BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of	)	
	)	
Application of Duke Energy Carolinas, LLC, for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider Pursuant to N.C.G.S. §62-133.9 and Commission Rule R8-69	)	**DOCKET NO. E-7, SUB 1230**

DIRECT TESTIMONY AND EXHIBITS OF

FOREST BRADLEY-WRIGHT

ON BEHALF OF

THE NORTH CAROLINA JUSTICE CENTER, NORTH CAROLINA HOUSING COALITION, AND SOUTHERN ALLIANCE FOR CLEAN ENERGY

May 22, 2020

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I. Introduction and Qualifications

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. My name is Forest Bradley-Wright. I am the Energy Efficiency Director for Southern Alliance for Clean Energy ("SACE"), and my business address is 3804 Middlebrook Pike, Knoxville, Tennessee.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of SACE, the North Carolina Justice Center ("NC Justice Center"), and the North Carolina Housing Coalition ("NC Housing Coalition").

Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS AND WORK EXPERIENCE.

A. I graduated from Tulane University in 2001 and in 2013 received my Master of Arts degree from Tulane in Latin America Studies with an emphasis on international development, sustainability, and natural resource planning.

My work experience in the energy sector began in 2001 at Shell International Exploration and Production Company, where I served as Sustainable Development Team Facilitator.

From 2005 to 2018, I worked for the Alliance for Affordable Energy. As the Senior Policy Director, I represented the organization through formal intervenor filings and before regulators at both the Louisiana Public Service Commission and the New Orleans City Council on issues such as integrated resource planning, energy-efficiency rulemaking and program design, rate cases, utility acquisition, power plant certifications, net metering, and utility

scale renewables. As a consultant, I also prepared and filed intervenor comments on renewable energy dockets before the Mississippi and Alabama Public Service Commissions.

Since 2018, I have been the Energy Efficiency Director for SACE. In this role, I am responsible for leading dialogue with utilities and regulatory officials on issues related to energy efficiency in resource planning, program design, budgets, and cost recovery. This takes the form of formal testimony, comments, presentations, and/or informal meetings in the states of Georgia, Florida, North Carolina, South Carolina, Mississippi and in jurisdictions under the Tennessee Valley Authority. A copy of my resume is included as Exhibit FBW-1.

Q. HAVE YOU BEEN AN EXPERT WITNESS ON ENERGY-EFFICIENCY MATTERS BEFORE THE NORTH CAROLINA UTILITIES COMMISSION?

A. Yes, I filed expert witness testimony in response to Duke Energy Carolina's ("DEC") DSM/EE Recovery Rider 11 in Docket No. E-7, Sub 1192 and Duke Energy Progress' ("DEP") DSM/EE Recovery Rider 11 in Docket No. E-7, Sub 1206.

Q. HAVE YOU BEEN AN EXPERT WITNESS ON ENERGY-EFFICIENCY MATTERS BEFORE OTHER REGULATORY COMMISSIONS?

A. Yes, I have filed expert witness testimony in Georgia related to Georgia Power Company's 2019 Demand Side Management application and in the five-year energy efficiency goal setting proceeding before the Florida Public Service Commission in 2019 for Florida Power & Light, Gulf Power, Duke Energy Florida, Jacksonville Electric Authority and Orlando Utilities Commission.

II. Testimony Overview

Q. PLEASE SUMMARIZE YOUR TESTIMONY AND OVERALL IMPRESSIONS OF DEC'S 2019 DSM/EE PERFORMANCE AND 2021 FORECAST.

A. My testimony provides a review of DEC's DSM/EE portfolio performance in 2019, gives reactions to the Company's efficiency saving forecast for 2021, updates the Commission regarding ongoing activities at the Duke Energy Collaborative, and identifies connections between this proceeding and related public policy matters. Overall, I give DEC high marks for their DSM/EE performance, which continues to make the company a leader in the Southeast. Even with good performance results in 2019, I see a number of opportunities for improvement and raise concerns regarding DEC's projected savings decline for 2021. My testimony highlights the following observations:

- In 2019, DEC achieved 0.98% annual efficiency savings, a small decline from 2018 when adjusted for growth in retail sales. It delivered strong financial returns to customers with a net present value of $437,661,769 through a diverse set of highly cost-effective programs.
- DEC should be commended for these achievements and for making significant gains in delivering savings to low income customers. There are, nevertheless, issues concerning both residential and non-residential performance trends that warrant attention.
- DEC's 2021 forecast shows a disappointing decline down to 0.89% annual savings, marking a further slide from past performance when savings exceeded 1.0%. The Company provided little explanation for

these projected declines in savings. Nor did DEC indicate whether any steps are being taken to prevent savings declines in the future.

- Subsequent to DEC's filing, the COVID-19 pandemic has fundamentally transformed the landscape for energy efficiency, while the associated economic turmoil is greatly expanding the need for programs that reduce customer energy bills. There is an urgent need to address these issues and the looming challenge of customers being unable to pay their monthly bills.
- The Collaborative continues to work hard to support increases in savings across DEC's DSM/EE portfolio. DEC has been highly engaged, responsive to stakeholder information requests, and is showing increasing initiative to work with Collaborative members to develop new efficiency programs. Last year's work built a foundation for current Collaborative priorities and I anticipate that we will experience increased savings attributable to those efforts.
- I identify a number of related policies with important implications for DSM/EE including integrated resource planning, program modifications, performance incentive mechanisms, cost benefit tests, rate cases, and rider proceeding for DEC's sister company Duke Energy Progress.

Q. WHAT RECOMMENDATIONS DO YOU HAVE FOR DEC?

A. In my testimony, I provide the following recommendations to DEC:

- Provide details to the Collaborative from the 5-year program planning projections that the Company is using as inputs for their DSM/EE modeling in the 2020 IRP.
- Continue to work with the Collaborative to refine its data reporting so that Collaborative members can better understand program and portfolio performance and identify opportunities and solutions that lead to expanded efficiency savings.
- Work with Collaborative members to establish and utilize project deadlines and create work products for select activities.
- Provide carbon emissions reduction figures associated with achieved savings (annual and cumulative) in its annual rider filings and correlate those reductions to Clean Energy Plan emissions reduction targets and the Company's own corporate carbon emissions reduction goals.

Q. WHAT RECOMMENDATIONS DO YOU HAVE FOR THE COMMISSION?

A. In my testimony, I provide the following recommendations to the Commission:

- Request a report from the Collaborative by January 31, 2021 that would "examine the reasons for the forecasted declines in 2020, and explore options for preventing or correcting a decline in future DSM/EE savings," as requested by the Commission in its 2019 DEC DSM/EE Rider Order, with the recommendation that such a report include consideration of projected declines in 2021 as well. Putting a date on this request and showing that the Commission would welcome such a report will provide additional focus and momentum for such efforts at

the Collaborative and provide valuable information to help DEC sustain levels of energy savings as least as high as it has achieved in recent years.

- Direct DEC to explain future forecast declines, when applicable, and show what steps are being taken to prevent them in future rider filings. If forecasts savings levels are lower than those reported in recent years, DEC will provide a clear explanation for the reductions – indicating specific factors driving the declines and an indication of which programs are impacted by those factors and how much.
- Direct Duke to provide a detailed plan to achieve 1% annual savings in its next annual DSM/EE Rider filing, reflecting the Company's best effort to balance cost with strategies to deliver meaningful savings for customers.
- Express affirmative support for DEC to pursue higher savings for low-income customers, with correspondingly higher budgets for programs directed at low-income households.
- Direct DEC to provide a plan in its next DSM/EE Recovery Rider filing showing how it plans to ramp up low-income efficiency savings over the next 3-5 years. Such a plan should include strategies for addressing energy burdens with deep efficiency savings as well as neighborhood style approaches that reach large numbers of customers.
- State its support for deploying targeted energy efficiency programs to help customers mitigate the impact of COVID-19 and direct DEC to

submit a specific plan by July 31, 2020 that includes proposed modified program budgets, savings goals, and customer targeting strategies – with a specific emphasis placed on customers who are elderly, disabled, have high energy burdens, and who lost their employment as a result of the pandemic.

