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September 21, 2020

**VIA ELECTRONIC FILING**

Ms. Kimberley A. Campbell  
Chief Clerk  
North Carolina Utilities Commission  
4325 Mail Service Center  
Raleigh, North Carolina 27699-4300

**RE: Duke Energy Carolinas, LLC's Proposed Residential New  
Construction Program  
Docket No. E-7, Sub 1155**

Dear Ms. Campbell:

Enclosed for filing with and approval by the North Carolina Utilities Commission (the "Commission") is Duke Energy Carolinas, LLC's ("DEC" or the "Company") proposed Residential New Construction Program ("Program" or "RNC"), an energy efficiency ("EE") program filed pursuant to the Commission's June 23, 2020 Order ("Order") in Docket No. E-7, Sub 1155 and in accordance with Commission Rule R8-68 and the Commission's Orders, dated February 29, 2008, and March 13, 2008, in Docket No. E-100, Sub 113, Rulemaking Proceeding to Implement Session Law 2007-397 (Senate Bill 3).

The referenced Commission Order directed the Company to file a modified Program within 90 days of the Order. The Order also contained several directives to the Company to include in this filing. Accordingly, responses to these directives are included in Attachment H of this request for approval.

The purpose of this Program is to provide incentives to residential builders in order to encourage the use of energy efficient building practices and equipment/appliances for new home construction. Eligibility is based upon the High Efficiency Residential Option ("HERO") standard and upon requirements for energy efficient appliances.

DEC believes the proposed Program will be cost-effective. The Company has modeled the new RNC Program's cost-effectiveness results, which are provided in the following table:

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Sep 21 2020

<b>Cost-Effectiveness Tests</b>	<b>Cost-Effectiveness Results</b>
Utility Cost Test ( <i>UCT</i> )	1.83
Total Resource Cost Test ( <i>TRC</i> )	1.31
Rate Impact Measure Test ( <i>RIM</i> )	0.77
Participant Test	2.14

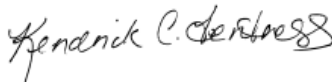
DEC requests that the Commission:

1. Approve the Residential New Construction Program tariff (provided on Attachment G) to become effective on or before October 1, 2020.
2. Find that the Residential New Construction Program meets the requirements of a “new” energy efficiency program consistent with Rule R8-69.
3. Find that all costs incurred by DEC associated with the Residential New Construction Program will be eligible for consideration for cost recovery through the annual Demand-Side Management (“DSM”) and EE rider in accordance with Rule R8-69(b).
4. Approve the proposed utility incentives for inclusion in the annual DSM/EE rider in accordance with Rule R8-69.

The attached filing package contains a more detailed description of this program, prepared in accordance with Rule R8-68(c)(2) and (3).

The Commission’s prompt attention to this matter is appreciated. Please do not hesitate to contact me if you have any questions or need additional information.

Sincerely,



Kendrick C. Fentress

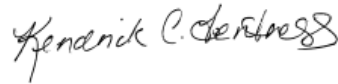
Enclosures

cc: Parties of Record

CERTIFICATE OF SERVICE

I certify that a copy of Duke Energy Carolinas, LLC's Proposed Residential New Construction Program, in Docket No. E-7, Sub 1155, has been served by electronic mail, hand delivery, or by depositing a copy in the United States Mail, 1<sup>st</sup> Class Postage Prepaid, properly addressed to parties of record.

This the 21<sup>st</sup> day of September, 2020.



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<b>R8-68 Filing Requirements</b>	
<b>Residential New Construction, Duke Energy Carolinas</b>	
<b>Filing Requirements</b>	
<b>(c)(2)(i)(a)</b>	<b>Measure / Program Name</b> Residential New Construction (“the “Program”)
<b>(c)(2)(i)(b)</b>	<b>Consideration to be Offered</b> The purpose of this Program is to provide incentives to encourage residential construction that meets or exceeds the whole house standards of the current Energy Conservation Code High Energy Residential Option (“HERO”) and the installation of high efficiency appliances.
<b>(c)(2)(i)(c)</b>	<b>Anticipated Total Cost of the Measure / Program</b> See Attachment B, Line 12.
<b>(c)(2)(i)(d)</b>	<b>Source and Amount of Funding Proposed to be Used</b> The source of funding will come from from Duke Energy Carolinas’ (“Company” or “DEC”), Demand-Side Management (DSM) and Energy Efficiency (EE) Rider, RiderRider EE.  See Attachment B, Line 12.
<b>(c)(2)(i)(e)</b>	<b>Proposed Classes of Persons to Whom This Will be Offered</b> This Program is available to builders of single and multi-family residential dwellings (three stories or less) that meet or exceed the current HERO standards and are served on a residential retail schedule.  This Program is also available to builders installing high efficiency equipment eligible for incentives, which include (but are not limited to) the following: <ul style="list-style-type: none"> <li>• High efficiency electric HVAC equipment and/or services meeting or exceeding minimum Program standards to ensure sufficient energy savings; and</li> <li>• Other high efficiency equipment, products and services as determined by the Company on a case by case basis.</li> </ul> Builders or designated representatives shall receive incentive(s) for either the inclusion of high efficiency equipment or construction meeting the HERO standard, but not both.
<b>(c)(2)(ii)(a)</b>	<b>Describe the Measure / Program’s Objective</b> This Program provides cash incentives to residential builders to encourage the use of energy efficient building practices and equipment/appliances for new home construction. Eligibility is based upon the HERO standard and upon requirements for energy efficient appliances .
<b>(c)(2)(ii)(b)</b>	<b>Describe the Measure / Program Duration</b> See Attachment A, Line 1.
<b>(c)(2)(ii)(c)</b>	<b>Describe the Measure / Program Sector and Eligibility Requirements</b> Residential builders who build new energy efficient homes and multi-family residences within DEC territory are eligible for the Program. <ul style="list-style-type: none"> <li>• Dwellings that do not fall within the current HERO standard are not eligible for whole house incentives; however, incentives may be available for qualifying high efficiency appliances.</li> </ul>

