer Avoided Momentary Interruption Costs: Small C&I	\$	\$ 15,881,356	\$ 16,278,389	
Customer Avoided Momentary Interruption Costs: Large C&I	\$	\$ 36,648,417	\$ 37,564,627	
Customer Avoided Momentary Interruption Costs	\$	\$ 53,795,423	\$ 55,140,308	

CAPACITY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with C				
Capacity Savings from additional IVVC peak shaving	MW		0	0
Capacity Value	\$/kW	\$ -	\$ -	
Capacity Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENERGY SAVINGS (Not Applicable to DEP because full Circuit Conditioning was completed with D				
Capacity factor for energy savings	-		0.4%	0.4%
Energy Savings from additional IVVC peak shaving	MWh		0	0
Energy Value	\$/MWh	\$ 38	\$ 38	
Energy Savings (IVVC)	\$	\$ -	\$ -	\$ -

ENVIRONMENTAL BENEFITS (Not Applicable to DEP because full Circuit Conditioning was complet				
Value: SOx	\$/ton	\$ -	\$ -	
Value: NOx	\$/ton	\$ -	\$ -	
Value: CO2	\$/ton	\$ 71	\$ 74	
Energy: SOx reduction	ton/MWh	0.00	0.00	
Energy: NOx reduction	ton/MWh	0.00	0.00	
Energy: CO2 reduction	ton/MWh	0.18	0.18	
Environmental Benefits	\$	\$ -	\$ -	\$ -
Environmental Benefits (IVVC)	\$	\$ -	\$ -	\$ -

Peak Shaving Benefits	\$	\$ -	\$ -	\$ -
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DER ENABLEMENT				
Forecasted PV (Annual)	MW	Total NC (DEC & DEP)	53	55
Forecasted PV (Cumulative)	MW	Total NC (DEC & DEP)	1,433	1,488
PV scaling factor (SOG vs. total)	-	Total NC (DEC & DEP)	20%	20%
Limit (without SOG)	MW	Total NC (DEC & DEP)	310	310
Limit (with SOG)	MW	Total NC (DEC & DEP)	522	522
PV derate factor for capacity	-	Total NC (DEC & DEP)	19%	19%
PV Enablement	MW	Total NC (DEC & DEP)	43	43
Energy Savings	MWh/MW	Total NC (DEC & DEP)	1,936	1,936
DER Enablement: Capacity Savings	\$	DEP NC = 40% of total D	\$ -	\$ -
DER Enablement: Energy Savings	\$	DEP NC = 40% of total D	\$ 1,253,751	\$ 1,273,095
DER Enablement: Environmental Benefits	\$	DEP NC = 40% of total D	\$ 1,071,293	\$ 1,124,081
DER/PV Enablement Benefits	\$		\$ 2,325,044	\$ 2,397,176
				\$ 37,075,946

TOTAL BENEFITS				
Customer Avoided Outage Costs	\$		\$ 95,236,500	\$ 97,617,412
Customer Avoided Momentary Interruption Costs	\$		\$ 53,795,423	\$ 55,140,308
Peak Shaving Benefits	\$	Not Applicable to DEP	\$ -	\$ -
DER/PV Enablement Benefits	\$		\$ 2,325,044	\$ 2,397,176
Total Benefits	\$	\$ -	\$ 151,356,967	\$ 155,154,897
				\$ 3,146,721,520

NPV		
	NPV Costs	NPV Benefits
Switch Automation, Circuit Segmenation & Capacity	163.4	
Contingency	15.0	
Ongoing Costs	25.4	
Customer Avoided Outage Costs		715.6
Customer Avoided Momentary Interruption Costs		402.5
Peak Shaving Benefits		0.0
DER/PV Enablement Benefits		10.6

AREA/PROJECT/PROGRAM	Distribution - TUG
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

