

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-2, SUB 936
DOCKET NO. E-2, SUB 1174

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of
Request by Duke Energy Progress,)
LLC, for Approval of Modifications to) PUBLIC STAFF COMMENTS
Residential Smart \$aver Energy)
Efficiency Program)

NOW COMES THE PUBLIC STAFF - North Carolina Utilities Commission (Public Staff), by and through its Executive Director, Christopher J. Ayers, pursuant to Commission Rule R8-68(d)(2), and responds to the application filed December 18, 2018, by Duke Energy Progress, LLC (DEP or the Company), for approval of its proposed modifications to its Residential Smart \$aver Energy Efficiency Program (Program) and associated tariff.

1. In its November 29, 2018, *Order Approving Demand Side Management and Energy Efficiency (DSM/EE) Rider and Requiring Filing of Customer Notice* in Docket No. E-2, Sub 1174 (Sub 1174 Order), the Commission directed DEP to propose modifications to its Residential Smart \$aver Energy Efficiency Program no later than December 31, 2018, with the goal of restoring the Total Resource Cost (TRC) test score to 1.0 or greater, and further required the Company to include a discussion of the impact of these modifications and any other actions it has taken to improve cost-effectiveness in the next year's demand-side management (DSM)/energy efficiency (EE) rider proceeding.

2. On December 18, 2018, the Company filed its proposed modifications to the Program, which the Company stated encompassed five modifications resulting in a projected TRC score of 1.35.

3. The Public Staff's investigation included review of the application with respect to: (a) N.C. Gen. Stat. § 62-133.9; (b) Commission Rule R8-68; (c) the revised Cost Recovery and Incentive Mechanism for Demand-Side Management and Energy Efficiency Programs as agreed upon by DEP, the Public Staff, the Southern Alliance for Clean Energy, and the Natural Resources Defense Council, filed October 29, 2014, in Docket No. E-2, Sub 931 (Mechanism); (d) the Commission's *Order Approving Revised Cost Recovery and Incentive Mechanism and Granting Waivers*, issued January 20, 2015, in Docket No. E-2, Sub 931; (e) the Commission's *Order Approving DSM/EE Rider, Revising DSM/EE Mechanism, and Requiring Filing of Proposed Customer Notice* issued November 27, 2017, in Docket No. E-2, Sub 1145 (Sub 1145 Order) (collectively referred to as the "Revised Mechanism"); and (f) the Sub 1174 Order. The Public Staff's investigation also involved submission of data requests to DEP regarding the Program and review of the responses. Based on its investigation, the Public Staff submits the following comments for the Commission's consideration.

Modifications to the Program

4. The Company's request includes five modifications:
- Acknowledging lower actual incremental customer costs;

- Improving trade ally participation to make it more streamlined and less costly;
- Reducing the program administration costs;
- Implementing a three-year transition period to a referral-only channel; and
- Introducing an online channel.

5. The Company indicates that these modifications are designed to reduce operating and administrative costs and improve cost effectiveness. In response to the Public Staff's data request, DEP provided data that illustrated decreasing trends in customer, trade ally, and administrative costs that were based on recent experience. It appears that the Company expects these trends to continue so that it may be able to maintain the non-referral channel that delivers much of the participation in the Program.

6. The Company's modification request includes the introduction of a new channel for participation in the Program -- the Company's Online Savings Store (OSS). By including the new OSS channel, the Company has introduced a number of new measures (OSS measures) into the Program:

- Energy Star Air Purifiers;
- Energy Star Dehumidifiers;
- LED Fixtures;
- Photocell Outdoor Light Fixtures;
- Smart Strips;

- WiFi Thermostats;
- Thermostatic Valve (TSV) Shower Start Devices;
- Low Flow Showerhead 1.5 gpm with TSV Shower Start Devices; and
- Specialty LED Bulbs (3 way, A Line, Candelabra, Globe, Recessed, Recessed Outdoor).¹

These measures are self-installed by the customer, unlike the HVAC and insulation-type measures that are directly installed by a contractor.

