STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-2, SUB 1294

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of Application of Duke Energy Progress, LLC for Approval of Demand-Side Management and Energy Efficiency Cost Recovery Rider Pursuant to N.C. Gen. Stat. § 62-133.9 and Commission Rule R8-69	))))))	**DIRECT TESTIMONY OF** **KAREN K. HOLBROOK** **FOR** **DUKE ENERGY PROGRESS, LLC**

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION WITH DUKE ENERGY.

A. My name is Karen K. Holbrook. My business address is 400 South Tryon Street, Charlotte, North Carolina. I am employed by Duke Energy Business Services, LLC ("Duke Energy Business Services"), a service company affiliate of Duke Energy Progress, LLC ("Duke Energy Progress" or "Company") and a subsidiary of Duke Energy Corporation ("Duke Energy"), as Director in the Integrated Grid Strategy & Solutions group. In this capacity, I provide services to Duke Energy Progress and other regulated utility subsidiaries of Duke Energy Corp.

Q. PLEASE BRIEFLY STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I have a Bachelor of Science degree in Accounting from Marshall University, and I passed the Certified Public Accounting exam in 1988. I started my career in 1986 in general accounting for the Kanawha County Parks and Recreation Commission and was promoted to Controller after two years. In 1989, I joined Columbia Gas Transmission, a subsidiary of Columbia Energy Group, Inc., where I remained working in a variety of financial areas including Financial Reporting, Management Discussion & Analysis (for SEC reporting), Operational and Capital Budgeting, Financial Planning, and Economic Analysis, until 1999. I joined Duke Energy in 1999 and have worked in a variety of financial areas including Financial Planning, Financial Analysis,

Corporate Finance, Risk Management, Financial Re-engineering. I became Director of Program Performance in September 2010, then moved to my current role of Regulatory Support in 2020.

Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN MATTERS BROUGHT BEFORE THIS COMMISSION OR OTHER REGULATORY COMMISSIONS?

A. In Docket No. E-7, Sub 1265, the most recent Duke Energy Carolinas, LLC's annual DSM/EE recovery rider proceeding, I adopted the prefiled direct testimony of Robert P. Evans, and testified before this Commission. I have also testified a number of times before the Indiana Utility Regulatory Commission in matters involving the DSM rider and portfolio.

Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?

A. I am responsible for regulatory strategy and stakeholder engagement related to DSM/EE programs for the Company, while also managing the regulatory leads in all of Duke Energy's state jurisdictions.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to explain and support DEP's proposed DSM/EE Cost Recovery Rider and Experience Modification Factor ("EMF"). My testimony provides: (1) a discussion of items the Commission specifically directed the Company to address in this proceeding; (2) an overview of the Commission's Rule R8-69 filing requirements; (3) a synopsis of the DSM/EE programs included in this filing; (4) a discussion of program results; (5) an

explanation of how these results have affected DSM/EE rate calculations; (6) information on DEP's Evaluation Measurement & Verification ("EM&V") activities; (7) an overview of the calculation of the Portfolio Performance Incentive ("PPI"); (8) an update on the Company's recruitment of and participation in Find it Duke ("FID") by historically disadvantaged business; and, (9) in response to the Commission's May 20, 2022 *Order Requiring Filing of Additional Testimony*, in this docket, dated May 20, 2022, additional details supporting the Company's residential My Home Energy Report program ("MyHER").

Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR TESTIMONY.

A. Holbrook Exhibit 1 supplies load impacts, program costs, and avoided costs for each program, which are used in the calculation of the PPI and revenue requirements by vintage. Holbrook Exhibit 2 contains a summary of net lost revenues for the period January 1, 2016 through December 31, 2023. Holbrook Exhibit 3 contains the actual program costs for North Carolina for the period January 1, 2018 through December 31, 2021. Holbrook Exhibit 4 contains the found revenues used in the net lost revenues calculations. Holbrook Exhibit 5 supplies evaluations of event-based programs. Holbrook Exhibit 6 contains information about the results of DEP's programs and a comparison of actual impacts to previous estimates. Holbrook Exhibit 7 contains the projected program and portfolio cost-effectiveness results for DEP's approved programs. Holbrook Exhibit 8 contains a summary of 2021 program performance and an