III. DEC's 2019 Energy Savings Performance

Q. HOW DID DEC'S PERFORMANCE IN 2019 COMPARE TO PREVIOUS YEARS?

A. Duke Energy Carolinas continues to be a regional leader for energy efficiency in the Southeast, though the company reported a decline in savings for 2019, falling below 1% annual savings in comparison with the prior year's retail sales. This follows two years, 2018 and 2019, when the Company exceeded the 1% savings mark. In 2019, DEC delivered 794.9 gigawatt-hours ("GWh") of efficiency savings at the meter, equal to 0.98% of the previous year's retail sales.[1] This reflects a 2% decline in incremental savings from 2018,[2] when DEC reported 811.2 GWh and annual savings of 1.05% of the previous year's retail sales.[3] While reported efficiency savings declined, retail sales increased by 5%, causing annual savings as a percentage of retail sales to decline by a total of 7% from 2017 to 2018.

Q. HOW DID DEC'S PERFORMANCE COMPARE TO ITS PROJECTIONS FOR 2019?

[1] Duke Energy Carolinas Response to NCJC *et al* First Data Request, Item No 1-14 in Duke Energy Carolinas DSM/EE Rider Docket (E-7, Sub 1230) (Attached as Exhibit FBW-2)
[2] Duke Energy Carolinas Response to SACE / CCL to SACE Data Request Item No 2-2 in Duke Energy Carolinas DSM/EE Rider 11 (2019-89-E) (Attached as Exhibit FBW-2)
[3] DEC reports energy savings as "Net at Plant" or at the generator level.

A. In 2019, DEC's portfolio of programs exceeded its savings projections by roughly 8%.[4] All of the Company's residential programs exceeded savings projections made by DEC in DSM/EE Rider 10. The performance of the Income-Qualified Energy Efficiency and Weatherization Program is particularly worthy of recognition and praise, having significantly exceeded projections and program performance in previous years as discussed further below.

Q. WAS THE COMPANY'S EE PORTFOLIO COST-EFFECTIVE IN 2019?

A. Yes. The value of DSM/EE programs continues to significantly exceed the costs and deliver strong financial value to customers. In 2019, DEC's DSM/EE portfolio had a Utility Cost Test ("UCT") result of 2.91 and a Total Resource Cost ("TRC") test result of 2.69. However, with lower kWh saved and lower avoided costs, the total net present value ("NPV") of avoided cost in 2019, while still significant, declined to $437,661,769.[5]

Q. HOW DID DEC'S RESIDENTIAL PROGRAM PEROFRMANCE COMPARE TO ITS PROJECTIONS FOR 2019?

A. Residential programs made up the majority savings in DEC's portfolio at 68% of total savings in 2019. Within DEC's residential portfolio, the largest savings came from My Home Energy Reports and large amounts of lighting measures in the Energy Efficient Appliances and Devices program. In 2018, Mr. Neme of Energy Futures Group provided testimony on behalf of the NC Justice Center, SACE, and the Natural Resources Defense Council in DEC's 2018 Application

[4] Evans Exhibit 1, Page 5 filed in NCUC Docket No. E-7, Sub 1164.
[5] Duke Energy Carolinas Response to NCJC *et al* First Data Request, Item No 1-4 in Duke Energy Carolinas DSM/EE Rider Docket (E-7, Sub 1230) (Attached as Exhibit FBW-4)

for its DSM/EE Rider (Docket No. E-7, Sub 1164),[6] noting that the heavy reliance on these types of measures was cause for concern, especially in light of changing federal lighting standards. This concern is magnified by recent information presented to the Collaborative by DEC's Market Potential Study consultant, which suggested that behavioral efficiency programs like MyHERs are seen as comprising the overwhelming majority of 5-year cumulative achievable efficiency potential. Mr. Neme recommended a focus on deeper and longer lived measures to maintain a more balanced and robust program going forward, a view that I share and have testified to in the past.[7] I am not suggesting that the Company forego savings currently being captured by DEC's current portfolio. Rather, more focus must be placed on adding or modifying programs targeting the largest energy end uses – such as heating and cooling and water heating.

Q. HOW DID DEC'S NON-RESIDENTIAL PROGRAM PERFORMANCE COMPARE TO ITS PROJECTIONS FOR 2019?

A. Non-residential programs achieved significantly less savings than projected. Each program delivered savings below projected levels, except for the Non-Residential Smart Saver Energy Efficiency Lighting program.

Q. WHAT EFFECT DO COMMERICAL AND INDUSTRIAL OPT OUTS HAVE ON PERCENT OF ENERGY SAVINGS?

[6] Testimony of Chris Neme on Behalf of NC Justice Center, Natural Resources Defense Council, and Southern Alliance for Clean Energy, N.C.U.C. Docket No. E-7, Sub 1164, pp. 27-36 (May 22, 2018).
[7] Testimony of Forest Bradley-Wright on Behalf of the North Carolina Justice Center and Southern Alliance for Clean Energy, N.C.U.C. Docket No. E-7, Sub 1192 (May 20, 2019).

A. In 2019, approximately 60% of the non-residential load opted out of DEC's energy-efficiency rider.[8] This was a further erosion from 2018, when opt-outs comprised 56% of total non-residential load, with most of the additional loss occurring in North Carolina (up from 51% in 2018). As noted in previous testimony, this continued slide reflects a large lost opportunity for capturing additional energy savings from Duke's efficiency programs.[9] Because commercial and industrial efficiency savings can be among the most economically viable, greater savings among these customers would likely translate into even higher utility-system cost reductions.

Q. IS IT NOT TRUE THAT OPT-OUT CUSTOMERS ARE REQUIRED TO CERTIFY THAT THEY IMPLEMENT ENERGY EFFICIENCY MEASURES?

A. While I recognize that commercial and industrial customers who opt-out also certify that they have implemented their own energy-efficiency or demand-side management measures, there is no requirement to report any resulting savings to the Company or the Commission and nothing in DEC's filing indicates the extent to which such savings are occurring. As a result, actual savings among customers who opt out of DEC's efficiency programs may be much lower than presumed.

[8] Duke Energy Carolinas Response to NCJC *et al* First Data Request, Item No 1-16 in Duke Energy Carolinas DSM/EE Rider Docket (E-7, Sub 1230) (Attached as Exhibit FBW-5)

[9] While we encourage DEC to continue doing everything possible to retain non-residential customers, we recognize that both the statute and the Commission's interpretation of the statute make it difficult for Duke to achieve full potential with non-residential efficiency programs. Historically, the opt-out was meant as a tool for companies that are pursuing their own energy-efficiency measures, not as a back-door method to fully eliminate the program for an entire class of customers. At some point, the Commission may want to revisit its policy, and also communicate to the legislature that this is a problem that needs to be addressed.

Q. IS IT REASONABLE TO INCLUDE SALES TO OPTED OUT CUSTOMERS IN YOUR CALCULATION OF DEC'S SAVINGS ACHIEVEMENT AS A PERCENT OF SALES?

A. Yes. It is important for the Commission and stakeholders to understand the actual impact on total load that energy efficiency program savings have. The Commission and lawmakers should understand how the opt-out provisions decrease overall savings. Adjusting to exclude the usage of non-residential opt-outs from total annual sales, DEC's total portfolio savings as a percentage of adjusted sales in 2019 was 1.56%, compared to 0.98% overall when the sales from opted-out customers are included in the equation.[10]

Q. HOW DID DEC'S LOW-INCOME EFFICIENCY IMPACTS COMPARE TO PREVIOUS YEARS?

A. In 2019 total savings from the DEC Income-Qualified Energy Efficiency and Weatherization Assistance program and Neighborhood Energy Saver program increased by 30% over the previous year, continuing a trend of steady annual growth.[11] Combined, these programs reached 10,814 households in 2019, slightly more than the previous year. Savings per living unit jumped significantly from 488 kWh in 2018 to 835 kWh in 2019. While the increase in total savings is driven primarily by strong performance in the Neighborhood Energy Saver program, DEC's progress with the Income-Qualified Energy Efficiency and Weatherization program are also significant. The Income-Qualified Weatherization program achieved more than double the projected

[10] Duke Energy Carolinas Response to NCJC *et al* First Data Request, Item No 1-14 in Duke Energy Carolinas DSM/EE Rider Docket (E-7, Sub 1230) (Ex. FBW-2)
[11] Duke Energy Carolinas Response to NCJC *et al* First Data Request, Item No 1-2 in Duke Energy Carolinas DSM/EE Rider Docket (E-7, Sub 1230) (Attached as Exhibit FBW-6)

savings and marked a 73% increase from the year before.[12] At least some of that growth came from a newly piloted approach:

> "Direct Weatherization Pilot: In 2018-2019, a Direct Weatherization pilot was executed in a high-density area within DEC shown to have a significant low-income customer base. Through the use of internal customer data, high-energy use accounts with low-income indicators were targeted through direct mail and invited to apply for weatherization and refrigerator replacement programs. Through initial letters with follow-up postcards and a toll-free customer number, customers expressed their interests and follow-up appointments were set. Determination as to whether the program is to continue is pending."[13]

Since this was a pilot, it has the potential to provide significant insights that could be adapted to future deployment of low-income energy efficiency program. I recommend that DEC provide a report to the Collaborative describing the specific budget and operational approaches utilized, a detailed explanation of impact results, specific lessons learned, and recommended next steps.

