



Brian L. Franklin
Associate General Counsel

Duke Energy
550 South Tryon Street
Charlotte, NC 28202

Mailing Address:
DEC45A / P.O. Box 1321
Charlotte, NC 28201

o: 980.373.4465

f: 980.373.8534

brian.franklin@duke-energy.com

October 2, 2015

VIA ELECTRONIC FILING

Ms. Gail L. Mount
Chief Clerk
North Carolina Utilities Commission
Dobbs Building
430 North Salisbury Street
Raleigh, NC 27606-5926

**RE: Duke Energy Progress, LLC Proposed Modifications to Home Energy Improvement Program
Docket Nos. E-2, Sub 936**

Dear Ms. Mount:

Enclosed for filing with and approval by the North Carolina Utilities Commission (the "Commission") is Duke Energy Progress, LLC's ("DEP" or "Company") proposed modifications to its Home Energy Improvement Program ("Program" or "HEIP"). The Program was initially approved by the Commission in its April 30, 2009 Order in Docket No. E-2, Sub 936. The Commission approved revisions to this Program in its January 31, 2012 Order in Docket No. E-2, Sub 936. This energy efficiency program was filed and approved pursuant to 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 purpose of this Program is to address the largest single source of energy consumption in a residential customer's home by encouraging residential customers in existing homes to become more energy efficient through the installation of high efficiency air conditioners and heat pumps ("HVAC"). The Program also provides incentives for duct repair, insulation and sealing, heat pump water heaters, high efficiency room air conditioners, and HVAC equipment audits.

Although this Program is a long-standing and critical component of the Company's portfolio of energy efficiency programs, it has also become one of the most challenging to run with respect to maintaining its cost effectiveness as measured by the Total Resource Cost ("TRC") test. This challenge is primarily driven by the fact that as the efficiency standards have advanced the incremental efficiency associated with each

successive SEER rating increase, the incremental cost of exceeding the standard SEER rating correspondingly increases. For this reason, the costs associated with the TRC test, which accounts for the participant's out-of-pocket cost, is in many ways the most difficult to influence because it is beyond the Company's ability to control. However, DEP is requesting the Commission to approve the following modifications to its Program in order to enhance the program's cost effectiveness:

1. Replace the single incentive provided for the installation of high efficiency HVAC equipment with a three-tiered incentive structure based on the efficiency of the HVAC system;
2. Provide for the addition of two new incentivized energy efficiency measures. These are: (1) Programmable Wi-Fi-enabled smart thermostats that are programmed at the time of installation; and (2) a Quality Installation provision that is intended to encourage the proper installation of high efficiency air conditioning systems and electric heat pumps based on manufacture guidelines; and
3. Provide for a referral marketing channel, for eligible trade allies, where all referral fee proceeds, paid by these allies, will be used to offset the Program's cost.

Duke Energy Progress believes the requested Program modifications will substantially increase the cost effectiveness of the Program. The Company has modeled the Program's cost effectiveness results, with the proposed modifications, and the results are provided in the following table:

Cost Effectiveness Tests	Cost Effectiveness Results
Utility Cost Test (<i>UCT</i>)	1.36
Total Resource Cost Test (<i>TRC</i>)	0.72
Rate Impact Measure Test (<i>RIM</i>)	0.82
Participant Test	0.94

Although the Company is attempting to increase all of the Program's cost effectiveness scores, DEP's main focus at this time is elevating the Program's TRC scores. But as previously mentioned, the current participant costs for higher efficiency HVAC equipment makes this effort challenging at this time. The Company believes that the magnitude of the problem will likely decrease over time, based on the historical pricing trends the Company experienced at the time of the last efficiency standard change. In other words, the costs of the efficient equipment will likely become less than the current estimated costs assumed in the Company's cost effectiveness analysis. As the higher efficiency equipment becomes more prevalent in the marketplace, it is anticipated that increased competition amongst manufacturers in the high efficiency HVAC market, coupled with improvements in the general manufacturing processes, will drive down the incremental costs to customers.