explanation of the variances between the expected program results and the actual results. Holbrook Exhibit 8 is designed to create more transparency regarding the factors that have driven these variances. Holbrook Exhibit 9 lists DEP's industrial and large commercial customers that have opted out of participation in the Company's DSM and/or EE programs and also lists those customers that have elected to participate in new measures after having initially notified the Company that they declined to participate, as required by Commission Rule R8-69(d)(2). Holbrook Exhibit 10 provides a summary of the estimated activities and timeframe for completion of EM&V by program. Holbrook Exhibit 11 provides the actual and expected dates when the EM&V for each program or measure will become effective. Holbrook Exhibit 12 provides a table showing program costs and avoided costs savings for the test year ending December 31, 2021 and for the previous five test periods. Holbrook Exhibit 13 contains revisions, associated with the RMAF, to section 20 of the DEP Cost Recovery Mechanism for the Commission's consideration. Holbrook Exhibit 14 provides information showing the method used to exclude Find it Duke amounts from the energy efficiency portfolio. Holbrook Exhibits 15 - 19 provide responses to the Commission's requests for additional information.

Holbrook Exhibits A through G provide detailed EM&V reports, completed or updated since DEP's DSM/EE Cost Recovery Rider Filing in Docket No. E-2, Sub 1273, for the following programs: Energy Wise Home Demand Response Program Winter 2020/2021 (Holbrook Exhibit A); Small

Business Energy Saver Program 2019-2020 (Holbrook Exhibit B); Online Savings Store Program 2021 Evaluation Report – Final (Holbrook Exhibit C); K12 Education Program 2019-2020 (Holbrook Exhibit D); MyHER (Holbrook Exhibit E); Commercial, Industrial and Governmental Demand Response Automation Program 2020-2021 (Holbrook Exhibit F); and Multifamily Energy Efficiency Program (Holbrook Exhibit G).

Q. WERE HOLBROOK EXHIBITS 1-19 PREPARED BY YOU OR AT YOUR DIRECTION AND SUPERVISION?

A. Yes, they were.

II. ACTIONS ORDERED BY THE COMMISSION

Q. PLEASE DESCRIBE THE ACTIONS THE COMMISSION DIRECTED DEP TO TAKE IN THE COMMISSION'S ORDER IN DOCKET NO. E-2, SUB 1273.

A. In its December 17, 2021 *Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice* in Docket No. E-2, Sub 1273 ("Sub 1273 Order"), the Commission ordered that: (1) DEP shall continue to leverage its Collaborative to discuss the current and forecasted decline in energy savings and the development and expansion of EE for low-income customers and report the results of these discussions in the Company's 2022 DSM/EE rider filing, and (2) the combined DEC/DEP Collaborative shall continue to meet every other month. In addition, the Commission directed DEP to (1) provide calculations and workpapers clearly showing the Find It Duke ("FID") referral channel costs and revenues excluded and methods used to exclude such

amounts from the EE Rider, (2) that DEP shall include the information requested by the Commission about recruitment and participation in FID by historically disadvantaged business. I discuss how, consistent with the Commission's order, DEP continues to leverage its collaborative to discuss the current forecasted decline EE savings and expansion of EE programs for low-income customers below, and I will address the FID questions later in my testimony.

Q. DID DEP CONTINUE TO LEVERAGE THE COLLABORATIVE TO DISCUSS ISSUES RAISED BY INTERVENORS IN DOCKET E-2, SUB 1273?

A. Yes. The Collaborative met for formal meetings in January, March, May, July, September and November. Between meetings, interested stakeholders joined conference calls in February, April, May, August, October, and December to zero in on certain agenda items or priorities that could not be fully explored during the regular meetings. During each of those meetings, the group discussed opportunities for new programs to gain energy savings and enhancements to low income EE programs.

Q. HAS THE COLLABORATIVE EXAMINED THE REASONS FOR THE FORECASTED DECLINE IN SAVINGS AND EXPLORED OPTIONS FOR PREVENTING OR CORRECTING A DECLINE IN FUTURE DSM/EE SAVINGS?

A. Much of the forecasted decline in savings stems from federal changes in lighting standards and market transformation, which continues to impact

lighting savings. Members have suggested a number of new program ideas, several of which continue to be investigated. Additionally, the Company's program managers have used the Collaborative as a resource to explore and vet several new program modifications aimed at addressing market barriers and increasing program participation.

Q. HOW HAS THE COMPANY RESPONDED TO PROGRAM SUGGESTIONS FROM COLLABORATIVE MEMBERS?

A. The Company has continued to investigate the implementation opportunities of a number of the suggestions made over the course of 2020 and 2021. The Company is monitoring potential changes in federal appliance and energy standards which may influence program design and has begun to work with many Collaborative members to develop multiple pilot programs. For example, a stakeholder group is currently discussing a Tariffed on Bill program that is aimed at removing upfront capital barriers to the installation of energy efficient appliances, and a different working group is working on a low-income pilot program. To date, the Company has not filed any of these new programs for approval. Although none of these program ideas are ready for filing, the Company and the DSM/EE and other collaboratives are still actively researching and developing these potential programs.