<b>(c)(2)(ii)(d)</b>	<p><b>Examples of Communication Materials and Related Cost</b></p> <p>Initial marketing for the Program is projected as \$200,000 for 2021 and 2022. Since Residential New Construction is currently offered in the Duke Energy Progress (DEP) territory, the marketing team will leverage existing DEP website content.</p> <p>This Program may also be promoted by, but not limited to:</p> <ul style="list-style-type: none"> <li>• Direct Mail</li> <li>• Email</li> <li>• Company website</li> </ul>						
<b>(c)(2)(ii)(e)</b>	<p><b>Estimated Number of Participants</b></p> <p>Estimated Participation – see Attachment A, lines 3-12. Please note the unit of measure is kWh.</p>						
<b>(c)(2)(ii)(f)</b>	<p><b>Impact that each measure or program is expected to have on the electric public utility or electric membership corporation, its customer body as a whole, and its participating North Carolina customers;</b></p> <p>Estimated Program Impact - see Attachment A, lines 13-29</p>						
<b>(c)(2)(ii)(g)</b>	<p><b>Any other information the electric public utility or electric membership corporation believes is relevant to the application, including information on competition known by the electric public utility or the electric membership corporation</b></p> <p>Not applicable.</p>						
<b>(c)(2)(iii)(a)</b>	<p><b>Proposed Marketing Plan Including Market Barriers and how the Electric Public Utility Plans to Address Them</b></p> <p>The Company will market the Program through various channels that may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Email</li> <li>• Direct mail</li> <li>• Company Website</li> </ul> <p>The Company may not be aware of all market barriers or understand the methods that can be used to address these market barriers. Potential market barriers include:</p> <table border="1" data-bbox="367 1436 1417 1749"> <thead> <tr> <th colspan="2" data-bbox="367 1436 1417 1478">Residential New Construction, DEC</th> </tr> <tr> <th data-bbox="367 1478 889 1520"><b>Market Barrier</b></th> <th data-bbox="889 1478 1417 1520"><b>Actions to Address</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="367 1520 889 1749">Builders who want to participate in the Program may be forced to change some of their existing construction practices or seek alternative equipment vendors in order to comply with the eligibility requirements.</td> <td data-bbox="889 1520 1417 1749">Incentive to offset portion of incremental cost to upgrade, allows builder to stay ahead of upcoming Code changes/cycle a more efficient and sustainable home, and reduce callbacks.</td> </tr> </tbody> </table>	Residential New Construction, DEC		<b>Market Barrier</b>	<b>Actions to Address</b>	Builders who want to participate in the Program may be forced to change some of their existing construction practices or seek alternative equipment vendors in order to comply with the eligibility requirements.	Incentive to offset portion of incremental cost to upgrade, allows builder to stay ahead of upcoming Code changes/cycle a more efficient and sustainable home, and reduce callbacks.
Residential New Construction, DEC							
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(c)(2)(iii)(b)	<b>Total Market Potential and Estimated Market Growth throughout the Duration of the Program</b>					
	<p>Market potential represents the number of eligible customers based on the projected new residential building permits issued in the DEC territory. Projected new residential construction permits are 110,529 by end of year 2021.</p> <p>Estimated Market Growth (Participation) - see Attachment A, Lines 3-12.</p>					
(c)(2)(iii)(c)	<b>Estimated Summer and Winter Peak Demand Reduction by Unit Metric and in the Aggregate by Year</b>					
	Estimated Summer and Winter Peak Demand Reduction – see Attachment A, lines 13-17 and lines 23-24 and Attachment E, lines 1-10.					
(c)(2)(iii)(d)	<b>Estimated Energy Reduction per Appropriate Unit Metric and in the Aggregate by Year</b>					
	Estimated Energy Reduction - see Attachment A, lines 18-22 and lines 25-29					
(c)(2)(iii)(e)	<b>Estimated Lost Energy Sales per Appropriate Unit metric and in the Aggregate by Year</b>					
	Lost Energy Sales – see Attachment A, lines 30-39.					
(c)(2)(iii)(f)	<b>Estimated Load Shape Impacts</b>					
	See sections (c)(2)(iii)(c) and (c)(2)(iii)(d).					
(c)(2)(iv)(a)	<b>Estimated Total and Per Unit Cost and Benefit of the Measure / Program and the Planned Accounting Treatment for Those Costs and Benefits</b>					
	<p>Total estimated cost by category- see Attachment B, lines 6-9.</p> <p>Total estimated benefit- see Attachment B, line 11.</p> <p>Total estimated per unit cost by category – see Attachment D, lines 1-25.</p> <p>Data shown on Attachment B represents present value of cost and benefits over the life of the Program.</p>					
(c)(2)(iv)(b)	<b>Type, Amount, and Reason for Any Participation Incentives and Other Consideration and to Whom They Will be Offered, Including Schedules Listing Participation Incentives and Other Consideration to be Offered</b>					
	<ul style="list-style-type: none"> <li>Cash incentives will be paid for each of the following measures. Incentives are in fixed dollar amounts per measure, with the exception of HERO-Plus, which is paid on a \$/kWh saved basis, with savings to be confirmed by a qualified Home Energy Rating System (HERS) rater recognized by the Residential Energy Services Network (RESNET) or any Company-approved Energy Services Network.</li> </ul> <p style="text-align: center;"><b>Whole-House Measures</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="background-color: #00b050; color: white;"></th> <th style="background-color: #2e5496; color: white;">Whole-House Eligibility Requirement</th> <th style="background-color: #2e5496; color: white;">Incentive</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">HERO</td> <td>Must meet Energy Conservation Code High Energy Residential Option (HERO).</td> <td style="text-align: center;">Up to \$650</td> </tr> </tbody> </table>		Whole-House Eligibility Requirement	Incentive	HERO	Must meet Energy Conservation Code High Energy Residential Option (HERO).
	Whole-House Eligibility Requirement	Incentive				
HERO	Must meet Energy Conservation Code High Energy Residential Option (HERO).	Up to \$650				