7. The Public Staff also identified two other DEP-proposed modifications to the tariff. First, the Company proposes to eliminate from the tariff the maximum incentives for the measures in the Program, which should not have a material impact on the performance of the Program. Second, the Company proposes to reduce the initial incentive for HVAC (Heating, Ventilation, and Air Conditioning) equipment from \$600 to \$400, which would reduce the costs of the Program, thereby improving the TRC, Utility Cost (UC), and Ratepayer Impact Measure (RIM) cost effectiveness test results.

8. The combined effects of the Company's proposed modifications, as modeled by the Company, result in a projected TRC score of 1.35 over the next five years.

Cost Effectiveness

9. The Public Staff notes several changes or factors that impact this

¹ Specialty bulbs will not be impacted by the upcoming federal lighting standard change (EISA 2020) scheduled to take effect January 1, 2020.

increased TRC score.

10. First, the Company used a new Evaluation, Measurement, and Verification (EM&V) report² for the Program to update the per-unit and free-ridership impacts for the HVAC-related measures that will be installed going forward.

11. Second, the Company updated its anticipated incremental participation from that used in its Sub 1174 rider filing, which represented the number of customers participating in the Program. With the inclusion of the self-installed measures obtainable through the OSS channel, the Company has modified its method of counting incremental participation – instead of using the number of customers, the Company counts the number of "EE measures" installed. Inclusion of the OSS measures in the Program results in a significant increase in incremental participation, jumping from an estimate of approximately 8,000 participants for calendar year 2019 as filed in Sub 1174, to approximately 450,000 participants estimated for calendar year 2019. When participation is evaluated by technology type, approximately 90+% of the anticipated participation (defined as measures purchased) for the Program over all five forecast years is projected to be driven by lighting-related measures.

12. Third, one of the biggest challenges to maintaining cost effectiveness

² "Smart Saver Evaluation Report – May 1, 2016 – April 30, 2017," dated May 25, 2018. DEP will file this EM&V report in the upcoming 2019 DSM/EE rider proceeding, and the Public Staff will review the report in that proceeding. However, for purposes of this program approval proceeding, the Public Staff has provisionally accepted the findings of the report, but reserves the right to challenge those findings in the 2019 DSM/EE rider proceeding.

of DSM/EE programs is the recent trend of reductions in the avoided costs that are applied to a program. In the Sub 1145 Order, the Commission approved modifications to the Mechanism that required the updating of the underlying avoided costs (energy and capacity) used in the cost effectiveness evaluations from each biennial avoided cost proceeding. Accordingly, the Company calculated the Program's benefits that are incorporated into the cost-benefit analysis using the 2016 biennial avoided cost proceeding as required by the revised Mechanism.

13. Fourth, there is a difference in methodology used for calculating cost-effectiveness in a rider proceeding as opposed to an application for approval of a new program or a program modification. The data used for modeling cost-effectiveness in the rider filing were designed to evaluate one participant for a one-year period (Vintage 2019). Additionally, the Company's Sub 1174 rider application used estimated North Carolina retail benefits, costs, and participant data in determining the level of cost effectiveness for the Program applicable to Vintage 2019. In this program modification filing, as with initial program approval, the Company is using a broader set of parameters to determine cost effectiveness than in the rider proceeding: system level (North and South Carolina retail) estimated projections of participation, costs, and benefits over a five-year period. The data examined in the rider proceeding use a snapshot of performance expected in the one-year rate period and are considered appropriate for annual review. The data examined for program modification approval look at performance over a longer term as programs are generally expected to be available to customers for a number of years.

Public Staff Evaluation of the Proposed Modifications

14. The Public Staff evaluated the design data and cost-effectiveness evaluations provided by the Company to gain an understanding of which measures were contributing the most savings and which were the most cost-effective. Using data supplied by the Company, the Public Staff categorized the measures into the three technology types and calculated the anticipated cost-effectiveness test score of each category and for the entire suite of measures included in the modified Program for Program Year 2019, a one year look as is used for a rider filing.