DEC has made increasing savings for low-income customers a priority, as evidenced by the program's marked improvement in 2019. I strongly encourage Duke to continue pursuing this objective, and support this effort alongside a robust group of interested advocates who have made increasing efficiency savings for low-income customers a central priority for the Collaborative over the past two years. I offer a variety of suggestions below and look forward to continued progress in this area.

[12] Evans Exhibit 6, page 5
[13] Evans Exhibit 6, page 6

IV. Issues and Recommendations Regarding Duke's 2021 Savings Forecast

Q. WHAT LEVEL OF SAVINGS DOES DEC PROJECT FOR 2021?

A. Duke forecasts 715.7 GWh of incremental savings for 2021, which is equivalent to 0.89% of annual retail sales.[14] This projection represents a significant and unfortunate decline of approximately 10%, from DEC's 794.9 GWh in 2019[15] and a drop of 16% from the recent 854 GWh high point achieved in 2017, when savings were 1.07%[16] of annual sales. As noted above, Duke narrowly missed achieving 1% savings in 2019, but unless changes are made to the company's current plan it will fall further below this threshold in 2021.

Q. TO WHAT FACTORS DOES DUKE ATTRIBUTE ITS PROJECTED FUTURE SAVINGS DECLINE?

A. While Duke does not directly address the difference between its 2021 forecast and the 1% annual savings threshold, Mr. Evans's testimony does attribute future declines generally to changes in the company's avoided cost used to calculate cost effectiveness, updated participation estimates, and EM&V results.[17] Mr. Evans's testimony also notes the discontinuation of two non-residential programs, but they accounted for a small portion of efficiency portfolio savings (only 0.5% of the total). In discussions at the Collaborative, Duke indicated that changes in expectations regarding future savings from lighting measures also factor heavily in projected reductions in DEC's future

[14] Duke Energy Carolinas Response to NCJC *et al* First Data Request, Item No 1-14 in Duke Energy Carolinas DSM/EE Rider Docket (E-7, Sub 1230) (Ex. FBW-2)
[15] *Id.*
[16] 2018 Testimony of Chris Neme in NCUC Docket No. E-7, Sub 1164, page 7.
[17] Testimony of DEC Witness Robert Evans, pp. 11 and 18.

savings forecasts. From a recent presentation to Collaborative, the pending Market Potential Study counts on very little additional savings from residential lighting measures. This anticipated drop in savings is particularly significant given Mr. Evans's acknowledgement that lighting measures have contributed greatly to Duke's overall portfolio savings in the past and are identified as having produced a substantial portion of the avoided cost savings Duke achieved in excess of their previous 2019 forecast in Rider 10.[18]

Q. DOES DEC ADEQUATELY EXPLAIN THE PROJECTED DECLINE AND THE STEPS IT IS TAKING TO INCREASE SAVINGS FOR 2021 AND BEYOND?

A. Too little attention is given to explaining the forecasted decline in the Company's filing, and there is no indication of the steps DEC is or could be taking to keep savings levels up. When DEC projects declines in savings, as it does for 2021, the Company should provide a clear explanation of the reasons for that decline. This has not been done. Given the interest stakeholders and the Commission have shown for *increasing* savings going forward, DEC should provide a substantive explanation for what steps the company is taking to reverse declines and achieve savings at that at least match those it has previously accomplished.

Q. PLEASE PROVIDE YOUR REACTION TO DEC'S PROJECTIONS.

A. I am disappointed that DEC is projecting savings that are less than it achieved in 2019 and substantially below the savings the company achieved in 2017 and 2018. In Rider 10, Duke had projected a decline to 0.95 for 2019 but achieved

[18] *Id*. at 15

0.98%. With such a result, DEC could have reached 1% savings, or the even higher savings levels it achieved in 2017 and 2018. Going forward, clear direction from the Commission could encourage Duke to find additional savings even if they are harder to achieve.

Q. WHAT SUGGESTIONS DO YOU HAVE FOR DEC AND THE COMMISSION TO ADDRESS SUCH DECLINES IN THE FUTURE?

A. Last year, the Commission noted the forecasted decline in 2020 projections and expressed interest in better understanding the reasons for the forecasted decline, calling for DEC and the Collaborative to "explore options for preventing or correcting a decline in future DSM/EE savings." While the Collaborative has and will continue to bring considerable value to this subject, I have three suggestions that will help with this objective:

1. The Commission Direct DEC to explain future forecast declines and show what steps are being taken to prevent them. If forecasts savings levels are lower than those reported by DEC in recent years, it will provide a clear explanation for the reductions – indicating specific factors driving the declines and an indication of which programs are impacted by those factors and how much.
2. DEC provide details to the Collaborative from the 5-year program planning projections DEC is using as inputs for their DSM/EE modeling in the 2020 IRP.
3. The Commission request a report from the Collaborative by January 31, 2021 that would "examine the reasons for the forecasted declines in 2020, and explore options for preventing or correcting a decline in future

DSM/EE savings," as requested by the Commission in its 2019 DEC DSM/EE Rider Order. Putting a date on this request and showing that the Commission would welcome such a report will provide additional focus and momentum for such efforts at the Collaborative and provide valuable information to help DEC sustain levels of energy savings as least as high as it has achieved in recent years.

Q. SHOULD THE COMMISSION CONTINUE TO ASSESS DEC'S PERFORMANCE IN COMPARISON TO A 1% ANNUAL SAVINGS TARGET?

A. Yes. The 1% annual savings target is relevant for public policy purposes for several reasons. Notably, research suggests that energy efficiency savings trend higher in jurisdictions that have enacted savings targets.[19] A 1% annual savings target was also a key outcome of settlement negotiations in the merger between Duke and Progress Energy.[20]

Q. IS THERE EVIDENCE THAT MEMBERS OF THE COLLABORATIVE AND OTHER PARTIES SUPPORT A 1% SAVINGS TARGET?

A. Yes. A large number of clean energy and public interest advocates have contributed considerable amounts of time to working with the Collaborative while making clear that the 1% threshold is important to their efforts to help DEC achieve increased energy savings at the portfolio level. The Commission has indicated its interest in DEC correcting declines from previous years

[19] See Gold, *et.al.*, *Next-Generation Energy Efficiency Resource Standards*, American Council for an Energy-Efficient Economy (August 2019), available at: https://www.aceee.org/sites/default/files/publications/researchreports/u1905.pdf

[20] The Merger Settlement with SACE, South Carolina Coastal Conservation League, and Environmental Defense Fund calls for annual energy savings of at least 1% of prior-year retail sales beginning in 2015 and cumulative savings of at least 7% over the period from 2014 through 2018. The Merger Settlement was approved by the Public Service Commission of South Carolina ("PSCSC") in Docket No. 2011-158-E ("Merger Settlement").

savings, which were in excess of 1%. In the pending proposed revisions to the DSM/EE cost recovery mechanisms (Docket No. E-7, Sub 1032), DEC, Public Staff and intervenor parties came to an agreement that included a number of changes to the Company's portfolio performance incentive, including revising and expanding a bonus incentive payment for attaining 1% annual savings.[21] This matter is now awaiting final Commission action. All of these factors speak to the continued relevance of the 1% annual savings threshold.

