



December 22, 2017

NHPUC 28DEC17AM11:46

Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

Re: Docket No. DE 14-216; CORE Energy Efficiency Programs
New Hampshire Electric Cooperative, Inc. – Calculation of Member Incentive
Program Year 2016

Dear Director Howland:

Enclosed for filing with the Commission are an original and six copies of the Member Incentive for New Hampshire Electric Cooperative Inc.'s CORE Energy Efficiency programs operated from January 1, 2016 through December 31, 2016 as approved by the Commission in its Order No. 25,856 issued on December 24, 2015 in Docket No. DE 14-216.

Please contact me if there are any questions regarding this filing.

Very truly yours,

Carol Woods
Energy Solutions Executive

Enclosure (7 copies)
cc: Service List (electronic mail only)

Program Cost-Effectiveness - 2016 ACTUAL

	Present Value											
	Total Resource Benefit/Cost Ratio	Benefit (\$000)	Utility Costs (\$000)	Customer Costs (\$000)	Annual MWh Savings	Lifetime MWh Savings	Winter kW Savings	Summer kW Savings	Number of Customers Served	Annual MMBTU Savings	Lifetime MMBTU Savings	
Residential Programs												
Home Energy Assistance	1.10	\$ 321.5	\$ 292.4	\$ -	46.2	812.4	11.9	3.2	34	842.9	17,418.07	
Home Performance w/Energy Star	1.49	\$ 486.2	\$ 204.5	\$ 122.4	52.8	1,030.7	31.3	8.1	52	1,310.31	26,566.62	
Energy Star Homes	2.95	\$ 531.4	\$ 129.0	\$ 50.8	109.9	2,699.8	31.2	18.8	14	713.60	17,767.67	
Energy Star Products 1	3.17	\$ 1,246.8	\$ 264.7	\$ 129.2	863.5	13,698.6	234.4	92.6	8,538	201.40	2,215.38	
FCM Reporting	0.00	\$ -	\$ 3.7	\$ -	-	-	-	-	-	-	-	
Subtotal Residential	2.16	\$ 2,585.880	\$ 894.371	\$ 302.4	1,072.4	18,241.5	308.8	122.7	8,638	3,068.2	63,967.7	
Commercial/Industrial Programs												
Large Business Energy Solutions	2.16	\$ 702.4	\$ 109.3	\$ 216.0	609.9	7,978.9	90.80	84.90	8	-	-	
Small Business Energy Solutions	1.83	\$ 867.3	\$ 265.1	\$ 208.1	721.7	9,549.0	64.70	111.0	46	-	-	
Municipal EE Program (per SB123)	1.28	\$ 504.9	\$ 197.1	\$ 197.7	210.6	2,738.1	22.9	39.5	15	700.4	14,137.4	
Other (Education)	0.00	\$ -	\$ 19.3	\$ -	-	-	-	-	-	-	-	
FCM Reporting	0.00	\$ -	\$ 8.7	\$ -	-	-	-	-	-	-	-	
Subtotal C&I	1.70	\$ 2,074.7	\$ 599.6	\$ 621.8	1,542.2	20,266.0	178.4	235.4	69	700	14,137	
Smart Start		\$ -	\$ 1.3	\$ -	-	-	-	-	1	-	-	
Other		\$ -	\$ -	\$ -	-	-	-	-	-	-	-	
Subtotal Other		\$ -	\$ 1.3	\$ -	-	-	-	-	1			
Total		\$ 4,660.5	\$ 1,495.2	\$ 924.2	2,614.6	38,507.5	487.2	358.1	8,708	3,769	78,105	