	HERO-Plus	Must meet HERO Standards and submit confirmed annual kWh savings from a Company-approved Energy Summary Report.	Up to \$0.75/kWh Saved									
<p>a) The maximum amount of kWh savings per dwelling (classified by Premise number) considered for incentive payments shall be 6,000. A minimum of 699 heated square footage is required for homes meeting HERO standards, but not achieving a HERS score, to be considered for the Whole House Measures incentive payment.</p> <p>b) Incentive payments for the Whole House Measures will be made for dwellings achieving annual energy savings of 275 kWh or more.</p> <p>c) kWh savings attributed to space heating in homes fueled exclusively by electricity shall be incentivized at up to \$0.40/kWh. All kWh savings shall be incentivized at up to \$0.75/kWh in homes that consume natural gas for space heating with at least one unit.</p>												
<b>Equipment-Only Measures</b>												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 55%;">Equipment Incentive Description</th> <th style="width: 30%;">Incentive</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">High Efficiency Central Air Conditioning ≥ 15 SEER</td> <td style="text-align: center;">Up to \$300</td> </tr> <tr> <td></td> <td style="text-align: center;">High Efficiency Air Source Heat Pump ≥ 15 SEER</td> <td style="text-align: center;">Up to \$300</td> </tr> </tbody> </table>					Equipment Incentive Description	Incentive		High Efficiency Central Air Conditioning ≥ 15 SEER	Up to \$300		High Efficiency Air Source Heat Pump ≥ 15 SEER	Up to \$300
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	High Efficiency Central Air Conditioning ≥ 15 SEER	Up to \$300										
	High Efficiency Air Source Heat Pump ≥ 15 SEER	Up to \$300										
<b>(c)(2)(iv)(c)</b>	<b>Service Limitations or Conditions Planned to be Imposed on Customers Who do not Participate in the Measure / Program</b>											
None												
<b>(c)(2)(v)</b>	<b>Cost-Effectiveness Evaluation (including the results of all cost-effectiveness tests and should include, at a minimum, an analysis of the Total Resource Cost Test, the Participant Test, the Utility Cost Test, and the Ratepayer Impact Measure Test) Description of the Methodology Used to Produce the Impact Estimates, as well as, if Appropriate, Methodologies Considered and Rejected in the Interim Leading to the Final Model Specification</b>											
<p>See Attachment B, line 13 for cost-effectiveness test scores. Savings estimates were derived using the DSMore evaluation tool with inputs based on:</p> <p>(1) Actual program costs and deemed savings/impacts as observed from the current DEP Residential New Construction Program; and (2) Current and projected new residential building permits issued in the DEC territory.</p>												

(c)(2)(vi)	<b>Commission Guidelines Regarding Incentive Programs (provide the information necessary to comply with the Commission’s Revised Guidelines for Resolution of Issues Regarding Incentive Programs, issued by Commission Order on March 27, 1996, in Docket No. M-100, Sub 124, set out as an Appendix to Chapter 8 of these rules)</b>
	The Program does not provide any inducement or incentive affecting participant’s decision to install or adopt natural gas or electric service.
(c)(2)(vii)	<b>Integrated Resource Plan (explain in detail how the measure is consistent with the electric public utility’s or electric membership corporation’s integrated resource plan filings pursuant to Rule R8-60)</b>
	Energy and capacity reductions from this program will be included for planning purposes in future integrated resource plans.
(c)(2)(viii)	<b>Other (any other information the electric public utility or electric membership corporation believes relevant to the application, including information on competition known by the electric public utility or the electric membership corporation)</b>
	Not applicable.
<b>Additional Filing Requirements</b>	
(c)(3)(i)(a)	<b>Costs and Benefits- Any Costs Incurred or Expected to be Incurred in Adopting and Implementing a Measure / Program to be Considered for Recovery Through the Annual Rider Under G.S. 62-133.9</b>
	See Attachment C, lines 11-35.
(c)(3)(i)(b)	<b>Estimated total costs to be avoided by the measure by appropriate capacity, energy and measure unit metric and in the aggregate by year</b>
	See Attachment A, lines 40-49.
(c)(3)(i)(c)	<b>Estimated participation incentives by appropriate capacity, energy, and measure unit metric and in the aggregate by year</b>
	Incentive per cumulative kW - see Attachment E, lines 21-25 Incentive per cumulative kWh - see Attachment F, lines 16-20 Incentive per participant - see Attachment D, lines 11-15
(c)(3)(i)(d)	<b>How the electric public utility proposes to allocate the costs and benefits of the measure among the customer classes and jurisdictions it serves</b>
	The program costs for EE programs targeted at North Carolina and South Carolina retail residential customers are allocated to North Carolina retail jurisdiction based on the ratio of North Carolina retail kWh sales to total retail kWh sales, then recovered only from North Carolina residential customers.
(c)(3)(i)(e)	<b>The capitalization period to allow the utility to recover all costs or those portions of the costs associated with a new program or measure to the extent that those costs are intended to produce future benefits as provided in G.S. 62-133.9(d)(1)</b>
	No costs from this program will be capitalized.