I recommend the Commission direct Duke to provide a detailed plan to achieve the 1% annual savings target in its next annual DSM/EE Rider filing, reflecting the Company's best effort to balance cost with strategies to deliver meaningful savings impacts for customers.

Q. WHAT STEPS SHOULD BE TAKEN TO INCREASE SAVINGS BEYOND DEC'S CURRENT PROJECTIONS?

A. Duke should continue to explore and develop new program concepts and strategies for achieving increased energy savings, and should also increase participation in existing programs to increase energy savings. During our work with the Collaborative, Duke has shown a willingness to engage with these ideas, including consideration of new technologies, delivery channels, and financing mechanisms, as well as efforts to reach underserved customer segments and address underutilization of particular measures. Each of these has an important role to play in reaching higher levels of overall savings, such that DEC could once again exceed 1% annually.

[21] Joint Proposed Revisions of the Public Staff, DEP, DEC, NRDC, SACE, Sierra Club, SC Coastal Conservation League, NC Sustainable Energy Association, and NC Attorney General's Office to the DSM/EE Cost-Recovery Mechanisms of DEC and DEP, Docket Nos. E-7, Sub 1032 & E-2, Sub 931(Jan. 15, 2020) ("2020 Joint Proposed Revisions to DSM/EE Cost-Recovery Mechanism")

Q. HOW HAS THIS BEEN ADDRESSED IN THE COLLABORATIVE?

A. In 2019, the Collaborative examined Portfolio Level Opportunities and Challenges, which prominently featured the 1% annual savings goal. That work ultimately evolved into many of the 2020 priorities and program development opportunities that the Collaborative is working on now. A logical and constructive next step would be to focus some of the Collaborative's work on developing a report identifying steps DEC could take to bridge the gap between its forecasted lower projected annual savings for 2021 and previous savings levels that exceeded 1%. Such a plan ought to include recommendations for program modifications and additions along with forecasts for anticipated savings impact and expected cost effectiveness levels. To facilitate completion of such a plan, it is important that a completion date be set for January 31, 2021, around which the Collaborative can develop a project schedule to ensure timely discussion, undertake analysis, develop recommendations, and present its final results.

Q. WHAT SPECIFIC REQUESTS DO YOU HAVE OF THE COMMISSION REGARDING FUTURE SAVINGS LEVELS, PROGRAM DEVELOPMENT, AND LOW-INCOME ENERGY EFFICIENCY?

A. It would be beneficial for the Commission to provide guidance that it supports larger budgets to pursue expanded savings for low-income customers in 2021 and beyond. Last year, the Commission concluded:

"…that the Collaborative should continue to place emphasis on developing EE programs to assist low-income customers in saving energy, and in developing EE programs that target savings in new construction, and especially in multi-family housing and manufactured housing."

Both the Neighborhood Energy Saver and Income-Qualified Weatherization programs have already shown verifiable success, DEC has demonstrated its ability to deliver increased savings from its pilot programs and new program concepts are being developed that could potentially be included in next year's DSM/EE Recovery Rider filing. I would recommend the following:

1. The Commission express affirmative support for DEC pursuing higher savings for low-income customers, with correspondingly higher budgets.

2. The Commission direct DEC to provide a plan in its next DSM/EE Recovery Rider filing showing how it plans to ramp up low-income efficiency savings over the next three to five years. Such a plan should include strategies for addressing energy burdens with deep efficiency savings as well as neighborhood style approaches that reach large numbers of customers.

Q. WHAT OBSERVATIONS DO YOU HAVE REGARDING IMPACTS OF THE COVID-19 PANDEMIC ON ENERGY EFFICIENCY PROGRAM DELIVERY?

A. The COVID-19 pandemic has profound near term implications for energy efficiency delivery, which may extend for several years or more. These include both major programmatic disruption and a significant expansion of customer need. To protect energy efficiency worker and customer health and prevent potentially significant declines in overall efficiency portfolio savings, adaptations to energy efficiency policies and program operations will be needed. Since March, in-person contact between customers and efficiency

providers has been curtailed across the country, leading to many programs being temporarily halted or altered to function in a remote manner. Even after lockdown conditions ease, ongoing adaptations may be needed in how programs are designed and implemented.

Q. WHAT RECOMMENDATIONS DO YOU HAVE TO HELP ADAPT ENERGY EFFICIENCY PROGRAM DELIVERY TO CONTINUE DURINGTHE COVID-19 PANDEMIC?

I recommend the Commission direct DEC to assess expanding programs (residential and commercial) for replacement of major equipment like heat pumps, heat pump water heaters, and central air conditioning systems. Accelerated market adoption for these measures could be driven by instant-rebates and midstream delivery channels that favor high-efficiency systems, rather than mid-efficiency equipment, without increasing contact between participants and workers beyond what would occur for mid-efficiency equipment installs. Another strategy is to use virtual audits to a) increase customer engagement around energy efficiency, b) promote low- and no-cost steps they can take to immediately lower energy use, c) provide customized mailable EE kits, and d) create a queue for more comprehensive measure installation once restrictions are lifted. While steps such as these are meant to help DEC navigate the unique challenges of the pandemic, I also encourage good data recording in order to capture lessons learned that could assist in making further refinements in the near term as well as the potential for future innovations.

Q. WHAT OBSERVATIONS DO YOU HAVE REGARDING THE NEED FOR LOW INCOME ENERGY EFFICIENCY IN RESPONSE TO THE ECONOMIC IMPACTS OF THE PANDEMIC?

A. Despite the challenges, there should be a large expansion of energy efficiency programs aimed at assisting vulnerable and financially struggling families who are being harmed by the economic turmoil of the pandemic. The economic crash caused by the pandemic has driven huge increases in unemployment, while stay at home orders have driven up residential energy use and monthly electric bills. Recognizing the painful and financially untenable situation this has created for large numbers of customers, DEC has temporarily halted disconnections for non-payment. But for the more than 600,000 families DEC serves who were already struggling before the pandemic,[22] and many more who have recently lost their jobs, the combination of financial stresses caused by the pandemic create a looming crisis that warrants urgent action to reduce bills before the temporary bill payment reprieve ends.

Q. WHAT RECOMMENDATIONS DO YOU HAVE REGARDING DELIVERY OF LOW INCOME ENERGY EFFICIENCY PROGRAMS IN RESPONSE TO THE PANDEMIC?

A. I recommend that DEC and the Commission consider a significant expansion of funding for efficiency programs that substantially reduce energy use and customer bills for low-income customers. One possible approach would be to adapt and expand upon the methods developed by DEC last year in its Income-Qualified Weatherization pilot to proactively reach out to low and moderate

[22] Based on customers who were at or below 200% Federal Poverty Guidelines. United States Census Bureau, Poverty Status in the Past 12 Months, American Community Survey (2018), Table S1701, North Carolina, https://data.census.gov/cedsci/table?q=200%25%20federal%20poverty&g=0400000US37&hidePreview=true&tid=ACSST1Y2018.S1701&t=Poverty&vintage=2018&moe=false

income customers with high energy intensity across its service territory, as well as customers with accumulated past due bills. This deep energy saving program has the potential to make a major difference in the financial wellbeing of these families, while potentially making the difference between successfully repaying past due bills or forcing the utility to write them off as uncollectable. Even though the total savings per project is lower than Income-Qualified Weatherization, the expanded set of measures now available through Neighborhood Energy Savers can also produce significant energy bill reductions, and the neighborhood outreach system could serve as another pipeline for identifying customers with high need that could be referred for even deeper savings with Income-Qualified Weatherization.

Q. WHAT SHOULD THE COMMISSION DO TO ENSURE ENERGY EFFICIENCY SOLUTIONS ARE PUT IN PLACE IN RESPONSE TO COVID-19 DRIVEN NEED?

A. Having a plan to provide energy efficiency solutions to customers suffering from the economic consequences of the COVID-19 pandemic is a matter of great urgency. While I hope the Collaborative will provide useful insights and recommendations to DEC on this matter in the coming months, the Commission should also consider the issue as soon as possible.