Program Cost-Effectiveness - 2016 PLAN

	Total Resource Benefit/Cost Ratio	Present Value							Number of Customers Served	Annual MMBTU Savings	Lifetime MMBTU Savings
		Benefit (\$000)	Utility Costs (\$000)	Customer Costs (\$000)	Annual MWh Savings	Lifetime MWh Savings	Winter kW Savings	Summer kW Savings			
Residential Programs											
Home Energy Assistance	1.12	\$ 287.3	\$ 255.7	\$ -	33.3	531.3	9.2	1.5	28	732.8	15,042.3
Home Performance w/Energy Star	1.25	\$ 447.0	\$ 229.2	\$ 128.7	32.4	602.9	32.3	16.3	53	1,281.7	25,905.4
Energy Star Homes	2.46	\$ 504.8	\$ 150.4	\$ 54.8	130.9	3,231.9	36.4	16.5	17	587.7	14,605.4
Energy Star Products ¹	2.58	\$ 1,182.6	\$ 349.3	\$ 109.4	787.9	11,969.5	201.8	87.0	7,317	300.2	3,301.8
FCM Reporting		\$ -	\$ 3.0	\$ -	-	-	-	-	-	-	-
Subtotal Residential	1.89	\$ 2,421.7	\$ 987.6	\$ 292.8	984.5	16,335.6	279.7	119.8	7,415	2,169.6	43,812.6
Commercial/Industrial Programs											
Large Business Energy Solutions	2.09	\$ 1,152.6	\$ 202.4	\$ 349.2	978.3	12,737.8	154.2	146.1	37	-	-
Small Business Energy Solutions	2.02	\$ 783.0	\$ 253.0	\$ 134.9	614.1	7,978.3	68.2	113.6	85	-	-
Municipal EE Program (per SB123)	1.16	\$ 343.2	\$ 160.4	\$ 135.1	306.5	3,979.7	19.1	30.0	32	84.6	2,115.0
Other (Education)		\$ -	\$ 39.0	\$ -	-	-	-	-	-	-	-
FCM Reporting		\$ -	\$ 7.0	\$ -	-	-	-	-	-	-	-
Subtotal C&I	1.78	\$ 2,278.8	\$ 661.9	\$ 619.2	1,898.8	24,695.8	241.5	289.7	154	84.6	2,115.0
Smart Start		\$ -	\$ -	\$ -	-	-	-	-	-	-	-
Other		\$ -	\$ -	\$ -	-	-	-	-	-	-	-
Subtotal Other		\$ -	\$ -	\$ -	-	-	-	-	-	-	-
Total	1.84	\$ 4,700.5	\$ 1,649.5	\$ 912.0	2,883.3	41,031.4	521.2	409.6	7,569	2,254.2	45,927.6

Note 1: Plan includes 5,703 members purchasing a total of 22,811 Energy Star lighting products (estimated at 4/customer) and 1,614 Energy Star appliances.

Annual kWh Savings	2,883,291	81.4%	kWh > 55%
Annual MMBTU Savings (in kWh)	660,668	18.6%	
Total Annual Energy Savings	3,543,959	100.0%	

Lifetime kWh Savings	41,031,394	75.3%	kWh > 55%
Lifetime MMBTU Savings (in kWh)	13,460,613	24.7%	
Total Lifetime Energy Savings	54,492,007	100.0%	

Present Value Benefits - 2016 ACTUAL

	Total Benefits	CAPACITY				DRIPE	ENERGY				Non Electric Resource	
		Summer Generation	Winter Generation	Transmission Distribution	Winter Peak		Off Peak	Summer Peak	Summer Off Peak			
Residential Programs												
Home Energy Assistance	\$ 321,542	\$ 6,829	\$ -	\$ 786	\$ 3,185	\$ -	\$ 14,368	\$ 25,089	\$ 3,514	\$ 4,291	\$ 263,480	
Home Performance w/Energy Star	\$ 486,184	\$ 5,516	\$ -	\$ 754	\$ 3,052	\$ -	\$ 18,847	\$ 37,239	\$ 2,263	\$ 2,611	\$ 415,903	
Energy Star Homes	\$ 531,404	\$ 62,687	\$ -	\$ 6,933	\$ 28,081	\$ -	\$ 48,578	\$ 81,064	\$ 14,573	\$ 17,678	\$ 271,810	
Energy Star Products 1	\$ 1,246,750	\$ 202,724	\$ -	\$ 23,274	\$ 94,263	\$ -	\$ 229,168	\$ 314,528	\$ 107,837	\$ 130,475	\$ 144,481	
FCM Reporting	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Subtotal Residential	\$ 2,585,880	\$ 277,756	\$ -	\$ 31,747	\$ 128,581		\$ 310,961	\$ 457,920	\$ 128,187	\$ 155,055	\$ 1,095,674	
Commercial/Industrial Programs												
Large Business Energy Solutions	\$ 702,435	\$ 158,373	\$ -	\$ 18,656	\$ 75,560	\$ -	\$ 168,730	\$ 181,788	\$ 60,431	\$ 38,897	\$ -	
Small Business Energy Solutions	\$ 867,323	\$ 209,911	\$ -	\$ 24,672	\$ 99,927	\$ -	\$ 199,743	\$ 172,376	\$ 89,866	\$ 70,828	\$ -	
Municipal EE Program (per SB123)	\$ 504,910	\$ 73,478	\$ -	\$ 8,660	\$ 35,072	\$ -	\$ 59,965	\$ 46,890	\$ 27,243	\$ 18,950	\$ 234,652	
Other (Education)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
FCM Reporting	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Subtotal C&I	\$ 2,074,668	\$ 441,762	\$ -	\$ 51,988	\$ 210,559		\$ 428,438	\$ 401,054	\$ 177,540	\$ 128,675	\$ 234,652	
Smart Start	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total	\$ 4,660,548	\$ 719,518	\$ -	\$ 83,735	\$ 339,140		\$ 739,399	\$ 858,974	\$ 305,727	\$ 283,730	\$ 1,330,326	