The relatively low TRC score of this Program was noted in the filed Affidavit of Public Staff Witness, Mr. Jack Floyd, in DEP's most recent DSM/EE cost recovery request, Docket No. E-2, Sub 1070. DEP's proposed Program modifications are a critical step toward elevating the overall cost effectiveness of this Program and with time, as the costs of the new high efficiency equipment drop, the program should pass the TRC test. For this reason, the Company believes that the Commission should allow this important and integral part of its energy efficiency program to continue to be offered through March 31, 2019, during which time it will continue to evaluate and report any changes in the programs cost effectiveness in its annual riding proceeding.

DEP requests that the Commission:

1. Approve the Residential Service - Home Energy Improvement Program HEIP-5 tariff (provided on Attachment G) at the Commission's earliest convenience;
2. Approve the Residential Home Energy Improvement Program, as modified, to remain in effect through the evaluation period ending March 31, 2019, or until such time that the Commission orders otherwise;
3. Find that the Residential Home Energy Improvement Program, with modifications, continues to meet the requirements of a "new" energy efficiency program consistent with Rule R8-69;
4. Find that all costs incurred by DEP associated with the Residential Home Energy Improvement Program will be eligible for consideration for cost recovery through the annual DSM and energy efficiency rider in accordance with Rule R8-69(b); and
5. Approve the proposed utility incentives for inclusion in the annual DSM and energy efficiency rider in accordance with Rule R8-69.

The attachment included with this request includes a more detailed description of this program, prepared in accordance with Rule R8-68(c)(2) and (3).

The Company would greatly appreciate the Commission's prompt attention to this matter.

Respectfully submitted,



Brian L. Franklin

BLF/trh
Enclosure

cc: All Parties of Record

**R8-68 Filing Requirements
Home Energy Improvement Program**

Filing Requirements

(c)(2)(i)(a) Measure / Program Name
Home Energy Improvement Program ("Program")

(c)(2)(i)(b) Consideration to be Offered
Program participants will receive prescriptive incentives for completion of qualified energy saving improvements.

(c)(2)(i)(c) Anticipated Total Cost of the Measure / Program
See Attachment B, line 12.

(c)(2)(i)(d) Source and Amount of Funding Proposed to be Used
All Program cost will be funded from the Duke Energy Progress, Inc. (the "Company" or "DEP") general fund, consisting of all sources of capital. These costs will also be subject for cost recovery through a DSM/EE annual cost recovery rider consistent with Commission Rule R8-69(b). See Attachment B, line 12.

(c)(2)(i)(e) Proposed Classes of Persons to Whom This Will be Offered
This Program is available to customers whose premise is at least one year old, is served under a residential service schedule offered by Company, and is applicable to all electric service of the same available type supplied to Customer's premises at one point of delivery through one kilowatt-hour meter under the provisions of this Program.

(c)(2)(ii)(a) Describe the Measure / Program's Objective
The objective of this Program is to provide residential customers with opportunities to lower their home's electric use through maintenance and improvements made to their central HVAC system(s) as well as the structure of their residence. As a result of increased baselines (SEER ratings) and higher cost for energy efficient equipment, the Company will implement modifications to offer a cost-effective Program. Modifications include adding two energy efficiency measures, a tier approach for approved measures and a referral marketing channel for eligible trade allies. The two new measures include a smart thermostat and quality installation. The smart thermostat is a programmable Wi-Fi enabled thermostat that is programmed at the time of installation. The quality installation encourages proper installation based on manufacture guidelines and utilization of high efficiency air conditioning systems and electric heat pumps. The Program will offer a three tier approach targeted at encouraging customers to purchase higher efficient HVAC systems. With the purchase of eligible HVAC equipment, the Program offers a prescriptive incentive for purchase and installation of a smart thermostat and quality installation. The quality installation is required for Tier 1 HVAC equipment. The smart thermostat is optional for each of the three tiers.

	Tier 1	Tier 2	Tier 3
AC Equipment	14 SEER w/ECM & Quality Installation	15 or 16 SEER w/ECM	17 or higher SEER w/ECM
HP/Geo-Thermal Equipment	14 SEER w/ECM & Quality Installation	15 or 16 SEER w/ECM	17 or higher SEER w/ECM
Quality Installation¹	Required	√	√
Smart Thermostat²	√	√	√

In addition, the Program offers a new delivery channel that provides a free referral service to the customer designed to simplify their decision-making around energy efficient purchases and take the guesswork out of finding reliable, qualified contractors with competitive offers. The referrals concept maintains the Company's role as the energy efficiency program administrator but also helps build trusted partnerships with customers and participating Trade Allies. The channel is viewed as a marketing channel by contractors who elect to participate in the referral option. Referral fees paid

¹ Quality Installation is required for Tier 1 but optional for Tier 2 and Tier 3.
² A smart thermostat is optional for each of the three tiers.