(c)(3)(i)(f)	<p><b>The electric public utility shall also include the estimated and known costs of measurement and verification activities pursuant to the Measurement and Verification Reporting Plan described in paragraph (ii)</b></p>
	<p>Total portfolio evaluation costs are estimated to be 5% of total program costs.</p>
(c)(3)(ii)(a)	<p><b>Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: Describe the industry-accepted methods to be used to evaluate, measure, verify, and validate the energy and peak demand savings estimated in (2)(iii)c and d above</b></p> <p>Evaluation, measurement and verification (EM&amp;V) actions will provide an independent, third-party report of energy savings attributable to the Program, including an impact analysis and process evaluation.</p> <p>The process evaluation will include program manager interviews to assess current operations and participating builder interviews and HERS Raters to assess satisfaction with program operations and incentive redesign structures.</p> <p>The goal of the impact evaluation is to assess the energy savings attributable to the Program. The independent, third-party EM&amp;V consultant will determine the detailed analysis methodologies, sample design and data collection activities.</p> <p>The impact evaluation is expected to consist of reviewing implementer data tracking records, conducting on-site metering and verification as needed, and building engineering modeling simulations in association with billing analysis to verify savings. Net-to-gross impacts (free ridership and spillover) will be determined through participant builder surveys, non-participant builder surveys and HERS Raters surveys.</p> <p>Where applicable, a statistically representative sample of participants will be selected for the analysis. The Company intends to follow industry-accepted methodologies for all measurement and verification activities, consistent with International Performance Measurement Verification Protocol (IPMVP) Options A, C or D depending on the measure.</p>
(c)(3)(ii)(b)	<p><b>Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: Provide a schedule for reporting the savings to the Commission</b></p> <p>The Company will report savings associated with this Program in its annual DSM/EE cost recovery proceedings.</p>
(c)(3)(ii)(c)	<p><b>Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: describe the methodologies used to produce the impact estimates, as well as, if appropriate, the methodologies it considered and rejected in the interim leading to final model specification</b></p> <p>See (c)(2)(v).</p>

(c)(3)(ii)(d)	<p><b>Measurement and Verification Reporting Plan for New Demand-Side Management and Energy Efficiency Measures: Identify any third party and include all of the costs of that third party, if the electric public utility plans to utilize an independent third party for purposes of measurement and verification</b></p>
	<p>The Company will use a third party evaluator. See section (c)(3)(i)(f) for cost.</p>
(c)(3)(iii)	<p><b>Cost Recovery Mechanism- Describe the Proposed Method of Cost Recovery From its Customers</b></p>
	<p>The Company seeks to recover program costs, net lost revenues and a utility incentive pursuant to the cost recovery mechanism approved by the Commission in Docket No. E-7, Sub 1032, as modified in Docket No. E-7, Sub 1130.</p>
(c)(3)(iv)	<p><b>Tariffs or Rates- Provide Proposed Tariffs or Modifications to Existing Tariffs That Will be Required to Implement Each Measure / Program</b></p>
	<p>The tariff proposed by the Company for this Program is included as Attachment G.</p>
(c)(3)(v)	<p><b>Utility Incentives- Indicate Whether it Will Seek to Recover Any Utility Incentives, Including, if Appropriate, Net Lost Revenues, in Addition to its Costs</b></p>
	<p>The Company seeks net lost revenues and a utility incentive pursuant to the cost recovery mechanism approved by the Commission in Docket No. E-7 Sub 1032, as modified in Docket No. E-7, Sub 1130.</p>

## Attachment A Participation

<b>Residential New Construction</b>		
1	Measure Life (Average)	22
2	Free Rider % (Average)	5.4%
3	Incremental Participants Year 1	5,710,751
4	Incremental Participants Year 2	10,452,028
5	Incremental Participants Year 3	12,479,593
6	Incremental Participants Year 4	13,083,444
7	Incremental Participants Year 5	13,767,808
8	Cumulative Participation Year 1	5,710,751
9	Cumulative Participation Year 2	16,162,779
10	Cumulative Participation Year 3	28,642,372
11	Cumulative Participation Year 4	41,725,816
12	Cumulative Participation Year 5	55,493,624
13	Cumulative Summer Coincident kW w/ losses (net free) Year 1	2,273
14	Cumulative Summer Coincident kW w/ losses (net free) Year 2	6,144
15	Cumulative Summer Coincident kW w/ losses (net free) Year 3	10,475
16	Cumulative Summer Coincident kW w/ losses (net free) Year 4	15,016
17	Cumulative Summer Coincident kW w/ losses (net free) Year 5	19,794
18	Cumulative kWh w/ losses (net free) Year 1	7,257,417
19	Cumulative kWh w/ losses (net free) Year 2	20,071,540
20	Cumulative kWh w/ losses (net free) Year 3	34,899,385
21	Cumulative kWh w/ losses (net free) Year 4	50,444,255
22	Cumulative kWh w/ losses (net free) Year 5	66,800,985
23	Per Participant Weighted Average Coincident Saved Winter kW w/ losses	0.000
24	Per Participant Weighted Average Coincident Saved Summer kW w/ losses	0.000
25	Per Participant Average Annual kWh w/ losses (net free) Year 1	1
26	Per Participant Average Annual kWh w/ losses (net free) Year 2	1
27	Per Participant Average Annual kWh w/ losses (net free) Year 3	1
28	Per Participant Average Annual kWh w/ losses (net free) Year 4	1
29	Per Participant Average Annual kWh w/ losses (net free) Year 5	1
30	Cumulative Lost Revenue (net free) Year 1	\$623,675
31	Cumulative Lost Revenue (net free) Year 2	\$1,764,699
32	Cumulative Lost Revenue (net free) Year 3	\$3,136,409
33	Cumulative Lost Revenue (net free) Year 4	\$4,636,278
34	Cumulative Lost Revenue (net free) Year 5	\$6,275,041
35	Average Lost Revenue per Participant (net free) Year 1	\$0
36	Average Lost Revenue per Participant (net free) Year 2	\$0
37	Average Lost Revenue per Participant (net free) Year 3	\$0
38	Average Lost Revenue per Participant (net free) Year 4	\$0
39	Average Lost Revenue per Participant (net free) Year 5	\$0
40	Total Avoided Costs/MW saved Year 1	\$142,399
41	Total Avoided Costs/MW saved Year 2	\$145,165
42	Total Avoided Costs/MW saved Year 3	\$148,374
43	Total Avoided Costs/MW saved Year 4	\$151,303
44	Total Avoided Costs/MW saved Year 5	\$154,101
45	Total Avoided Costs/MWh saved Year 1	\$31
46	Total Avoided Costs/MWh saved Year 2	\$31
47	Total Avoided Costs/MWh saved Year 3	\$31
48	Total Avoided Costs/MWh saved Year 4	\$32
49	Total Avoided Costs/MWh saved Year 5	\$33