I recommend that the Commission express support for deploying targeted energy efficiency programs to help customers mitigate the impact of COVID-19. The Commission should direct DEC to submit a summary of the program changes that it has assessed and an implementation ready plan by July 31, 2020 outlining its proposed programmatic responses, including modified program

budgets, savings goals, and customer targeting strategies, with a specific emphasis placed on customers who are elderly, disabled, have high energy burdens, or who have lost employment as a result of the pandemic.

V. Energy Efficiency Collaborative Update

Q. DID THE COMMISSION REFERENCE THE COLLABORATIVE IN ITS ORDER IN DOCKET NO. E-7, SUB 1192?

A. Yes. In its October 18, 2019 Order Approving DSM/EE Rider and Requiring Filing of Customer Notice in Docket No. E-7, Sub 1192 ("Sub 1192"), the Commission found that DEC should continue to leverage the Collaborative to work with stakeholders to garner meaningful input regarding potential portfolio enhancement and program design and ordered that the Collaborative should continue to meet every other month.

Q. HAS THE COLLABORATIVE COMPLIED WITH THIS DIRECTION?

A. Yes. The Collaborative has met regularly, consistent with the Commission's Order. Full-day, in-person meetings were held in July, September, and November of 2019, and also in January, March, and May of 2020. The Collaborative meeting in March was scheduled to be held in Raleigh, but due to the pandemic was held virtually instead, as was the meeting in May.

Q. WHAT WAS THE FORMAT OF THE IN-PERSON COLLABORATIVE MEETINGS?

A. Agenda item recommendations were solicited by Duke or developed at the close of the prior Collaborative meeting. The meeting agendas were then put together by Duke and circulated to the full Collaborative for review and comment. Meeting materials were also circulated in advance of the meetings.

Duke facilitated the meetings, and specific topic area discussions were led by various members of the Collaborative or by Duke Staff. Duke circulated meeting minutes and action items within a week or so after the meetings and subsequently scheduled topically specific working group calls.

Q. WHAT WERE THE PRINCIPAL FOCUS AREAS FOR THE COLLABORATIVE'S WORK OVER THE PAST YEAR?

A. In addition, to regular updates on program performance and EM&V reports by DEC staff, the Collaborative worked primarily on the following priorities:

- Increasing savings impact for low-income customers
  - Understanding barriers and exploring potential solutions to increase deployment of the Company's Income-Qualified weatherization program (including attention to differences in North and South Carolina)
  - Partnerships with low-income weatherization providers
  - Expanded measures list for Neighborhood Energy Savers, including more comprehensive measures for higher energy users
- Examination of portfolio level opportunities and challenges for increasing overall efficiency savings
- Market potential study
- Understanding DEC's marketing strategy and execution
- Cost-effectiveness testing protocols and assumptions
- New delivery channels:
  - Affordable multifamily housing that participates in the Low-Income Housing tax credit program

- Expanded midstream channel

- New program ideas:
  - Energy efficiency as a service
  - Savings attribution for codes and standards activities;
  - ENERGY STAR Retail Products Platform

Q. DID THE COLLABORATIVE HOLD ANY ADDITIONAL MEETINGS?

A. The Collaborative held phone meetings on specific topics in between the regularly scheduled full-day meetings. These meetings were on a variety of the topics listed above, and typically were organized either to advance themes that the Collaborative had prioritized or to prepare for more detailed discussion at the in-person meetings. Two open working sessions were also held in-person on the days preceding the July and November Collaborative meetings in Raleigh. Both sessions focused on identifying and digging into the topic of portfolio level opportunities and challenges.

Q. WHAT PROGRESS HAS THE COLLABORATIVE MADE IN ADDRESSING ITS PRIORITY TO INCREASE LOW-INCOME SAVINGS IMPACT?

A. Increasing savings impact for low-income customers was one of several areas where the Collaborative has gained a much deeper understanding of the issues, which it is now using to help identify potential solutions in 2020. DEC's ability to increase its low-income program savings through partnership with weatherization providers is a complex issue that the Collaborative has discussed in depth. This complexity is compounded by differences in matching fund availability between North and South Carolina, which have been a key focus of

attention in Collaborative discussions. Some near-term benefits are already resulting from these conversations, such as the connection that was made between DEC program staff and North Carolina Housing Finance Agency to coordinate on affordable multifamily construction projects that are applying for low-income housing tax credits. This coordination is expected to improve the efficiency, and thus the long-term affordability of the developments. DEC reported higher overall savings levels for low-income customers in 2019, as noted above, and attributes some of the progress it has made to efforts at the Collaborative.

Q. WHAT FURTHER STEPS DO YOU EXPECT THE COLLABORATIVE TO TAKE TO INCREASE SAVINGS FROM DEC'S LOW-INCOME PROGRAMS?

A. With all of the work that has been put into understanding the complex environment for partnering with the weatherization providers, I hope that the Collaborative will develop clear recommendations for the Company for steps that can be taken to increase its low-income savings, and that DEC will come to the Commission for approval to implement those steps, so that more savings will be reported for low-income customers a year from now. I look forward to working with DEC and stakeholders to establish a timeline and proposed steps the Company can take to strengthen its low-income programs and overall savings for low-income customers.

Q. WHY DID THE COLLABORATIVE PRIORITIZE PORTFOLIO LEVEL OPPORTUNITIES AND CHALLENGES?

A. The Collaborative decided to prioritize examination of portfolio level opportunities and challenges in 2019 as a precursor to developing

recommendations to help increase Duke's overall efficiency savings levels. The group recognized that increasing portfolio savings would require responding to the challenges created by diminishing cost-effectiveness caused by decreasing avoided costs and more efficient baselines. The Collaborative's work on the subject culminated in a year-end summary report that is included as Exhibit FWB-7.

The report began with the following statements:

> "The choice to focus on Portfolio Level Opportunities and Challenges was driven by a desire to establish a common understanding among Collaborative participants around the cross-cutting factors that could impact the potential for expanding energy efficiency savings through individual programs. It also provided a way to identify the broader dynamics that would impact total energy efficiency savings in the years to come."
>
> "Through regular convenings of utility staff, energy efficiency advocates and other key stakeholders, the Collaborative strives to facilitate Duke's ability to increase total savings from its energy efficiency and demand response program portfolios and to expand the number and types of customers participating in the company's EE/DSM programs."

Topics covered in the report ranged from Collaborative member perspectives on the 1% savings goal, market dynamics that either support or limit utility efficiency savings, related state policy and regulatory matters, and potential new programs and delivery channels that could lead to increased efficiency savings.

Q. WHAT OTHER ISSUES DID THE COLLABORATIVE IDENTIFY UNDER THE BROAD CATEGORY OF PORTFOLIO LEVEL OPPORTUNITIES AND CHALLENGES?

A. DEC encouraged Collaborative members to help identify and develop new program ideas from experience in other jurisdictions that could help increase portfolio savings. Collaborative members are engaged in multiple jurisdictions

across the Southeast and throughout North America, with awareness of a variety of programs that other program administrators are implementing.

Q. WHAT HAS DEVELOPED AS A RESULT OF THE COLLABORATIVE'S DISCUSSIONS ON NEW PROGRAM IDEAS?

A. In the interest of increasing portfolio savings, DEC asked Collaborative members to provide possible program expansion ideas, based on the experience that several Collaborative members have working in other jurisdictions. Collaborative members raised a number of program concepts that were captured in the Portfolio Level Opportunities & Challenges Summary Report. These include the following:

- DEC Residential New Construction
- DEP Income-Qualified Weatherization
- Energy Star Retail Products Platform
- Mobile/manufactured home programs
- Code Compliance Credit justification
- Leveraging savings from Advanced Metering Infrastructure
- Expanded midstream products, such as residential HVAC
- Leveraging alternative funding opportunities such as the Rural Energy for America Program
- Seeking new program opportunities to increase low income savings impact (including continued support for LIHTC developers)
- Explore expanded low-income program coordination with SC WAP

Since then, more detailed information has been provided on the ENERGY STAR Retail Products Platform (a national initiative for promoting high efficiency retail products) and programs that support the development of and facilitate compliance with enhanced codes and standards. These new program idea discussions are still in the early stages of discussion and Collaborative members are currently preparing background information for recommendations related to heat pump water heater measures, savings opportunities for mobile

home residents, and programs for agricultural customers. Collaborative members also attending the Residential New Construction program hearing before the Commission, presented information regarding strategies to increase midstream delivery channels for efficiency measures, and have participated in a series of working group calls aimed at addressing challenges for delivering savings through the Income-Qualified Weatherization program to customers in South Carolina. DEC is finding these contributions to be of sufficient merit that it will develop them further and potentially submit them to the Commission for approval.