	<p>by contractors to the Company will be used to offset the total program cost. As a result of applying the referral fee and lowering the total program cost, the cost-effectiveness of the Program under all of the cost effectiveness tests has improved significantly, but with respect to the cost effectiveness tests that include the out-of-pocket costs, it still has room for improvement. Due to the new higher efficiency standards for HVAC equipment, the estimated incremental out-of-pocket cost paid by customers is significantly higher. The Company believes as the market adjusts to the new efficiency standards that the out-of-pocket cost will decrease over time. Due to the uncertainty surrounding the timing and magnitude of the decrease, the Program filing reflects a conservative approach by keeping the out-of-pocket cost consistent for each year. The Company plans to work with the third-party evaluator to determine and better understand actual out-of-pocket cost for program participants.</p> <p>Measures offered in this Program include:</p> <ul style="list-style-type: none"> • Central Air Conditioner • Air Source & Geothermal Heat Pump • Quality Installation • Smart Thermostat • HVAC Audit • Air Seal & Attic Insulation • Duct Repair & Sealing • Room Air Conditioner • Heat Pump Water Heater
(c)(2)(II)(b)	Describe the Measure / Program Duration
	Duration - see Attachment A, line 1.
(c)(2)(II)(c)	Describe the Measure / Program Sector and Eligibility Requirements
	Program is available to single family homeowners, landlords of single and multi-family residences and trade allies that implement qualified installations or services for their individually metered residences.
(c)(2)(II)(d)	Examples of Communication Materials and Related Cost
	Cost associated with communications materials for this program through various communication channels is approximately \$2,800,000 and is embedded in the cost displayed in Attachment B, line 9.
	<p>This Program may be promoted by, but not limited to:</p> <ul style="list-style-type: none"> • Trade Allies • Direct Mail • TV/Radio • Community Events • Bill Inserts • Retailer Point-of-Sale
(c)(2)(II)(e)	Estimated Number of Participants
	Estimated DEP Participation - see Attachment A, lines 3 - 8.
(c)(2)(II)(f)	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;
	Estimated DEP Program Impact - see Attachment A, lines 9 - 31.
(c)(2)(II)(g)	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.
	Not applicable.
(c)(2)(III)(a)	Proposed Marketing Plan Including Market Barriers and how the Electric Public Utility Plans to Address Them. ("Program Manager")
	<p>The Company will market the Program through various marketing channels that may include but are not limited to:</p> <ul style="list-style-type: none"> • Trade Allies

- Direct Mail
- TV/Radio
- Community Events
- Bill Inserts
- Retailer Point-of-Sale

The Company may not be aware of all market barriers or understands the methods that can be used to address these market barriers. Potential market barriers include:

MARKET BARRIERS	ACTIONS TO ADDRESS
Communication of program protocols to trade allies	The Company will clearly define and communicate program requirements and measure protocols to potential contractors prior to participation in the program. The Company will administer training specific to the Program and measures listed, requiring successful completion and a signed agreement evidencing the trade contractors understanding of and their agreement to perform the services in compliance with program specifications.
Recruitment of Trade Allies	The Program anticipates there may be initial recruitment barriers registering the required number of Trade Allies who can consistently meet the performance metrics required to participate in the referrals delivery channel.
Customer understands of the Company's motivation in promoting energy efficiency.	The Company will communicate how this program benefits not only the customer but also the environment.
Customer adoption of referrals delivery channel	The Company will need to market in the appropriate channels to bring high levels of awareness to customers that the Program now offers reputable high quality contractors who are selected and monitored to perform HVAC and home performance based services. Communication with the customer on why and how these services are available to them will encourage adoption.