Present Value Benefits - 2016 PLAN

	CAPACITY							ENERGY				
	Total Benefits	Summer Generation	Winter Generation	Transmission	Distribution	DRIPE	Winter Peak	Winter Off Peak	Summer Peak	Summer Off Peak	Non Electric Resource	
Residential Programs												
Home Energy Assistance	\$ 287,285	\$ 2,888	\$ -	\$ 337	\$ 1,365	\$ -	\$ 9,522	\$ 18,420	\$ 1,360	\$ 1,574	\$ 251,820	
Home Performance w/Energy Star	\$ 447,028	\$ 10,600	\$ -	\$ 1,464	\$ 5,930	\$ -	\$ 10,758	\$ 20,581	\$ 1,858	\$ 2,021	\$ 393,816	
Energy Star Homes	\$ 504,810	\$ 55,298	\$ -	\$ 6,116	\$ 24,771	\$ -	\$ 58,933	\$ 106,036	\$ 13,524	\$ 15,943	\$ 224,189	
Energy Star Products	\$ 1,182,613	\$ 180,804	\$ -	\$ 20,888	\$ 84,598	\$ -	\$ 199,350	\$ 273,664	\$ 94,470	\$ 113,504	\$ 215,336	
FCM Reporting	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Subtotal Residential	\$ 2,421,737	\$ 249,589	\$ -	\$ 28,805	\$ 116,664	\$ -	\$ 278,564	\$ 418,701	\$ 111,211	\$ 133,041	\$ 1,085,161	
Commercial/Industrial Programs												
Large Business Energy Solutions	\$ 1,152,555	\$ 272,528	\$ -	\$ 32,106	\$ 130,034	\$ -	\$ 267,872	\$ 292,438	\$ 95,339	\$ 62,237	\$ -	
Small Business Energy Solutions	\$ 783,049	\$ 211,359	\$ -	\$ 24,910	\$ 100,889	\$ -	\$ 172,970	\$ 140,023	\$ 77,860	\$ 55,038	\$ -	
Municipal EE Program (per SB123)	\$ 343,181	\$ 55,724	\$ -	\$ 6,568	\$ 26,600	\$ -	\$ 82,579	\$ 75,546	\$ 35,001	\$ 28,754	\$ 32,408	
Other (Education)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
FCM Reporting	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Subtotal C&I	\$ 2,278,785	\$ 539,612	\$ -	\$ 63,584	\$ 257,523	\$ -	\$ 523,421	\$ 508,007	\$ 208,200	\$ 146,030	\$ 32,408	
Smart Start	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total	\$ 4,700,522	\$ 789,201	\$ -	\$ 92,388	\$ 374,187	\$ -	\$ 801,986	\$ 926,708	\$ 319,412	\$ 279,071	\$ 1,117,569	