## Attachment B Cost-Effectiveness Evaluation

<b>Residential New Construction</b>					
		<b>UCT</b>	<b>TRC</b>	<b>RIM</b>	<b>Participant</b>
1	Avoided T&D Electric	\$17,790,035	\$17,790,035	\$17,790,035	\$0
2	Cost-Based Avoided Elec Production	\$39,467,991	\$39,467,991	\$39,467,991	\$0
3	Cost-Based Avoided Elec Capacity	\$19,860,230	\$19,860,230	\$19,860,230	\$0
4	Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$83,960,571
5	Net Lost Revenue Net Fuel	\$0	\$0	\$58,277,567	\$0
6	Administration (EM&V) Costs	\$2,011,231	\$2,011,231	\$2,011,231	\$0
7	Implementation Costs	\$3,028,879	\$3,028,879	\$3,028,879	\$0
8	Incentives	\$36,633,682	\$0	\$36,633,682	\$36,633,682
9	Other Utility Costs	\$562,063	\$562,063	\$562,063	\$0
10	Participant Costs	\$0	\$53,377,730	\$0	\$56,424,662
11	<b>Total Benefits</b>	<b>\$77,118,256</b>	<b>\$77,118,256</b>	<b>\$77,118,256</b>	<b>\$120,594,254</b>
12	<b>Total Costs</b>	<b>\$42,235,856</b>	<b>\$58,979,903</b>	<b>\$100,513,422</b>	<b>\$56,424,662</b>
13	<b>Benefit/Cost Ratios</b>	<b>1.83</b>	<b>1.31</b>	<b>0.77</b>	<b>2.14</b>
<b>Data represents present value of costs and benefits over the life of the program.</b>					

**Attachment C**  
**Program Costs by Year**

<b>Residential New Construction</b>		
1	Incremental Participants Year 1	5,710,751
2	Incremental Participants Year 2	10,452,028
3	Incremental Participants Year 3	12,479,593
4	Incremental Participants Year 4	13,083,444
5	Incremental Participants Year 5	13,767,808
6	Total Participant Costs Year 1	\$7,169,173
7	Total Participant Costs Year 2	\$12,612,760
8	Total Participant Costs Year 3	\$14,546,999
9	Total Participant Costs Year 4	\$15,250,393
10	Total Participant Costs Year 5	\$16,046,732
11	Administration (EM&V) Costs Year 1	\$259,023
12	Administration (EM&V) Costs Year 2	\$448,869
13	Administration (EM&V) Costs Year 3	\$517,540
14	Administration (EM&V) Costs Year 4	\$542,436
15	Administration (EM&V) Costs Year 5	\$570,635
16	Implementation Costs Year 1	\$382,795
17	Implementation Costs Year 2	\$675,885
18	Implementation Costs Year 3	\$782,099
19	Implementation Costs Year 4	\$819,919
20	Implementation Costs Year 5	\$862,741
21	Total Incentives Year 1	\$4,542,654
22	Total Incentives Year 2	\$8,120,490
23	Total Incentives Year 3	\$9,512,695
24	Total Incentives Year 4	\$9,972,809
25	Total Incentives Year 5	\$10,493,967
26	Other Utility Costs Year 1	\$255,018
27	Other Utility Costs Year 2	\$181,013
28	Other Utility Costs Year 3	\$56,000
29	Other Utility Costs Year 4	\$56,000
30	Other Utility Costs Year 5	\$56,000
31	Total Utility Costs Year 1	\$5,439,490
32	Total Utility Costs Year 2	\$9,426,257
33	Total Utility Costs Year 3	\$10,868,334
34	Total Utility Costs Year 4	\$11,391,164
35	Total Utility Costs Year 5	\$11,983,343

**Attachment D**  
**Program Costs per Participant**

<b>Residential New Construction</b>		
1	Average Per Participant Administration (EM&V) Costs Year 1	\$0.05
2	Average Per Participant Administration (EM&V) Costs Year 2	\$0.04
3	Average Per Participant Administration (EM&V) Costs Year 3	\$0.04
4	Average Per Participant Administration (EM&V) Costs Year 4	\$0.04
5	Average Per Participant Administration (EM&V) Costs Year 5	\$0.04
6	Average Per Participant Implementation Costs Year 1	\$0.07
7	Average Per Participant Implementation Costs Year 2	\$0.06
8	Average Per Participant Implementation Costs Year 3	\$0.06
9	Average Per Participant Implementation Costs Year 4	\$0.06
10	Average Per Participant Implementation Costs Year 5	\$0.06
11	Average Per Participant Incentives Year 1	\$0.80
12	Average Per Participant Incentives Year 2	\$0.78
13	Average Per Participant Incentives Year 3	\$0.76
14	Average Per Participant Incentives Year 4	\$0.76
15	Average Per Participant Incentives Year 5	\$0.76
16	Average Per Participant Other Utility Costs Year 1	\$0.04
17	Average Per Participant Other Utility Costs Year 2	\$0.02
18	Average Per Participant Other Utility Costs Year 3	\$0.00
19	Average Per Participant Other Utility Costs Year 4	\$0.00
20	Average Per Participant Other Utility Costs Year 5	\$0.00
21	Average Per Participant Total Utility Costs Year 1	\$0.95
22	Average Per Participant Total Utility Costs Year 2	\$0.90
23	Average Per Participant Total Utility Costs Year 3	\$0.87
24	Average Per Participant Total Utility Costs Year 4	\$0.87
25	Average Per Participant Total Utility Costs Year 5	\$0.87