		NPV of COST/BENEFIT STREAM													
				2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
		0	1	2	3	4	5	6	7	8	9	10	11		
COSTS															
Program Capital Costs		\$ 77,659,184	\$ 560,926	\$ 25,767,804	\$ 26,121,731	\$ 30,462,810	\$ 6,086,768	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Program Capital Contingency Costs		\$ 8,459,967	\$ 9,566	\$ 2,802,060	\$ 2,873,390	\$ 3,350,909	\$ 669,545	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Program Capital Costs		\$ 86,119,152	\$ 570,491	\$ 28,569,864	\$ 28,995,121	\$ 33,813,719	\$ 6,756,313	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Program O&M Costs		\$ 61,970	\$ 411	\$ 20,558	\$ 20,864	\$ 24,332	\$ 4,862	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Program Costs		\$ 86,181,121	\$ 570,902	\$ 28,590,423	\$ 29,015,986	\$ 33,838,050	\$ 6,761,174	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total On-Going Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
OPERATIONAL BENEFITS															
Outage															
Avoided Outage Benefits (Non-MED/MED)		\$ 19,563,768	\$ -	\$ -	\$ 70,404	\$ 461,851	\$ 872,827	\$ 1,516,352	\$ 1,554,261	\$ 1,593,118	\$ 1,632,945	\$ 1,673,769	\$ 1,715,613	\$ 1,758,504	
Total Outage and Restoration Benefits		\$ 19,563,768	\$ -	\$ -	\$ 70,404	\$ 461,851	\$ 872,827	\$ 1,516,352	\$ 1,554,261	\$ 1,593,118	\$ 1,632,945	\$ 1,673,769	\$ 1,715,613	\$ 1,758,504	
Vegetation Management															
Avoided VM Cycle Trimming Benefits		\$ 2,953,916	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,455,619	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Vegetation Management Benefits		\$ 2,953,916	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,455,619	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Asset Management															
Avoided Conductor Replacement Benefits		\$ 10,824,066	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,864,753							
Total Asset Management Benefits		\$ 10,824,066	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,864,753	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Operational Benefits		\$ 33,341,750	\$ -	\$ -	\$ 70,404	\$ 461,851	\$ 872,827	\$ 17,836,724	\$ 1,554,261	\$ 1,593,118	\$ 1,632,945	\$ 1,673,769	\$ 1,715,613	\$ 1,758,504	
CUSTOMER BENEFITS															
Customer															
Avoided Sustained Outage Benefits (Non-MED/MED) - Residential Customers		\$ 297,081	\$ -	\$ -	\$ 1,069	\$ 7,013	\$ 13,254	\$ 23,026	\$ 23,602	\$ 24,192	\$ 24,797	\$ 25,417	\$ 26,052	\$ 26,703	