15. As shown in the table below, under this approach, the projected TRC for the HVAC measures is 0.98, while the water and lighting measures have projected TRCs well above 1.0, and thus bring the overall one-year TRC for the proposed Program to 1.63.

Technology ³	TRC	UCT	RIM	Participant
HVAC (traditional Program Measures)	0.98	1.53	0.67	1.79
Water	1.78	2.44	0.61	5.19
Lighting	3.39	2.92	0.62	10.79
Overall	1.63	2.09	0.64	3.92

16. Using the methodology for evaluation of a program approval or modification with five year projections, the traditional HVAC measures⁴ have a

³ The Public Staff applied its own separation of technology type to classify measures as HVAC, Lighting, or Water measure types based on data provided by the Company.

⁴ "Traditional HVAC measures" are the measures currently offered for this program and that were used to calculate cost effectiveness for the 2018 DEP Rider.

TRC of 1.03, and the proposed program has a projected TRC of 1.35.

17. As noted above, the Public Staff determined that lighting represented approximately 95% of the measures projected to be installed over the next five years. On a kWh savings basis, lighting represents approximately 72% of the projected savings, HVAC 28%, and water measures less than 1% on a five-year cumulative basis.

18. The Public Staff recognizes that HVAC measures are fundamental to the Company's portfolio of EE programs. Additionally, the Public Staff has been supportive of developing programs that contain a mixture of "like-technology" measures, some of which may not be cost effective on their own, but if offered along with other like-technology measures that were cost effective, would produce a net result that would cost-effectively produce greater energy and demand savings. It is this commonality of measure delivery and out-of-pocket costs that helps to create these synergies.

19. Commission Rule R8-68(b)(8) defines "program" or "measure" to mean any electric public utility action or planned action that involves the offering of consideration. Furthermore, the rulemaking associated with Rule R8-68,⁵ does not specifically address the distinct characteristics that define either a "program" or "measure" beyond it being an "action" on the part of the utility.

20. Paragraph Six of the Company's Mechanism defines "measure" as

⁵ See *Order Adopting Final Rules*, February 29, 2008, Docket No. E-100, Sub 113.

an EE measure pursuant to N.C. Gen. Stat. 62-133.8(a)(4). Paragraph Eleven defines "program" to be "*one* or more DSM or EE measures with similar objectives that have been consolidated for purposes of delivery, administration, and cost recovery."

21. While it is true that the proposed modifications will improve the cost-effectiveness of the overall Program, the inclusion of the OSS measures does not create obvious synergies, such that adoption of an HVAC measure would not likely lead to the adoption of lighting- or water-related measures and vice versa. With the traditional Program that included mostly HVAC-related measures, it would be reasonable for a participant to have his ductwork or air leakage issues addressed at the same time that the new high efficiency HVAC unit was being installed, typically by the same contractor/installer. However, it seems unlikely that a customer would seek out a contractor/installer to install new HVAC related measures based on the customer's decision to self-install new EE lighting or water measures. A primary reason for this is the large difference in participant out-of-pocket costs. Such costs related to lighting and water measures are insignificant when compare to the out-of-pocket costs for HVAC measures. Further, a customer is not likely to adopt a contractor-installed HVAC measure until there has been a failure of the older, less efficient equipment.

22. The Company and DEC have over the years been working to align their respective portfolios to take advantage of cost savings in the administration of their portfolios and the verification of savings. In 2018, DEP and Duke Energy Carolinas, LLC (DEC), renamed their respective HVAC programs as the

Residential Smart Saver EE programs. Rather than including the self-installed OSS measures in this HVAC program as proposed by DEP, DEC offers these OSS measures through its separate Residential Energy Efficient Appliance and Devices program.⁶ On January 7, 2019, the Commission approved similar modifications to DEC's version of the Program (DEC's Residential Smart Saver program).⁷ However, DEC's program remained an HVAC-centric program. DEC did not propose to include new self-install lighting and water measures, as DEC's Residential EE Appliance and Devices program already delivers such self-install measures to its customers. The Residential EE Appliance and Devices program also provides access to Duke Energy's Online Saving Store.