## Attachment E Program Costs per kW

<b>Residential New Construction</b>		
1	Cumulative Winter Coincident kW w/ losses (net free) Year 1	2,283
2	Cumulative Winter Coincident kW w/ losses (net free) Year 2	6,185
3	Cumulative Winter Coincident kW w/ losses (net free) Year 3	10,562
4	Cumulative Winter Coincident kW w/ losses (net free) Year 4	15,151
5	Cumulative Winter Coincident kW w/ losses (net free) Year 5	19,980
6	Cumulative Summer Coincident kW w/ losses (net free) Year 1	2,273
7	Cumulative Summer Coincident kW w/ losses (net free) Year 2	6,144
8	Cumulative Summer Coincident kW w/ losses (net free) Year 3	10,475
9	Cumulative Summer Coincident kW w/ losses (net free) Year 4	15,016
10	Cumulative Summer Coincident kW w/ losses (net free) Year 5	19,794
11	Administration (EM&V) Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$114
12	Administration (EM&V) Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$73
13	Administration (EM&V) Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$49
14	Administration (EM&V) Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$36
15	Administration (EM&V) Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$29
16	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$168
17	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$110
18	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$75
19	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$55
20	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$44
21	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$1,999
22	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$1,322
23	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$908
24	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$664
25	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$530
26	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$112
27	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$29
28	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$5
29	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$4
30	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$3
31	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$2,393
32	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$1,534
33	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$1,038
34	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 4	\$759
35	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 5	\$605

**Attachment F**  
**Program Costs per kWh**

<b>Residential New Construction</b>		
1	Cumulative kWh w/ losses (net free) Year 1	7,257,417
2	Cumulative kWh w/ losses (net free) Year 2	20,071,540
3	Cumulative kWh w/ losses (net free) Year 3	34,899,385
4	Cumulative kWh w/ losses (net free) Year 4	50,444,255
5	Cumulative kWh w/ losses (net free) Year 5	66,800,985
6	Administration (EM&V) Costs / Cumulative kWh w/ losses (net free) Year 1	\$0.04
7	Administration (EM&V) Costs / Cumulative kWh w/ losses (net free) Year 2	\$0.02
8	Administration (EM&V) Costs / Cumulative kWh w/ losses (net free) Year 3	\$0.01
9	Administration (EM&V) Costs / Cumulative kWh w/ losses (net free) Year 4	\$0.01
10	Administration (EM&V) Costs / Cumulative kWh w/ losses (net free) Year 5	\$0.01
11	Implementation Costs / Cumulative kWh w/ losses (net free) Year 1	\$0.05
12	Implementation Costs / Cumulative kWh w/ losses (net free) Year 2	\$0.03
13	Implementation Costs / Cumulative kWh w/ losses (net free) Year 3	\$0.02
14	Implementation Costs / Cumulative kWh w/ losses (net free) Year 4	\$0.02
15	Implementation Costs / Cumulative kWh w/ losses (net free) Year 5	\$0.01
16	Incentives / Cumulative kWh w/ losses (net free) Year 1	\$0.63
17	Incentives / Cumulative kWh w/ losses (net free) Year 2	\$0.40
18	Incentives / Cumulative kWh w/ losses (net free) Year 3	\$0.27
19	Incentives / Cumulative kWh w/ losses (net free) Year 4	\$0.20
20	Incentives / Cumulative kWh w/ losses (net free) Year 5	\$0.16
21	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 1	\$0.04
22	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 2	\$0.01
23	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 3	\$0.00
24	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 4	\$0.00
25	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 5	\$0.00
26	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 1	\$0.75
27	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 2	\$0.47
28	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 3	\$0.31
29	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 4	\$0.23
30	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 5	\$0.18



**RESIDENTIAL NEW CONSTRUCTION PROGRAM****PURPOSE**

The purpose of this Program is to provide incentives to encourage residential construction that meets or exceeds the whole house standards of the current Energy Conservation Code High Energy Residential Option (HERO).

**AVAILABILITY**

This Program is available to builders of single and multi-family residential dwellings (three stories or less) that meet or exceed the current HERO standards and are served on a residential retail schedule. Details of the HERO and HERO-Plus standard requirements are available on the Company website, [www.duke-energy.com](http://www.duke-energy.com).

Dwellings that do not fall within the current HERO standard are not eligible for whole house incentives.

At builder's discretion, the qualified builder may offer the home-buyer a Guarantee on the total annual electric HVAC energy consumption of the dwelling.

This Program is also available to builders installing high-efficiency installed equipment eligible for incentives which include (but are not limited to) the following:

High Efficiency electric HVAC equipment and/or services meeting or exceeding minimum Program standards to ensure sufficient energy savings; and

Other high efficiency equipment, products and services as determined by the Company on a case by case basis.

**INCENTIVES AVAILABLE TO BUILDERS**

The Company's maximum incentives for the installation of high efficiency equipment or meeting HERO/HERO-Plus standards are as follows:

- |   |                        |
|---|------------------------|
| 1. High Efficiency Air Source Heat Pump or Central Air Conditioning | Up to \$300            |
| 2. Meet or exceed HERO standard                                     | Up to \$650            |
| 3. Meet or exceed HERO-Plus standard                                | Up to \$0.75/kWh saved |
- a) The maximum amount of kWh savings per dwelling (classified by Premise number) considered for incentive payments shall be 6,000. A minimum of 699 heated square footage is required for homes meeting HERO standards, but not achieving a HERS score, to be considered for the Whole House Measures incentive payment.
  - b) Incentive payments for the Whole House Measures will be made for dwellings achieving annual energy savings of 275 kWh or more.
  - c) kWh savings attributed to space heating in homes fueled exclusively by electricity shall be incentivized at up to \$0.40/kWh. All kWh savings shall be incentivized at up to \$0.75/kWh in homes that consume natural gas for space heating with at least one unit.