**Performance Incentive Calculation
 2016**

	<u>Planned</u>	<u>Actual</u>
Commercial/Industrial Incentive		
1. Benefit/Cost Ratio	1.71	1.64
2. Threshold Benefit / Cost Ratio ¹	1.00	
3. Lifetime kWh Savings	24,695,768	20,266,000
4. Threshold Lifetime kWh Savings (65%) ²	16,052,249	
5. Budget	\$661,854	\$599,579
6. Benefit / Cost Percentage of Budget	3.75%	
	3.75%	
8. C/I Incentive	\$49,639	\$40,045
9. Cap (10%)	\$66,185	
Residential Incentive		
10. Benefit / Cost Ratio	1.79	2.16
11. Threshold Benefit / Cost Ratio ¹	1.00	
12. Lifetime kWh Savings	16,335,626	18,241,488
13. Threshold Lifetime kWh Savings (65%) ²	10,618,157	
14. Budget	\$987,604	\$894,371
15. Benefit / Cost Percentage of Budget	3.75%	
16. Lifetime kWh Percentage of Budget	3.75%	
17. Residential Incentive	\$74,070	\$77,985
18. Cap (10%)	\$98,760	
19. TOTAL INCENTIVE EARNED	\$123,709	\$118,029

Notes

1. Actual Benefit / Cost Ratio for each sector must be greater than or equal to 1.0.
2. Actual Lifetime kWh Savings for each sector must be greater than or equal to 65% of projected savings.

Planned Versus Actual Benefit / Cost Ratio by Sector
 2016

	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
1. Benefits (Value) From Eligible Programs	\$ 2,278,785	\$ 2,074,668
2. Implementation Expenses	\$ 661,854	\$ 599,579
3. Customer Contribution	\$ 619,151	\$ 621,800
4. Estimated Performance Incentive	<u>\$ 49,639</u>	<u>\$ 40,045</u>
5. Total Costs (including Performance Incentive)	\$ 1,330,644	\$ 1,261,424
6. Benefit/Cost Ratio - C&I Sector	1.71	1.64
Residential:		
7. Benefits (Value) From Eligible Programs	\$ 2,421,737	\$ 2,585,880
8. Implementation Expenses	\$ 987,604	\$ 894,371
9. Customer Contribution	\$ 292,822	\$ 302,370
10. Estimated Performance Incentive	<u>\$ 74,070</u>	<u>\$ 77,985</u>
11. Total Costs (including Performance Incentive)	\$ 1,354,496	\$ 1,196,741
12. Benefit/Cost Ratio - Residential Sector	1.79	2.16

Actual Lifetime Energy Savings by Sector and Program
 2016

	Lifetime kWh Savings	
	<u>Planned</u>	<u>Actual</u>
Commercial & Industrial:		
Large Business Energy Solutions	12,737,793	7,978,900
Small Business Energy Solutions	7,978,317	9,549,000
Municipal EE Program (per SB123)	3,979,658	2,738,100
Other (Education)	0	0
FCM Reporting	<u>0</u>	<u>0</u>
Total Commercial & Industrial Included for Incentive Calculation	24,695,768	20,266,000
Residential:		
Home Energy Assistance	531,288	812,400
Home Performance w/Energy Star	602,877	1,030,688
Energy Star Homes	3,231,914	2,699,800
Energy Star Products	11,969,548	13,698,600
FCM Reporting	<u>0</u>	<u>0</u>
Total Residential Included for Incentive Calculation	16,335,626	18,241,488

2016 End of Year Reconciliation

	<u>2016</u>
Carry Forward Balance	\$ 156,074
Funding:	
System Benefit Charge	\$ 1,346,211
RGGI Funding	\$ 209,773
FCM Payments	52,311
Interest	10,411
Total Funding for Energy Efficiency Programs	<u>\$ 1,618,705</u>
Expenses:	
Energy Efficiency Expenditures	\$ 1,495,203
Member Incentive ¹ - 2015	150,418
Member Incentive ² - 2016	118,029
Total Program Expenses	<u>\$ 1,763,650</u>
Carry Forward Balance	<u><u>\$ 11,129</u></u>

Notes

1. 2015 Member Incentive accrued in 2015 and booked in 2016

2. 2016 Member Incentive accrued in 2016 and booked in 2017