(c)(2)(iii)(b)	Total Market Potential and Estimated Market Growth throughout the Duration of the Program; ("Program Manager")
	Market potential represents the number of eligible customers based on eligibility requirements defined in the program tariff. There are approximately 1,200,000 residential customers that meet the criteria for this program. Estimated Market Growth (Participation) - see Attachment A, lines 3 - 8.
(c)(2)(iii)(c)	Estimated Summer and Winter Peak Demand Reduction by Unit Metric and in the Aggregate by Year
	Estimated Summer and Winter Peak Demand Reduction – see Attachment A, lines 9 – 11 and 15 - 16 and Attachment E, lines 1 - 6.
(c)(2)(iii)(d)	Estimated Energy Reduction per Appropriate Unit Metric and in the Aggregate by Year
	Estimated Energy Reduction - see Attachment A, lines 12 - 14 and lines 17 - 19.
(c)(2)(iii)(e)	Estimated Lost Energy Sales per Appropriate Unit metric and In the Aggregate by Year
	Lost Energy Sales - see Attachment A, lines 20 - 25.
(c)(2)(iii)(f)	Estimated Load Shape Impacts
	See responses to (c)(2)(iii)(c) and (c)(c)(iii)(d).
(c)(2)(iv)(a)	Estimated Total and Per Unit Cost and Benefit of the Measure / Program and the Planned Accounting Treatment for Those Costs and Benefits

	<p>Costs associated with this program will be subject to deferral and amortization. DEP is also eligible to recovery a return on any outstanding deferred balance [R8-68(b)(6)].</p> <p>Total estimated cost by category- see Attachment B lines 6 - 9. Total estimated benefit- see Attachment B line 11. Total estimated per unit cost by category – see Attachment D lines 1 - 15.</p> <p>Data shown on Attachment B represents present value of cost and benefits over the life of the measure. The cost shown in Attachment B reflects the reduction of Program cost offset by projected referrals fees.</p>																		
(c)(2)(iv)(b)	<p>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 (“Program Manager”)</p> <p>Prescriptive incentives will be awarded on a consistent and nondiscriminatory basis to eligible customers who have successfully implemented a qualifying measure and submitted a completed application in compliance with program requirements. Incentive distribution may include, but are not limited to Trade Ally rebates, rebate checks, gift cards, pre-paid credit cards, and etc.</p> <table border="1" data-bbox="253 720 1408 1066"> <thead> <tr> <th>MEASURE</th> <th>INCENTIVE AMOUNT</th> </tr> </thead> <tbody> <tr> <td>Tier 1 AC or Heat Pump Equipment</td> <td>\$250</td> </tr> <tr> <td>Tier 2 AC or Heat Pump Equipment</td> <td>\$300</td> </tr> <tr> <td>Tier 3 AC or Heat Pump Equipment</td> <td>\$400</td> </tr> <tr> <td>Quality Installation (QI)</td> <td>\$75</td> </tr> <tr> <td>Smart Thermostat (ST)</td> <td>\$125</td> </tr> <tr> <td>Attic Insulation Air Sealing</td> <td>\$500</td> </tr> <tr> <td>Duct Sealing</td> <td>\$190</td> </tr> <tr> <td>HVAC Audit (Tune-Up)</td> <td>\$100</td> </tr> </tbody> </table>	MEASURE	INCENTIVE AMOUNT	Tier 1 AC or Heat Pump Equipment	\$250	Tier 2 AC or Heat Pump Equipment	\$300	Tier 3 AC or Heat Pump Equipment	\$400	Quality Installation (QI)	\$75	Smart Thermostat (ST)	\$125	Attic Insulation Air Sealing	\$500	Duct Sealing	\$190	HVAC Audit (Tune-Up)	\$100
MEASURE	INCENTIVE AMOUNT																		
Tier 1 AC or Heat Pump Equipment	\$250																		
Tier 2 AC or Heat Pump Equipment	\$300																		
Tier 3 AC or Heat Pump Equipment	\$400																		
Quality Installation (QI)	\$75																		
Smart Thermostat (ST)	\$125																		
Attic Insulation Air Sealing	\$500																		
Duct Sealing	\$190																		
HVAC Audit (Tune-Up)	\$100																		
(c)(2)(iv)(c)	<p>Service Limitations or Conditions Planned to be Imposed on Customers Who do not Participate in the Measure / Program</p> <p>None</p>																		
(c)(2)(v)	<p>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 “Program Manager to update Analytics to review can confirm source documentation is available to support assumptions”</p> <p>The source of the impacts for the existing tune-up, and home performance measures included in this Program is the 2012 EM&V Report for the Home Energy Improvement Program filed the North Carolina Utilities Commission in Docket No. E-2, Sub 936 on December 18, 2013.</p> <p>Navigant Consulting is the source of the impacts for the heat pump, central air conditioner, smart thermostat and quality installation measures.</p> <p>See Attachment B, line 13 for cost effectiveness test scores.</p>																		
(c)(2)(vi)	<p>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)</p> <p>The Program does not provide any inducement or incentive affecting a residential customer’s decision to install or adopt natural gas or electric service.</p>																		
(c)(2)(vii)	<p>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)</p>																		