Avoided Sustained Outage Benefits (Non-MED/MED) - Small C&I Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Avoided Sustained Outage Benefits (Non-MED/MED) - Medium & Large C&I Customers		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Avoided Momentary Outage Benefits (Non-MED/MED) - Residential Customers		\$ 13,291,776	\$ -	\$ -	\$ 47,833	\$ 313,785	\$ 593,006	\$ 1,030,221	\$ 1,055,977	\$ 1,082,376	\$ 1,109,436	\$ 1,137,172	\$ 1,165,601	\$ 1,194,741	
Avoided Momentary Outage Benefits (Non-MED/MED) - Small C&I Customers		\$ 166,867,032	\$ -	\$ -	\$ 600,505	\$ 3,939,312	\$ 7,444,684	\$ 12,933,561	\$ 13,256,900	\$ 13,588,323	\$ 13,928,031	\$ 14,276,232	\$ 14,633,138	\$ 14,998,966	
Avoided Momentary Outage Benefits (Non-MED/MED) - Medium & Large C&I Customers		\$ 390,406,880	\$ -	\$ -	\$ 1,404,958	\$ 9,216,527	\$ 17,417,796	\$ 30,259,730	\$ 31,016,224	\$ 31,791,629	\$ 32,586,420	\$ 33,401,080	\$ 34,236,107	\$ 35,092,010	
Total Customer Benefits		\$ 570,862,768	\$ -	\$ -	\$ 2,054,366	\$ 13,476,638	\$ 25,468,740	\$ 44,246,539	\$ 45,352,703	\$ 46,486,520	\$ 47,648,683	\$ 48,839,901	\$ 50,060,898	\$ 51,312,420	
COMBINED COSTS AND BENEFITS															
Total PV of Operational Benefits		\$ 33,341,750	\$ -	\$ -	\$ 70,404	\$ 461,851	\$ 872,827	\$ 17,836,724	\$ 1,554,261	\$ 1,593,118	\$ 1,632,945	\$ 1,673,769	\$ 1,715,613	\$ 1,758,504	
Total PV of Customer Benefits		\$ 570,862,768	\$ -	\$ -	\$ 2,054,366	\$ 13,476,638	\$ 25,468,740	\$ 44,246,539	\$ 45,352,703	\$ 46,486,520	\$ 47,648,683	\$ 48,839,901	\$ 50,060,898	\$ 51,312,420	
Total PV of Combined Benefits		\$ 604,204,518	\$ -	\$ -	\$ 2,124,770	\$ 13,938,489	\$ 26,341,567	\$ 62,083,264	\$ 46,906,964	\$ 48,079,638	\$ 49,281,629	\$ 50,513,670	\$ 51,776,511	\$ 53,070,924	
Total PV Program and On-Going Costs		\$ 86,181,121	\$ 570,902	\$ 28,590,423	\$ 29,015,986	\$ 33,838,050	\$ 6,761,174	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Combined NPV of Program		\$ 518,023,397	\$ (570,902)	\$ (28,590,423)	\$ (26,891,216)	\$ (19,899,561)	\$ 19,580,392	\$ 62,083,264	\$ 46,906,964	\$ 48,079,638	\$ 49,281,629	\$ 50,513,670	\$ 51,776,511	\$ 53,070,924	
Ratio of NPV Benefits to NPV Costs		7.0													
Cumulative Net Benefits (Payback Period)		\$	(570,902)	\$ (29,161,325)	\$ (56,052,541)	\$ (75,952,102)	\$ (56,371,709)	\$ 5,711,554	\$ 52,618,518	\$ 100,698,156	\$ 149,979,785	\$ 200,493,455	\$ 252,269,966	\$ 305,340,890	