23. The Public Staff's review of this proposed modification highlighted issues that are appropriate for consideration in DEP's Mechanism review, including:

- The trend toward a common portfolio design, one where each program includes many of the same measures, but delivered in different ways.
- Review of the flexibility that utilities need to make modifications to programs, while ensuring that the changes receive the appropriate level of Commission scrutiny.⁸

⁶ Duke Energy affiliates in other jurisdictions also take advantage of the Online Savings Store.

⁷ Docket No. E-7 Sub 1032.

⁸ The current Flexibility Guidelines establish the criteria DEP and DEC use to modify the measures that are included in a program without Commission approval.

Conclusions and Recommendations

24. Based on the foregoing, the Public Staff does not believe that the proposed modifications as filed are in the public interest or are consistent with the definition of "program" in the Company's Mechanism, as the delivery of the HVAC measure significantly differs from that of the OSS measures. Further, the Company has not shown that any synergies would result from the combination of lighting and water measures with the HVAC measures or vice versa.

25. As with DEC's modifications to its HVAC Smart \$aver program approved in Docket Nos. E-7, Subs 1032 and 1164, the Public Staff does not oppose the first four changes proposed, which are administrative in nature, and should improve cost effectiveness as required by the Sub 1174 Order. The Public Staff believes the proposed modification to include the OSS measures in this historically HVAC-centric program should be rejected. Rather, it would be appropriate for DEP to offer the OSS measures in a separate program similar to DEC's Residential EE Appliance and Devices. However, the Public Staff does not oppose the Commission approving the modifications without the addition of the OSS measures and requiring the Company to file the compliance tariffs associated with the requested program modifications in a form similar to those filed for DEC's Residential Smart \$aver EE and Residential EE Appliance and Devices programs so that the OSS measures are separate and distinct from the HVAC related measures. In addition, the Public Staff recommends that the Commission require the Company to report the performance of the HVAC related measures and the OSS related measures separately in the Company's annual rider proceedings.

26. The Public Staff also recommends that the Commission request that parties address the issue of what measures are appropriate for inclusion in a particular program during the upcoming review of the Company's Mechanism, as well as the issues raised in Paragraph 22 above.

Respectfully submitted this the 4th day of February, 2019.

PUBLIC STAFF
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CERTIFICATE OF SERVICE

I certify that a copy of the Public Staff Comments has been served on all parties of record or their attorneys, or both, in accordance with Commission Rule R1-39, by United States Mail, first class or better; by hand delivery; or by means of facsimile or electronic delivery upon agreement of the receiving party.

This the 4th day February, 2019.

Electronically submitted
/s/ Lucy E. Edmondson

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VERIFICATION

I, David M. Williamson, being duly sworn, depose and say: I have read the foregoing Public Staff Comments and the facts stated therein are true of my personal knowledge, except as to any matters and things therein stated upon information and belief. As to those, I believe them to be true. I am authorized to sign this verification on behalf of the Public Staff-North Carolina Utilities Commission.

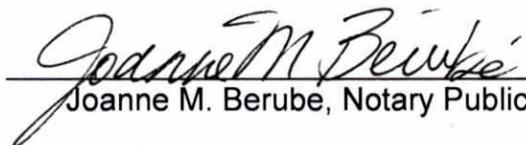
This the 4th day of February, 2019.



David M. Williamson

Sworn to and subscribed before me

This the 4th day of February, 2019.



Joanne M. Berube, Notary Public

Joanne M. Berube
NOTARY PUBLIC
WAKE COUNTY, N.C.
My Commission Expires 12-17-2022.

My Commission Expires: 12/17/2022