For installations on and after August 1, 2020, builders or designated representatives shall receive incentive(s) for either the inclusion of high efficiency equipment or construction meeting the HERO standard, but not both.

The Company reserves the right to adjust the incentive(s) on a periodic basis as determined appropriate due to efficiency standard changes or changes to market conditions.

The effective incentive payments for eligible equipment or whole house standards are posted on the Company's website at [www.duke-energy.com](http://www.duke-energy.com).

Upon Company's approval of the builder's application, incentive payment(s) are applicable to the builder or builder's designee.

All energy conservation measures installed shall be subject to inspection by Company for the purposes of Program evaluation, measurement and verification.

Additional Program requirements such as minimum square footage required, minimum and maximum kWh savings are available on the Company website, [www.duke-energy.com](http://www.duke-energy.com).

**INCENTIVES AVAILABLE TO HOMEOWNERS**

North Carolina Original Leaf No. 169  
Effective for service on and after \_\_\_\_\_  
NCUC Docket No. E-7, Sub 1155  
Order dated \_\_\_\_\_

At builder's discretion, the qualified builder may offer the homeowner a Guarantee on the total annual electric HVAC energy consumption of the dwelling.

The Guarantee is applicable solely to the initial homeowner and offers payment based on annual electric heating and cooling energy consumption that exceeds estimated consumption based upon the HERO standard used in constructing the dwelling.

The Guarantee shall apply for no longer than three years from registration. Guarantee incentives are only available at the end of each full year (12 months) of electric service.

Upon Company's review of valid homeowner claims for payments, including a review of prudent energy management practices as defined in the Guarantee, a homeowner shall receive a qualifying payment.

**RESPONSIBILITY OF PARTIES**

The builder or designated representative shall complete and submit an application with supporting documentation. For each qualifying home built by an approved Program participant that meets all of the minimum standards and requirements of the Program, the Guarantee will start on the first day of the second calendar month after the date of sales closing or lease signing.

Applications for equipment incentives must include purchasing and contractor servicing invoices.

Applications for whole house incentives must include HERO compliance verification, and for HERO-Plus, a Home Summary Report from Company-approved Energy Software modeling report as assessed by a qualified HERS rater recognized by the Residential Energy Services Network (RESNET) or any Company-approved Energy Services Network.

The homeowner agrees to exercise prudent energy management of the home, as defined in the Responsibilities section of the Heating and Cooling Limited Usage Guarantee.

**COMPANY RETENTION OF PROGRAM BENEFITS**

Incentives and other considerations offered under the terms of this Program are understood to be an essential element in the recipient's decision to participate in the Program. Upon payment of these considerations, Company will be entitled to any and all environmental, energy efficiency, and demand reduction benefits and attributes, including all reporting and compliance rights, associated with participation in the Program.

**GENERAL**

Service rendered under this Program is subject to the provisions of the Service Regulations of the Company on file with the state regulatory commission

In ordering paragraph 2 of the Commission's June 23, 2020 Order in Docket No. E-7, Sub 1155, the Company was provided with several directives. In response to those directives, the Company provides the following:

1. That on or before 90 days after the date of this Order DEC shall file a modified RNC Program that DEC finds appropriate for achieving significant energy efficiency savings and addressing the LDCs' concerns.

Response:

The Company's proposal for its modified Residential New Construction Program has been filed within 90 days Of the Commission's June 23, 2020 Order. Furthermore, the Program as filed is expected to achieve significant energy efficiency savings and is reflective of substantive changes associated with feedback received from the gas companies.

2. In addition, DEC's filing shall include updated cost-effectiveness analyses, and estimated participation that shows number of impacted homes as well as kWh saved.

Response:

Over the five-year forecast period (2021 through 2025), the Company expects the following results:

Utility Cost Test (UCT) Score	1.83
Total Resource Cost (TRC) Test Score	1.31
Rate Impact Measure (RIM) Test	0.77
Participant Test	2.14
Impacted Homes	36,083
kWh Savings	66,800,985

3. DEC should file more specific information about how the per kWh incentive for a home will be calculated, including a sample calculation for a home with and without gas, and a clear explanation of how the “up to \$0.75/kWh” savings incentive applies to various types of energy savings, such as heating savings, lighting savings, or whole-house savings.

Response:

A participating rater uses Ekotrope or approved Company modeling software to input home’s performance characteristics and thereby models the actual home built against a standard code-built home which calculates energy/kWh savings. Below is a sample calculation for a home with and without gas reflecting how incentive applies to various types of energy savings.

<b>All Electric - 14 SEER <sup>1</sup></b>					
<b>Energy Savings</b>	<b>kWh</b>	<b>Therms</b>	<b>Incentive/kWh</b>	<b>Incentive</b>	
Space heating	1,005	-	\$ 0.40	\$	402.00
Space cooling <sup>2</sup>	320	-	0.75		240.00
Hot water	120	-	0.75		90.00
Lights and Appliances	846	-	0.75		634.50
<b>Total</b>	<b>2,291</b>	<b>-</b>	<b>\$ 0.60</b>	<b>\$</b>	<b>1,366.50</b>

<b>Natural Gas Furnace (80 AFUE/14 SEER) and Gas Water Heater <sup>1</sup></b>					
<b>Energy Savings</b>	<b>kWh</b>	<b>Therms</b>	<b>Incentive/kWh</b>	<b>Incentive</b>	
Space heating	39	85	\$ 0.75	\$	29.25
Space cooling <sup>2</sup>	309	-	0.75		231.75
Hot water	-	11	0.75		-
Lights and Appliances	846	-	0.75		634.50
<b>Total</b>	<b>1,194</b>	<b>96</b>	<b>\$ 0.75</b>	<b>\$</b>	<b>895.50</b>

<sup>1</sup> Amounts based on 2,188 sq ft three bedroom home

<sup>2</sup> ASHP blower efficiency is rolled into the HSPF rating. GFs required a separate input, resulting some small variance for cooling kWh savings.