	Energy and capacity reductions from this program will be included for planning purposes in future integrated resource plans.
(c)(2)(viii)	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) Not applicable.
Additional Filing Requirements	
(c)(3)(i)(a)	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 See Attachment C, lines 7 - 21.
(c)(3)(i)(b)	Estimated total costs to be avoided by the measure by appropriate capacity, energy and measure unit metric and in the aggregate by year See Attachment A, lines 26 - 31.
(c)(3)(i)(c)	Estimated participation incentives by appropriate capacity, energy, and measure unit metric and in the aggregate by year. Incentive per cumulative kW - see Attachment E, lines 13 - 15. Incentive per cumulative kWh - see Attachment F, lines 10 - 12. Incentive per participant - see Attachment D, lines 7 - 9.
(c)(3)(i)(d)	How the electric public utility proposes to allocate the costs and benefits of the measure among the customer classes and jurisdictions it serves. 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)	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). No costs from this program will be capitalized.
(c)(3)(i)(f)	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). (EM&V team to confirm assumption) Total portfolio evaluation costs are estimated to be 5 percent of total program cost.
(c)(3)(ii)(a)	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 (EM&V to update this section). Evaluation, measurement and verification actions will provide an independent, third-party report of energy savings attributable to the program including an impact analysis and process evaluation. The impact analysis will review deemed savings assumptions and verify equipment installations. Selective monitoring and site visits will be performed at a sample of participant homes. Depending on the measure and participation levels, the evaluator will select billing analysis and/or engineering-based estimation of energy and demand savings to determine energy efficiency impacts. A statistically representative sample of participants will be selected for the analysis. The process evaluation will include participant and non-participant surveys, along with vendor satisfaction surveys or interviews, to estimate net-to-gross and uncover issues that might impact customer satisfaction or program effectiveness. 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. This evaluation plan is consistent with IPMVP Options C (retrofit) and D (new construction).
(c)(3)(ii)(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; The Company will report savings associated with this program in its annual DSM/EE cost recovery proceedings.
(c)(3)(II)(c)	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; and See (c)(2)(v)
(c)(3)(II)(d)	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 (EM&V to update and remove name of third party.) The Company intends to use a third party evaluator. See section (c)(3)(i)(f) for cost.
(c)(3)(III)	Cost Recovery Mechanism- Describe the Proposed Method of Cost Recovery From its Customers The Company seeks to recover program costs, net lost revenues and a utility incentive in Rider EE.
(c)(3)(IV)	Tariffs or Rates- Provide Proposed Tariffs or Modifications to Existing Tariffs That Will be Required to Implement Each Measure / Program The tariff proposed by the Company for this Program is included as Attachment G.
(c)(3)(V)	Utility Incentives- Indicate Whether it Will Seek to Recover Any Utility Incentives, Including, if Appropriate, Net Lost Revenues, in Addition to its Costs The Company seeks to recover program costs, net lost revenues and a utility incentive pursuant to the cost recovery mechanism approved by the North Carolina Utilities Commission in Docket E-2, Sub 931 on January, 2015.