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Jul 15 2022

AREA/PROJECT/PROGRAM	Distribution - TUG
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

NPV of COST/BENEFIT STREAM		YEAR											
		2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
		12	13	14	15	16	17	18	19	20	21	22	23
COSTS													
Program Capital Costs	\$ 77,659,184	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program Capital Contingency Costs	\$ 8,459,967	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Capital Costs	\$ 86,119,152	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Program O&M Costs	\$ 61,970	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Program Costs	\$ 86,181,121	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total On-Going Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OPERATIONAL BENEFITS													
Outage													
Avoided Outage Benefits (Non-MED/MED)	\$ 19,563,768	\$ 1,802,466	\$ 1,847,528	\$ 1,893,716	\$ 1,941,059	\$ 1,989,586	\$ 2,039,325	\$ 2,090,308	\$ 2,142,566	\$ 2,196,130	\$ 2,251,033	\$ 2,307,309	\$ 2,364,992
Total Outage and Restoration Benefits	\$ 19,563,768	\$ 1,802,466	\$ 1,847,528	\$ 1,893,716	\$ 1,941,059	\$ 1,989,586	\$ 2,039,325	\$ 2,090,308	\$ 2,142,566	\$ 2,196,130	\$ 2,251,033	\$ 2,307,309	\$ 2,364,992
Vegetation Management													
Avoided VM Cycle Trimming Benefits	\$ 2,953,916	\$ 1,730,273	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,056,751	\$ -	\$ -	\$ -	\$ -
Total Vegetation Management Benefits	\$ 2,953,916	\$ 1,730,273	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,056,751	\$ -	\$ -	\$ -	\$ -
Asset Management													
Avoided Conductor Replacement Benefits	\$ 10,824,066												
Total Asset Management Benefits	\$ 10,824,066	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Operational Benefits	\$ 33,341,750	\$ 3,532,740	\$ 1,847,528	\$ 1,893,716	\$ 1,941,059	\$ 1,989,586	\$ 2,039,325	\$ 2,090,308	\$ 4,199,317	\$ 2,196,130	\$ 2,251,033	\$ 2,307,309	\$ 2,364,992
CUSTOMER BENEFITS													
Customer													
Avoided Sustained Outage Benefits (Non-MED/MED) - Residential Customers	\$ 297,081	\$ 27,371	\$ 28,055	\$ 28,757	\$ 29,475	\$ 30,212	\$ 30,968	\$ 31,742	\$ 32,535	\$ 33,349	\$ 34,183	\$ 35,037	\$ 35,913
Avoided Sustained Outage Benefits (Non-MED/MED) - Small C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Sustained Outage Benefits (Non-MED/MED) - Medium & Large C&I Customers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Avoided Momentary Outage Benefits (Non-MED/MED) - Residential Customers	\$ 13,291,776	\$ 1,224,610	\$ 1,255,225	\$ 1,286,605	\$ 1,318,771	\$ 1,351,740	\$ 1,385,533	\$ 1,420,172	\$ 1,455,676	\$ 1,492,068	\$ 1,529,370	\$ 1,567,604	\$ 1,606,794
Avoided Momentary Outage Benefits (Non-MED/MED) - Small C&I Customers	\$ 166,867,032	\$ 15,373,940	\$ 15,758,289	\$ 16,152,246	\$ 16,556,052	\$ 16,969,953	\$ 17,394,202	\$ 17,829,057	\$ 18,274,784	\$ 18,731,653	\$ 19,199,945	\$ 19,679,943	\$ 20,171,942
Avoided Momentary Outage Benefits (Non-MED/MED) - Medium & Large C&I Customers	\$ 390,406,880	\$ 35,969,310	\$ 36,868,543	\$ 37,790,257	\$ 38,735,013	\$ 39,703,388	\$ 40,695,973	\$ 41,713,372	\$ 42,756,207	\$ 43,825,112	\$ 44,920,740	\$ 46,043,758	\$ 47,194,852
Total Customer Benefits	\$ 570,862,768	\$ 52,595,231	\$ 53,910,112	\$ 55,257,865	\$ 56,639,311	\$ 58,055,294	\$ 59,506,676	\$ 60,994,343	\$ 62,519,202	\$ 64,082,182	\$ 65,684,236	\$ 67,326,342	\$ 69,009,501
COMBINED COSTS AND BENEFITS													
Total PV of Operational Benefits	\$ 33,341,750	\$ 3,532,740	\$ 1,847,528	\$ 1,893,716	\$ 1,941,059	\$ 1,989,586	\$ 2,039,325	\$ 2,090,308	\$ 4,199,317	\$ 2,196,130	\$ 2,251,033	\$ 2,307,309	\$ 2,364,992
Total PV of Customer Benefits	\$ 570,862,768	\$ 52,595,231	\$ 53,910,112	\$ 55,257,865	\$ 56,639,311	\$ 58,055,294	\$ 59,506,676	\$ 60,994,343	\$ 62,519,202	\$ 64,082,182	\$ 65,684,236	\$ 67,326,342	\$ 69,009,501
Total PV of Combined Benefits	\$ 604,204,518	\$ 56,127,971	\$ 55,757,640	\$ 57,151,581	\$ 58,580,370	\$ 60,044,879	\$ 61,546,001	\$ 63,084,651	\$ 66,718,519	\$ 66,278,312	\$ 67,935,270	\$ 69,633,652	\$ 71,374,493
Total PV Program and On-Going Costs	\$ 86,181,121	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Combined NPV of Program	\$ 518,023,397	\$ 56,127,971	\$ 55,757,640	\$ 57,151,581	\$ 58,580,370	\$ 60,044,879	\$ 61,546,001	\$ 63,084,651	\$ 66,718,519	\$ 66,278,312	\$ 67,935,270	\$ 69,633,652	\$ 71,374,493
Ratio of NPV Benefits to NPV Costs		7.0											
Cumulative Net Benefits (Payback Period)		\$ 361,468,861	\$ 417,226,501	\$ 474,378,081	\$ 532,958,451	\$ 593,003,331	\$ 654,549,332	\$ 717,633,984	\$ 784,352,503	\$ 850,630,815	\$ 918,566,085	\$ 988,199,736	\$ 1,059,574,229