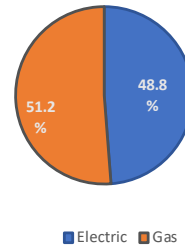
4. Further, DEC should include the data and analysis which formed the basis for DEC's statement that approximately 66% of participating new homes that receive the DEP Program's whole-house incentive choose gas heat, and that approximately 50% of the new homes that participate in the kWh savings incentive choose gas heat;

Response:

Please refer to the following tables for the requested information

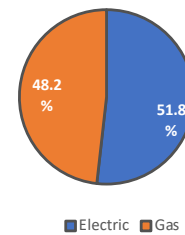
Space Heating Fuels in WHI Homes  
HERO and HERO Plus

Year	Electric	Gas	% Electric	% Gas
2016	1,564	1,682	48.2%	51.8%
2017	2,177	1,928	53.0%	47.0%
2018	1,944	2,046	48.7%	51.3%
2019	2,139	2,562	45.5%	54.5%
Totals	7,824	8,218	48.8%	51.2%
Raw AVG	1,956	2,055	48.9%	51.1%



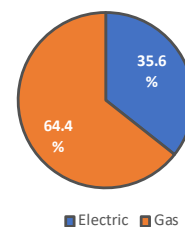
Space Heating Fuels in WHI Homes  
HERO Plus (W/HERS)

Year	Electric	Gas	% Electric	% Gas
2016	1,348	1,256	51.8%	48.2%
2017	1,666	1,496	52.7%	47.3%
2018	1,755	1,525	53.5%	46.5%
2019	1,989	2,015	49.7%	50.3%
Totals	6,758	6,292	51.8%	48.2%
Raw AVG	1,690	1,573	51.9%	48.1%



Space Heating Fuels in WHI Homes  
HERO (Non-HERS)

Year	Electric	Gas	% Electric	% Gas
2016	216	426	33.6%	66.4%
2017	511	432	54.2%	45.8%
2018	189	521	26.6%	73.4%
2019	150	547	21.5%	78.5%
Totals	1,066	1,926	35.6%	64.4%
Raw AVG	267	482	34.0%	66.0%



5. A clarification on the availability of an HVAC equipment incentive and a whole-house HERO incentive for the same premise:

Response:

A premise may receive only one incentive from the list below:

HVAC equipment incentive - Up to \$300 per unit

Air Source Heat Pump or Central Air Conditioning with SEER of 15 or greater

Whole-house HERO incentive - Up to \$650

Meet 2018 NC Energy Conservation Code High Efficiency Residential Option (HERO)

Link to HERO code: [NC HERO Code](#)

Whole-house HERO Plus incentive – Up to \$0.75 per kWh savings

Meet or exceed 2018 NC Energy Conservation Code High Efficiency Residential Option (HERO)

Participants will not receive both equipment and whole house incentives.

6. Attempt to obtain and include in its filing, data and analysis from the LDCs which shows the effect, if any, DEP Program's per kWh incentive may have had on past new construction fuel choice decisions.

Response:

The Company has worked with Public Service Company North Carolina (PSNC) and Piedmont Natural Gas (PNG) to obtain data and analysis from which shows the effect, if any, DEP Program's per kWh incentive may have had on past new construction fuel choice decisions. The following information was obtained from the PSNC and PNG:

**Piedmont Natural Gas:**

Piedmont identified the following projects that utilize electric rather than natural gas applications that it believes were influenced by the incentives paid pursuant to DEP's RNC program approved in Docket No. E-2, Sub 1021 as modified. Please note that the Piedmont indicated that it did not focus on tracking such losses prior to 2020.

- Wilmington, NC - 82 lots in Kaylies Cove Subdivision off Piner Road went all electric in 2018. Piedmont's sales losses included natural gas water heating, ranges and logs.
- Wilmington, NC - 36 lots in Channel Watch along River Road will be all electric based on a 2020 decision. Piedmont's sales losses included natural gas water heating, ranges and logs.
- Clayton, NC - 105 Townhomes in Flowers Plantation will be all electric based on a 2020 decision. Piedmont's sales losses included natural gas heat and water heating.

**Public Service Company of North Carolina:**

PSNC has reason to believe that it has lost new load due to the impact of the DEP RNC program.

- Raleigh, NC - Stoneridge subdivision. PSNC's sales losses included natural gas heat.
- Fuquay Varina, NC - Briar Gate subdivision. PSNC's sales losses included natural gas heat.
- Holly Springs, NC - Steeplechase subdivision. PSNC's sales losses included natural gas heat.
- Asheville, NC - Sulphur Springs Road. PSNC's sales losses included natural gas heat.
- Asheville, NC - Red Ramage Way. PSNC's sales losses included natural gas water heating.
- Asheville, NC - Greenwood Fields subdivision. PSNC's sales losses included natural gas water heating and gas heat in some homes.
- Asheville, NC - Craggy Park subdivision. PSNC's sales losses included natural gas heat.
- Asheville/Reynolds Mountain, NC - Summit Tower Circle. PSNC's sales losses included natural gas water heating.
- Asheville, NC - Barnard Avenue. PSNC's sales losses included natural gas water heating.

PSNC noted that it discovered one development that it found reason to believe was impacted by other DEC EE Programs.

- Durham, NC -Alexander Place townhomes. PSNC sales losses from the conversion from gas heat to electric heat. \*

\* Please note that DEP does not serve Durham, NC