Q. ARE THERE OTHER PROGRAM CONCEPTS THAT WERE DISCUSSED AT THE COLLABORATIVE?

A. The Collaborative has also had several discussions with DEC program staff regarding what DEC is referring to as "energy efficiency as a service," which is an industry term used primarily to refer to programs with incentives that are tied to actual, metered energy savings rather than to deemed or engineered savings values. The program concept also considers financing options to assist customers with the upfront cost of deeper efficiency improvements. I am particularly happy that DEC brought this concept to the Collaborative for discussion in the early stages of development by the Company's program planning team. This allowed Collaborative members to share their thoughts on the concepts being considered before the program design had progressed beyond the point at which input could be incorporated.

Q. HAS THE COLLABORATIVE IDENTIFIED SOLUTIONS TO DEC'S DIMINISHING COST-EFFECTIVENESS?

A. The Collaborative first discussed industry best practices for assessing program cost-effectiveness to ensure that Collaborative members were well-informed and thus able to have productive discussions on issues and potential solutions. Through these discussions, some Collaborative members came to understand that the application of the Total Resource Cost ("TRC") test as used by DEC does not fully reflect the monetary value of the benefits that energy efficiency provides to program participants. As a result, some of the Collaborative participants came to support a recommended change to DEC's mechanism, in which the Utility Cost Test, ("UCT") rather than the TRC test would determine cost-effectiveness.[23]

As discussed above, the Collaborative also continues to seek new program opportunities and delivery channels that reduce cost and increase benefits to maintain value and make up for lower avoided costs and rising baselines.

Q. WERE THERE OTHER TOPICS RELATED TO COST-EFFECTIVENESS DISCUSSED BY THE COLLABORATIVE?

A. The Collaborative also discussed the inclusion of a more fulsome accounting of the benefits of energy efficiency in cost-effectiveness testing. This could include the addition of both additional energy benefits (such as natural gas savings) and so-called non-energy benefits ("NEB"). The Collaborative is presently considering how such benefits could be quantified so that they could be included in TRC test results to provide a full accounting of cost-effectiveness results using this test.

[23] Merger Settlement (*supra* Note 20).

Q. HAS THE COMPANY PROVIDED ANY UPDATES REGARDING THE STANDARD REPORTING TEMPLATE THAT YOU DISCUSSED IN YOUR TESTIMONY IN DOCKET NO. E-7, SUB 1192?

A. In addition to including a chart illustrating multi-year program trends as ordered by the Commission, Company Witness Evans states in his Direct Testimony that " the Company is developing a new structure for reporting both DEC's and DEP's program performance metrics to the Collaborative."[24] The Company facilitated a phone conference with stakeholders on this topic, and then provided a preview of its development work in this area during the March Collaborative meeting.

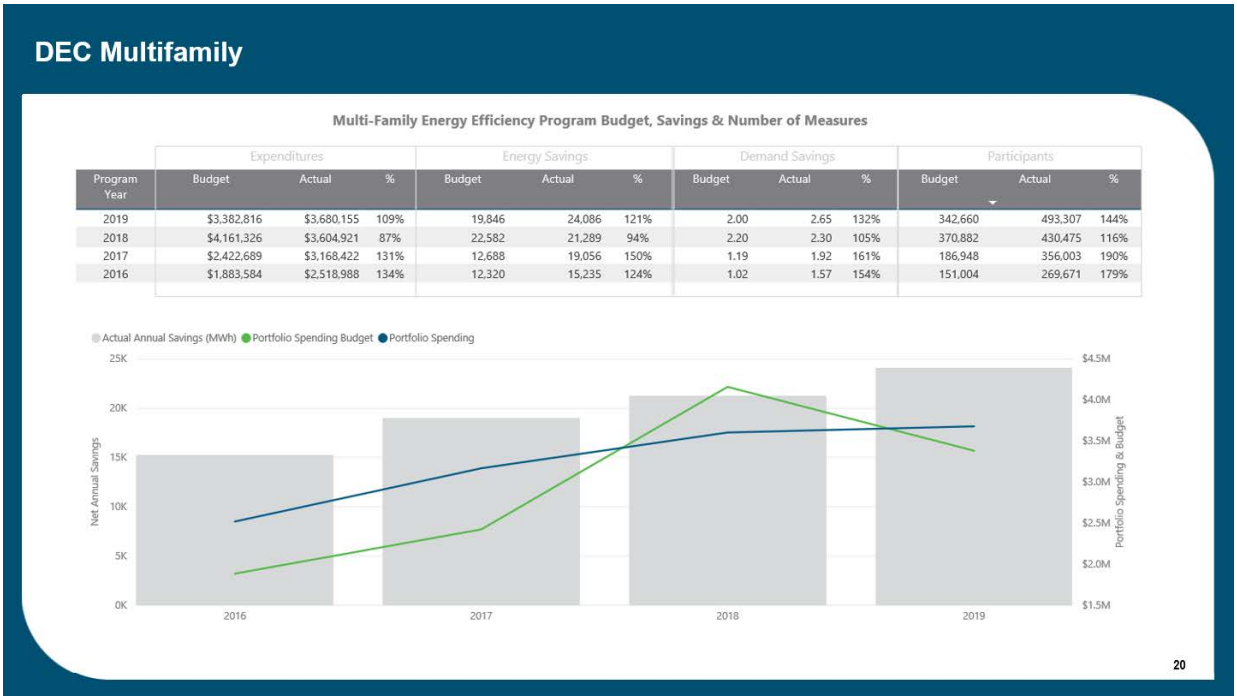
Q. WHAT WAS INCLUDED IN THE COMPANY'S PRESENTATION TO THE COLLABORATIVE?

A. The Company presented a prototype visual "dashboard" that compared projections to reported values for expenditures, savings, and participation, by program as well as at the portfolio level. The dashboard allowed one to quickly understand, for the most recent four years of program implementation, how the program achievements in those categories compared with the Company's projections at the outset of each program year. A sample from the Company's presentation, for the Multifamily Program, is provided below in Figure 1. The full presentation is attached as Exhibit FBW-8.[25]

Figure 1: DEC "Dashboard" for Multifamily Program

[24] Evans Testimony, p. 30 lines 8-10.

[25] DEC noted some minor formatting issues in some of the materials included in the draft presentation, which its team will correct if it has not already done so.



Q. IN WHAT WAY IS THIS USEFUL?

A. The dashboard shows program performance at a glance, and importantly also shows trends in budgets, actual costs, and savings. For example, Figure 1 shows that program savings have been increasing for the multifamily program year over year, from roughly 12,000 MWh in 2016 to nearly 20,000 MWh in 2019. Expenditures and participants have also increased. Prior to the development of this dashboard, drawing year over year comparisons would have required manually tracking down the data in four different reports and assembling it to provide a year by year comparison. The prototype dashboard is a vast improvement.

Q. DO YOU RECOMMEND FURTHER IMPROVEMENTS TO THE COMPANY'S DATA REPORTING?

A. Duke has asked members of the Collaborative for feedback on the prototype and other data needs, and it is expected that it will continue to be refined

through these Collaborative discussions. For example, it has been suggested that electronic workbooks containing the information provided in the dashboard would be valuable for both the work of the Collaborative and support review of the annual recovery rider filings. As Company Witness Evans has indicated, "The Company does not wish to alter the format of its rider filings unless the Commission or Public Staff directs it to do so."[26] If the Company were to provide workbooks associated with the improved dashboard, both to the Collaborative and in future filings, it could prove highly beneficial for review and analysis and could streamline the discovery process for all parties.