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Jul 15 2022

AREA/PROJECT/PROGRAM	Distribution - TUG
PERIOD:	2023-2026
REGULATORY JURISDICTION:	DEP
STATE:	NC

		NPV of COST/BENEFIT STREAM	2046							TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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DEP NC COST-BENEFIT ANALYSIS - DISTRIBUTION PORTFOLIO SUMMARY

Net Present Value (Primary Costs and Benefits)

Exhibit Number	Program	NPV Costs			NPV Benefits				B/C Ratio
		Capital	O&M	Total	Operational	Customer	Other	Total	
8A	Distribution - Distribution Automation	\$ 42,895,034	\$ 862,673	\$ 43,757,707	\$ 3,200,309	\$ 220,481,081	\$ -	\$ 223,681,390	5.1
8B	Distribution - Equipment Retrofit	\$ 70,581,719	\$ 159,253	\$ 70,740,973	\$ 679,426	\$ 208,887,199	\$ -	\$ 209,566,625	3.0
8C	Distribution - H&R Laterals	\$ 143,483,955	\$ 2,740,544	\$ 146,224,499	\$ 8,720,108	\$ 1,363,339,959	\$ -	\$ 1,372,060,066	9.4
8D	Distribution - H&R Public Inteference	\$ 15,445,832	\$ 295,015	\$ 15,740,847	\$ 144,191	\$ 8,236,014	\$ -	\$ 8,380,205	0.5
8E	Distribution - H&R Storm	\$ 63,725,683	\$ 1,217,161	\$ 64,942,844	\$ 15,435,496	\$ 549,797,749	\$ -	\$ 565,233,245	8.7
8F	Distribution - LDI	\$ 2,169,141	\$ 77,118	\$ 2,246,259	\$ 218,394	\$ 31,175,825	\$ -	\$ 31,394,220	14.0
8G	Distribution - SOG	\$ 201,627,478	\$ 4,809,254	\$ 206,436,732	\$ -	\$ 1,118,147,306	\$ 10,569,136	\$ 1,128,716,443	5.5
8H	Distribution - TUG	\$ 86,119,152	\$ 61,970	\$ 86,181,121	\$ 33,341,750	\$ 570,862,768	\$ -	\$ 604,204,518	7.0
Total NPV Costs and Benefits (CBA Packages)		\$ 626,047,995	\$ 10,222,987	\$ 636,270,982	\$ 61,739,673	\$ 4,070,927,902	\$ 10,569,136	\$ 4,143,236,711	6.5
Total NPV Costs and Benefits (Non-CBA Packages)		\$ 383,687,531	6,709,699	\$ 390,397,230	\$ -	\$ -	\$ -	\$ -	-
Total Non-Package Items		\$ 311,996,941	5,645,671	\$ 317,642,611	\$ -	\$ -	\$ -	\$ -	-
Total NPV Costs and Benefits (All Package and Non-package items)		\$ 1,321,732,466	\$ 22,578,357	\$ 1,344,310,823	\$ 61,739,673	\$ 4,070,927,902	\$ 10,569,136	\$ 4,143,236,711	3.1

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