Attachment A
Participation

Home Energy Improvement Program		
1	Measure Life (Average)	14
2	Free Rider % (Average)	22.96%
3	Incremental Participants Year 1	8,439
4	Incremental Participants Year 2	8,704
5	Incremental Participants Year 3	9,163
6	Cumulative Participation Year 1	8,439
7	Cumulative Participation Year 2	17,143
8	Cumulative Participation Year 3	26,306
9	Cumulative Summer Coincident kW w/ losses (net free) Year 1	1,134
10	Cumulative Summer Coincident kW w/ losses (net free) Year 2	2,307
11	Cumulative Summer Coincident kW w/ losses (net free) Year 3	3,537
12	Cumulative kWh w/ losses (net free) Year 1	2,519,119
13	Cumulative kWh w/ losses (net free) Year 2	5,129,756
14	Cumulative kWh w/ losses (net free) Year 3	7,873,848
15	Per Participant Weighted Average Coincident Saved Winter kW w/ losses	0.220
16	Per Participant Weighted Average Coincident Saved Summer kW w/ losses	0.177
17	Per Participant Average Annual kWh w/ losses (net free) Year 1	299
18	Per Participant Average Annual kWh w/ losses (net free) Year 2	299
19	Per Participant Average Annual kWh w/ losses (net free) Year 3	299
20	Cumulative Lost Revenue (net free) Year 1	\$243,455
21	Cumulative Lost Revenue (net free) Year 2	\$508,247
22	Cumulative Lost Revenue (net free) Year 3	\$799,776
23	Average Lost Revenue per Participant (net free) Year 1	\$29
24	Average Lost Revenue per Participant (net free) Year 2	\$30
25	Average Lost Revenue per Participant (net free) Year 3	\$30
26	Avoided Costs/MW saved Year 1	\$125,589
27	Avoided Costs/MW saved Year 2	\$128,672
28	Avoided Costs/MW saved Year 3	\$131,692
29	Avoided Costs/MWh saved Year 1	\$47
30	Avoided Costs/MWh saved Year 2	\$48
31	Avoided Costs/MWh saved Year 3	\$48

Attachment B
Cost-Effectiveness Evaluation

Home Energy Improvement Program					
		UCT	TRC	RIM	Participant
1	Avoided T&D Electric	\$2,734,702	\$2,734,702	\$2,734,702	\$0
2	Cost-Based Avoided Elec Production	\$5,558,951	\$5,558,951	\$5,558,951	\$0
3	Cost-Based Avoided Elec Capacity	\$3,083,750	\$3,083,750	\$3,083,750	\$0
4	Participant Elec Bill Savings (gross)	\$0	\$0	\$0	\$10,875,956
5	Net Lost Revenue Net Fuel	\$0	\$0	\$5,544,120	\$0
6	M&V Costs	\$651,549	\$651,549	\$651,549	\$0
7	Implementation Costs	(\$989,125)	(\$989,125)	(\$989,125)	\$0
8	Incentives	\$6,748,020	\$0	\$6,748,020	\$6,748,020
9	Other Utility Costs	\$1,946,295	\$1,946,295	\$1,946,295	\$0
10	Participant Costs	\$0	\$14,140,948	\$0	\$18,727,060
11	Total Benefits	\$11,377,402	\$11,377,402	\$11,377,402	\$17,623,976
12	Total Costs	\$8,356,739	\$15,749,667	\$13,900,859	\$18,727,060
13	Benefit/Cost Ratios	1.36	0.72	0.82	0.94
Data represents present value of costs and benefits over the life of the program.					

Attachment C
Program Costs by Year

Home Energy Improvement Program		
1	Incremental Participants Year 1	8,439
2	Incremental Participants Year 2	8,704
3	Incremental Participants Year 3	9,163
4	Total Participant Costs Year 1	\$6,372,957
5	Total Participant Costs Year 2	\$6,647,596
6	Total Participant Costs Year 3	\$6,987,806
7	M&V Costs Year 1	\$222,745
8	M&V Costs Year 2	\$230,903
9	M&V Costs Year 3	\$242,362
10	Implementation Costs Year 1	(\$305,580)
11	Implementation Costs Year 2	(\$354,121)
12	Implementation Costs Year 3	(\$401,247)
13	Total Incentives Year 1	\$2,302,200
14	Total Incentives Year 2	\$2,394,025
15	Total Incentives Year 3	\$2,512,770
16	Other Utility Costs Year 1	\$716,091
17	Other Utility Costs Year 2	\$684,359
18	Other Utility Costs Year 3	\$671,916
19	Total Utility Costs Year 1	\$2,935,457
20	Total Utility Costs Year 2	\$2,955,166
21	Total Utility Costs Year 3	\$3,025,802