Q. WHAT SPECIFIC REQUESTS DO YOU HAVE OF DEC REGARDING PROGRAM EVALUATION AND REPORTING?

A. As noted above, DEC has shown a real willingness to provide useful topline, trend, and comparative data through its program performance reporting to the Collaborative. The Company also appears willing to provide additional data and take respond to input from Collaborative members on further refinements to its data reporting.

My recommendation is that DEC continue to work with the Collaborative to refine this data reporting and share associated workpapers as appropriate, such that Collaborative members can better understand program and portfolio performance and work with the data to identify opportunities and solutions that lead to expanded efficiency savings.

Q. ARE THERE ANY SPECIFIC RECOMMENDATIONS YOU WOULD LIKE TO MAKE TO IMPROVE THE VALUE PROVIDED BY THE COLLABORATIVE??

[26] Evans Testimony, p. 30 lines 4-5.

A. In general, scheduled deadlines and written work product improve work quality and lead to better outcomes. The work of the Collaborative would benefit from having project timelines and concrete work product on certain tasks. This could help to maintain momentum and enable attribution of certain outcomes to the work of the Collaborative. It would also provide a more tangible opportunity for the Commission to track the work of the Collaborative for matters it has referred to the group.

I recommend DEC work with Collaborative members to establish and utilize project deadlines and create work products for select activities.

VI. DSM/EE Rider Intersection With Related Public Policy Considerations

Q. DO THESE DSM/EE RECOVERY RIDER PROCEEDINGS INTERSECT WITH OTHER POLICIES BEFORE THE NORTH CAROLINA UTILITIES COMMMISSION?

A. Yes. The Collaborative's 2019 Portfolio Level Opportunities & Challenges Summary Report noted that state policy and regulatory matters "have a direct or indirect effect on the Company's ability to achieve energy savings through regulated customer programs."[27] Examining these types of policy interactions between DEC's DSM/EE Recovery Rider proceedings and related matters before the Commission serves multiple purposes. It provides valuable context on past and future savings levels and allows us to consider whether there are policy gaps that warrant attention to improve energy efficiency impact for customers. I identify several related Commission policies indicated below:

[27] Energy Efficiency Collaborative Portfolio Level Opportunities and Challenges 2019 Summary Report, page 4 (Attached as Ex. FBW-7)

- Integrated Resource Planning
- New Programs and Program Modifications
- Review of the performance mechanism, rate impact, and possible efficiency targets
- Rate Cases
- DEP DSM/EE Rider

Q. WHAT IS THE RELATIONSHIP BETWEEN THE DSM/EE RECOVERY RIDER AND THE INTEGRATED RESOURCE PLAN?

A. The DSM/EE Recovery Rider and integrated resource planning both provide perspectives into future energy savings. Lately there have been increasingly important connections between the Integrated Resource Plan, the DSM/EE Recovery Rider, and the work of the Collaborative that warrant additional development and attention.

Integrated resource planning provides the utility, the Commission, and the public with a roadmap for meeting future energy and capacity needs. Because integrated resource planning is a complex process with large numbers of input assumptions, calculation methodology decisions, and modeling results that are subject to interpretation, there is considerable value in maintaining a robust line of communication for information to flow, and to create opportunities for discussion and input while the IRP is being developed.

The Collaborative has aided this line of communication between Duke and stakeholders. Through it the company has shared information related to the DSM/EE market potential study (MPS) over the past year though several successive stages of analysis, received input, and opened a discussion around its

use in the IRP. Recently, Duke engaged the Collaborative in discussion related to the IRP related effort to evaluation DSM/EE potential to address the Company's winter peaking needs.

As we focus on future savings performance in these DSM/EE Rider proceedings, the discussions at the Collaborative take on additional significance, particularly as it relates to closing the gap between Duke's current forecast and the goal of maintaining and exceeding 1% annual savings in future years. For instance, a careful exploration of the costs, benefits, and participation assumptions included in the market potential study track similar discussions at the Collaborative regarding possible improvements to program delivery channels and new program development. As noted in discussions at the Collaborative, the MPS is inherently conservative by design: limiting or ignoring the additional savings potential of new technologies, changes in the value of efficiency due to future capacity needs, cost declines over time, and new deployment strategies that can increase participation rates above past performance. The MPS also uses an asymmetrical version of the Total Resource Cost that includes all costs (customer and utility), without considering non-energy benefits.[28]

The DSM/EE Recovery Rider tracks DEC's energy savings performance and sets expectations for energy savings in the subsequent year. Reviewing past performance can, therefor, indicate the degree to which past IRP's and actual energy savings have aligned or diverged (though that is not the focus of this

[28] An agreement between parties is currently awaiting Commission decision on whether to switch to the Utility Cost Test instead of TRC. But the MPS does not include achievable potential based on UCT.

testimony). If, however, the DSM/EE assumptions used in the IRP underestimate[29] future potential, customer could wind up paying for more expensive power supply rather than investing in less expensive strategies to eliminate energy waste.

Following new guidance from the Commission, the IRP is now also concerned with potential coal retirements[30] and attainment of carbon emissions reduction targets outlined in Duke Corporate commitments and North Carolina's Clean Energy Plan.[31] Ultimately, deployment of future DSM/EE programs and achievement of related emissions reductions will flow through the DSM rider, yet there is presently no tracking of the emissions impacts of DEC's DSM/EE programs. In future years, it would be useful for Duke to report on the emissions impacts of its DSM/EE achievements in these Rider filings.

Moreover, Duke's IRP analysis methods treat DSM/EE as a decrement to load and do not directly optimize DSM/EE against alternative supply resources. In the DEC DSM/EE Rider there also is currently no process through with DSM/EE is optimized. As a result, the process by which future savings levels are determined is opaque at best. While there is a clear overlap between the Rider proceedings and integrated resource planning, further steps towards

[29] DEC indicated in multiple stakeholder meetings that IRP inputs will be based on internal forecasts for at least the next five years. While DEC DSM/EE Recovery Rider projections for 2018 and 2019 were far closer to actual performance, previous filings were off by a substantial degree, typically underestimating actual savings by about 40%.

[30] Order Accepting Integrated Resource Plans and REPS Compliance Plans, Scheduling Oral Argument, and Requiring Additional Analyses, N.C.U.C. Docket No. E-100, Sub 157 (Aug. 27, 2019) ("2018 IRP Order") at 90

[31] 2018 IRP Order at Appendix A, page 3

alignment and documentation between these proceedings would be constructive.

Q. WHAT IS THE CONNECTION BETWEEN THE RIDER PROCEEDINGS AND PROGRAM MODIFICATION AND NEW PROGRAM APPLICATIONS?

A. The Collaborative has had varying degrees of involvement with program modifications and new program development that have come before the Commission and there are others in the pipeline. Our testimony last year focused on some of these as well, including Neighborhood Energy Saver, Residential $mart Saver and replicating a highly successful Residential New Construction program currently offered by Duke Energy Progress. This intersection is important because program designs will be stronger when vetted, support can be built among stakeholders, and the Commission can see the potential value from new and modified program filings in the larger context – such as how new / increased savings translate into portfolio level achievements.

Q. WHAT IS THE CONNECTION BETWEEN THE RIDER PROCEEDINGS AND THE COMMISSION'S REVIEW OF POSSIBLE EFFICIENCY SAVINGS TARGETS AND DUKE'S PERFORMANCE INCENTIVE MECHANISM?

A. The outcomes of Commission action regarding savings targets and DEC's performance incentive mechanism will clearly factor into the savings projections that DEC will provide in future rider filings. The Revisions to the DSM/EE Cost Recovery Mechanism (Docket Nos. E-7 Sub 1032 and E-2, Sub 931) was initially framed around three questions that have major implications for the Rider docket.

(a) Whether the incentives in the current DEP and DEC Mechanisms are producing significant DSM and EE results.
(b) Whether the customer rate impacts of the DSM/EE riders are reasonable and appropriate.
(c) Whether overall DSM/EE program portfolio performance targets should be adopted.

Negotiations between DEC, Public Staff, and intervenors in that proceeding focused heavily on refinements to the Company's portfolio performance mechanism, with a specific aim to strengthen and align Duke's financial motivations around key performance outcome objectives. Included in the proposed changes were a revision and expansion of performance bonuses for DEC achieving the 1% annual savings threshold and increasing low income energy efficiency impact. [32]

The proceeding also raised important questions concerning cost-effectiveness test methodologies, which impacts measure and program selection and future savings forecasts. Those discussions centered on a recommendation to switch the primary cost effectiveness test used for measure and program screening purposes from the Total Resource Cost[33] test to the Utility Cost Test.

The Joint Parties also sought to have the Commission assess the possible inclusion of non-energy benefits in calculations using the Total Resource Cost test.

[32] 2020 Joint Proposed Revisions to DSM/EE Cost-Recovery Mechanism, *supra* Note 21.
[33] A primary reason for this proposed change was a perceived program with use of the TRC, wherein all utility and customer costs were included, but only utility system benefits were included – not customer benefits. This asymmetrical treatment of costs and benefits in effect undermined some efficiency measures and programs that would otherwise be cost effective and resulted in their exclusion. The UCT was recommended instead, because it considers utility costs and benefits only, but in a asymmetrical manner.

In addition to the agreements proposed by the Joint Parties, the Natural Resources Defense Council, Southern Alliance for Clean Energy, the Sierra Club and the South Carolina Coastal Conservation League, together with the North Carolina Sustainable Energy Association presented offered reply comments on certain related issues for the Commission's consideration. These included consideration of a "low-risk" discount rate, potential reporting requirements for customers who opt out of the Company's DSM/EE programs, investigation into the use of decoupling, and consideration of potential efficiency saving targets through creation of an Energy Efficiency Resource Standard.[34] While further work is needed before action can be proposed on these matters, they warrant continued attention and would have potentially significant direct impact on future DEC's DSM/EE recovery rider proceedings.

Q. HOW DO THE DSM/EE RECOVERY RIDER PROCEEDINGS INTERSECT WITH RATEMAKING?

A. DSM/EE investments are widely recognized as a least cost resource that reduces utility system costs, and offsets the need for more expensive power production that would otherwise be passed on to customers through higher electric rates. DSM/EE programs also enable customers to meaningfully reduce their monthly electric bills.

Ratemaking itself has the potential to either support or undermine customer benefits from investments in energy efficiency, particularly through setting fixed charges on customer bills. In essence, a high fixed charge reduces the financial benefit customers can achieve when reducing their volumetric usage.

[34] 2020 Joint Proposed Revisions to DSM/EE Cost-Recovery Mechanism, *supra* Note 21.

Across the Southeast, the issue of utility proposed fixed charge increases have been highly contentious, including in Duke Energy' recent rate cases before the South Carolina Public Service Commission, where the Company abandoned an effort to more than triple its residential fixed charge in the face of a widespread backlash.[35]

Another intersection between ratemaking and energy efficiency that has provided very significant impact in the past came from settlement agreements that resulted in Duke shareholder dollars going to the Helping Home Fund. These dollars have not only led to many more households receiving energy efficiency upgrades, they have made an enormous difference in covering health and safety expenses for projects that would otherwise be rejected – often for customers who are most in need of assistance. Helping Home Funds were critical to the success of the Income-Qualified Weatherization pilot program DEC operated in 2019 and previous reporting has shown that customer benefits extend far beyond lower energy bills to also include quantifiably better health outcomes and higher work productivity.[36] While all Helping Home Funds previously provided by DEC have now been expended, future contributions to this fund could expand opportunities to serve additional hard to reach customers and enable more innovative pilot programs like the one DEC offered last year.

Q. HOW DO THE DSM/EE RECOVERY RIDER PROCEEDINGS INTERSECT WITH THE GOVERNOR'S EMISSION REDUCTION COMMITMENTS?

[35] Order on Application of Duke Energy Carolinas, LLC for Adjustment in Electric Rate Schedules and Tariffs, S.C.P.S.C. Docket No. 2018-319-9 (May 21, 2019).
[36] "Evaluation of Duke Energy's Helping Home Fund," Advanced Energy (October 15, 2017).

A. The Collaborative also identified a connection between Duke's energy efficiency efforts and Governor Roy Cooper Executive Order 80, issued on October 29, 2018, wherein he established "North Carolina's Commitment to Address Climate Change and Transition to a Clean Energy Economy." This commitment aimed to reduce greenhouse gas emissions to 40% below 2005 levels and to reduce energy consumption in state-owned buildings by at least 40% from fiscal year 2002-2003 levels.[37] The corresponding NC Clean Energy Plan, prepared by the Department of Environmental Quality[38] in September 2019, outlines a path to reduce electric power sector greenhouse gas emissions by 70% below 2005 levels by 2030 and attain carbon neutrality by 2050, The CEP expounded on the importance of energy efficiency for achieving the state's goals and noting the myriad benefits associated with efficiency:

> Each incremental investment in EE accrues multiple benefits to consumers, including lower energy bills, increased grid reliability and the deferral or elimination of expensive new generation, transmission and distribution infrastructure investments – costs that would otherwise be borne by ratepayers.[39]

> Today many states are surpassing NC with more aggressive REPS, renewables adoption, EE policies, utility regulatory reforms, and investment activity The corporate drivers alongside the national rankings create an opportunity for NC to take new steps to sustain and grow the economic benefits that clean energy can afford, while continuing to attract businesses, talent and investment to the State.

[37] North Carolina's Commitment to Address Climate Change and Transition to a Clean Energy Economy, Exec. Order No. 80 (Oct. 29 2018) at 1.
[38] In 2019, the Nicholas Institute at Duke University undertook creation of a North Carolina Energy Efficiency Roadmap that substantially informed the Clean Energy Plan prepared by the state's Department of Environmental Quality.
[39] North Carolina Clean Energy Plan: Transitioning to a 21st Century Electricity System, N.C. Dept. of Envtl. Quality (Oct. 2019), at p. 126, *available at:* https://files.nc.gov/governor/documents/files/NC_Clean_Energy_Plan_OCT_2019_.pdf

The Clean Energy Plan included 11 energy efficiency recommendations from the stakeholder-generated North Carolina EE Roadmap[40] including many that should be done in partnership with DEC and the Collaborative. To aid in integrating the Clean Energy Plan with the Company's existing efficiency work, it would be useful for Duke to provide emissions reduction data associated with its DSM/EE portfolio performance as part of its annual rider filings.

Accordingly, I recommend that DEC provide carbon emissions reduction figures associated with achieved savings (annual and cumulative over time) in its annual rider filings and correlate them to CEP emissions reduction targets and the Company's own corporate carbon reduction goals.

Q. WHAT IS THE RELATIONSHIP BETWEEN THE DEC DSM/EE RIDER AND THE DEP DSM/EE RIDER?

A. Although DEC and DEP track DSM/EE savings separately, there is a great deal of overlap and alignment between the two companies on deployment of their energy efficiency portfolios. The Companies share many program designs, staff, implementers, and marketing approaches. The Collaborative supports both Companies, often addressing cross-cutting issue that affect both. And programs deployed through one company, if successful, are not infrequently considered for implementation by the other. All of these connections support success of each company's respective DSM/EE portfolio. In recent years, DEC has achieved higher savings performance, which we hope additionally

[40] In 2019, the Nicholas Institute at Duke University undertook creation of a North Carolina Energy Efficiency Roadmap that substantially informed the Clean Energy Plan prepared by the state's Department of Environmental Quality. https://nicholasinstitute.duke.edu/publications/north-carolina-energy-efficiency-roadmap

motivates DEP to strive for higher savings, including following DEC's past performance and exceeding the 1% annual savings threshold.

VII. **Conclusion**

Q. DO YOU HAVE ANY CONCLUDING STATEMENT?

A. I would like to thank the Commission for the opportunity to submit this testimony. I look forward to continuing to work with Duke, the Commission, Public Staff, and the Collaborative to increase efficiency savings for customers as an integral part of the transition to a clean energy future. This concludes my testimony.

CERTIFICATE OF SERVICE

I certify that the parties of record on the service list have been served with the Direct Testimony of Forest Bradley-Wright on Behalf of the North Carolina Justice Center, North Carolina Housing Coalition, and Southern Alliance for Clean Energy either by electronic mail or by deposit in the U.S. Mail, postage prepaid.

This the 22nd day of May, 2020.

s/ David L. Neal

David L. Neal