Attachment D
Program Costs per Participant

Home Energy Improvement Program		
1	Average Per Participant M&V Costs Year 1	\$26
2	Average Per Participant M&V Costs Year 2	\$27
3	Average Per Participant M&V Costs Year 3	\$26
4	Average Per Participant Implementation Costs Year 1	(\$36)
5	Average Per Participant Implementation Costs Year 2	(\$41)
6	Average Per Participant Implementation Costs Year 3	(\$44)
7	Average Per Participant Incentives Year 1	\$273
8	Average Per Participant Incentives Year 2	\$275
9	Average Per Participant Incentives Year 3	\$274
10	Average Per Participant Other Utility Costs Year 1	\$85
11	Average Per Participant Other Utility Costs Year 2	\$79
12	Average Per Participant Other Utility Costs Year 3	\$73
13	Average Per Participant Total Utility Costs Year 1	\$348
14	Average Per Participant Total Utility Costs Year 2	\$340
15	Average Per Participant Total Utility Costs Year 3	\$330

Attachment E
Program Costs per kW

Home Energy Improvement Program		
1	Cumulative Winter Coincident kW w/ losses (net free) Year 1	1,434
2	Cumulative Winter Coincident kW w/ losses (net free) Year 2	2,921
3	Cumulative Winter Coincident kW w/ losses (net free) Year 3	4,479
4	Cumulative Summer Coincident kW w/ losses (net free) Year 1	1,134
5	Cumulative Summer Coincident kW w/ losses (net free) Year 2	2,307
6	Cumulative Summer Coincident kW w/ losses (net free) Year 3	3,537
7	M&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$196
8	M&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$100
9	M&V Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$69
10	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	(\$270)
11	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	(\$153)
12	Implementation Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	(\$113)
13	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$2,031
14	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$1,038
15	Incentives / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$710
16	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$632
17	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$297
18	Other Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$190
19	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 1	\$2,589
20	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 2	\$1,281
21	Total Utility Costs / Cumulative Summer Coincident kW w/ losses (net free) Year 3	\$855

Attachment F
Program Costs per kWh

Home Energy Improvement Program		
1	Cumulative kWh w/ losses (net free) Year 1	2,519,119
2	Cumulative kWh w/ losses (net free) Year 2	5,129,756
3	Cumulative kWh w/ losses (net free) Year 3	7,873,848
4	M&V Costs / Cumulative kWh w/ losses (net free) Year 1	\$0.09
5	M&V Costs / Cumulative kWh w/ losses (net free) Year 2	\$0.05
6	M&V Costs / Cumulative kWh w/ losses (net free) Year 3	\$0.03
7	Implementation Costs / Cumulative kWh w/ losses (net free) Year 1	(\$0.12)
8	Implementation Costs / Cumulative kWh w/ losses (net free) Year 2	(\$0.07)
9	Implementation Costs / Cumulative kWh w/ losses (net free) Year 3	(\$0.05)
10	Incentives / Cumulative kWh w/ losses (net free) Year 1	\$0.91
11	Incentives / Cumulative kWh w/ losses (net free) Year 2	\$0.47
12	Incentives / Cumulative kWh w/ losses (net free) Year 3	\$0.32
13	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 1	\$0.28
14	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 2	\$0.13
15	Other Utility Costs / Cumulative kWh w/ losses (net free) Year 3	\$0.09
16	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 1	\$1.17
17	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 2	\$0.58
18	Total Utility Costs / Cumulative kWh w/ losses (net free) Year 3	\$0.38

**Attachment G
Tariff**

Duke Energy Progress, LLC
(North Carolina Only)

RP-2

**RESIDENTIAL SERVICE – HOME ENERGY IMPROVEMENT
PROGRAM HEIP-5**

PURPOSE

The purpose of this program is to offer customers a variety of energy conservation measures designed to increase energy efficiency in existing residential dwellings that can no longer be considered new construction. This Program will utilize a network of customer-selected contractors from a prequalified list provided by Company to install energy efficiency measures: (1) to encourage the installation of high efficiency central air conditioning (AC) and heat pump systems; (2) to encourage attic insulation and sealing; (3) to perform diagnostic maintenance on heat pumps or central AC units; (4) to encourage the installation of heat pump water heaters, (5) to encourage high efficiency room AC; and (6) to encourage the installation of a smart thermostat and/or Quality Installation of qualifying high efficiency central AC and heat pump (HVAC) systems.

AVAILABILITY

The program is available to customers whose premise is at least one year old, is served under a residential service schedule by Company, and is applicable to all electric service of the same available type supplied to Customer's premises at one point of delivery through one kilowatt-hour meter under the provisions of this Program.

Incentives are only applicable to measures installed by a prequalified contractor approved by Company; however, high efficiency room AC(s) may be self-installed and do not require the use of a prequalified contractor.

INCENTIVE PAYMENTS

For installations on and after January 1, 2016, Customer shall receive the following incentives for qualifying equipment or other measures:

1. For air duct repair, 50% of the repair cost, not to exceed \$190 per unit per dwelling;
2. For increasing attic insulation to a minimum of R30 and attic air sealing, 37.5 cents per square foot, not to exceed \$500 per dwelling;
3. For the installation of qualifying high efficiency central AC, heat pumps, and geothermal heat pumps, the tiered incentive amounts are as follows:

		Incentive
Tier 1	AC or heat pump with SEER of 14 or greater but less than 15 or Geothermal heat pump with EER of 11.5 or greater but less than 12.3. The HVAC system must meet the Quality Installation Standard of 90%.	\$ 250.00
Tier 2	AC with SEER of 15 or greater but less than 17 or Geothermal heat pump with EER of 12.3 or greater but less than 13.6.	\$ 300.00
	Quality Installation Standard (Optional for Tier 2)	\$ 75.00
Tier 3	AC with SEER of 17 or greater or Geothermal heat pump with EER of 13.6 or greater	\$ 400.00
	Quality Installation Standard (Optional for Tier 2)	\$ 75.00

4. For Wi-Fi enabled Smart Thermostat installed and programmed at time of qualifying HVAC system installation, \$125 per unit.
5. For Quality Installation provided at time of the qualifying HVAC system installation, \$75 per measure for Tier 2 and Tier 3.
6. For HVAC audit, consisting of condenser coil cleaning plus correcting refrigerant charge and adjusting air flow using Company approved diagnostic tool, \$100. Customer shall be eligible for an HVAC audit incentive only once for the HVAC equipment life.
7. For the installation of heat pump water heater(s), \$350 per dwelling.
8. For high efficiency room AC(s), \$25 per unit with a maximum of 4 units per customer account subject to an incentive.

RESPONSIBILITY OF PARTIES

A dwelling is eligible to receive an incentive for each central AC or heat pump, and heat pump water heater installed based on the efficiency level. The work performed for all measures must be completed by a Company prequalified contractor who has met the program training requirements and guidelines as set forth by the Program; however, high efficiency room ACs may be self-installed and do not require the use of a prequalified contractor.

CONTRACT TERM

Customer shall submit the required incentive application form, including required documentation such as equipment cut sheets and the original contractor invoice as provided by the contractor based upon program requirements, within ninety (90) days of completion of the work. Incentive application forms received after that date will not be eligible to receive an incentive payment.

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

OTHER CONDITIONS

The following equipment specifications shall be met in order to be eligible to receive an incentive:

High Efficiency Heat Pump Replacements - the replacement unit(s) shall be a minimum SEER (Seasonal Energy Efficiency Ratio) of 14 with ECM.

High Efficiency Central AC Replacements - the replacement unit(s) shall be a minimum SEER of 14 with ECM.

Geothermal Heat Pumps - shall be a minimum EER (Energy Efficiency Ratio) of 11.5.

Attic Insulation - shall require air leak sealing, bring the insulation up to a minimum of R30 and existing insulation shall not be higher than R19.

Heat Pump Water Heaters – the replacement unit(s) shall be Energy Star qualified and have a minimum Energy Factor of 2.0.

High Efficiency Room AC – the unit(s) shall be Energy Star qualified.

Smart Thermostat –Wi-Fi enabled, programmed and installed at time of installation.

Quality Installation- HVAC installation checklist to achieve 90% net capacity of the system as rated by AHRI (Air Conditioning Heating and Refrigeration Institute).

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.

Supersedes Programs HEIP-3C
Effective for service rendered on and after _____
NCUC Docket No. E-2, Sub 936