Q. HAS THE COLLABORATIVE LOOKED SPECIFICALLY AT EE PROGRAMS TO ASSIST LOW-INCOME CUSTOMERS IN SAVING ENERGY OR INCORPORATED THE FINDINGS FROM OTHER

WORKING GROUPS, SUCH AS THE LOW-INCOME AFFORDABILITY COLLABORATIVE ("LIAC")?

A. The DSM/EE Collaborative has been focused extensively, in both regular meetings and in separate working group meetings, on low-income program opportunities and design. DSM/EE Collaborative members have been engaged and actively involved in developing a low-income pilot (sometimes referred to as the High Energy Use Low-Income Pilot) for more than a year. Although identifying target markets, vendors, eligibility criteria, and program cost inputs has taken longer than expected, conversations are ongoing, and progress is being made.

Additionally, members have contributed to the expansion of the Company's existing low-income programs, such as expanding the DEC weatherization program into DEP. Collaborative members have made a number of recommendations related to incentive structures and partner agencies that the program team has been working to include in the final program design.

Finally, the Collaborative is aware of the work of the LIAC and looks forward to exploring a full spectrum of opportunities to assist low- and moderate-income customers with their electricity burden once the final recommendations have been submitted to and approved by the Commission.

Q. DID THE COMMISSION DIRECT THE COMPANY TO PROVIDE INFORMATION ON ANY OTHER ITEMS?

A. In addition to the ordered items, the Commission has requested additional information on a variety of topics that I discuss below.

Q. HAS THE COMPANY ANALYZED THE COST-EFFECTIVENESS SCORES FOR ITS DISTRIBUTION SYSTEM DEMAND RESPONSE ("DSDR") PROGRAM?

A. Yes. The Company has determined that the TRC and UCT cost-effectiveness scores are both 1.221. In addition, the present value of DSDR Program net benefits is approximately $55,603,000.

Q. HAS THE COMPANY MADE ANY CHANGES TO ITS ANNUAL RATIOS OF ALLOCATIONS BETWEEN DSDR AND NON-DSDR EQUIPMENT?

A. Yes. The Company reviews the allocation ratios annually each summer and implements any necessary updates the following year. The Company reviewed 2020 units during the summer of 2021 and determined that the capacitor allocation ratio should be reduced from 20.35 to 19.64 percent, and the allocation ratio applied to regulators was reduced from 77.64 to 75.77 percent. The 2021 units will be reviewed this summer, and any further changes will be communicated to the Public Staff and implemented on January 1, 2023.

Q. DOES THE COMPANY HAVE ANY ADJUSTMENTS TO MAKE TO THE EM&V REPORTS?

A. Yes. Through the Company's review of the DEC/DEP EM&V Report for the Duke Energy Small Business Energy Saver Program 2019-2020, dated 11/23/21, the Company has determined that a revised report is needed due to inaccurately calculated savings from indoor lighting measures. The evaluator assumed certain building-type AC and non-electric heating assumptions which

are used to determine appropriate waste heat factors (WHFE; aka, interactive effects) referenced in the Mid-Atlantic TRM algorithm for indoor lighting measures. The algorithm is then used to calculate savings from indoor lighting measures and overall program ex post gross savings.

After discussion with the Public Staff of the North Carolina Utilities Commission, the Company agreed to have the evaluator revise the DEC/DEB Small Business Energy Saver ("SBES") report and use the virtual verification survey data captured through the DEC/DEP SBES evaluation. The survey data identified heating and cooling fuel types for participating businesses and allowed the evaluator to correctly apply the appropriate waste heat factors and calculate the accurate measure and program-level savings.

III. RULE R8-69 FILING REQUIREMENTS

Q. PLEASE PROVIDE AN OVERVIEW OF THE INFORMATION DEP IS PROVIDING IN RESPONSE TO THE COMMISSION'S FILING REQUIREMENTS.

A. The information for this filing is provided pursuant to the Commission's filing requirements contained in R8-69(f)(1) and can be found in my testimony and exhibits, as well as the testimony and exhibits of Company witness Shannon R. Listebarger as follows:

R8-69(f)(1)		Items	Location in Testimony
(i)		Projected NC retail sales for the rate period	Listebarger Exhibit 6
(ii)		For each measure for which cost recovery is requested through DSM/EE rider:	
(ii)	a.	Total expenses expected to be incurred during the rate period	Holbrook Exhibit 1
(ii)	b.	Total costs savings directly attributable to measures	Holbrook Exhibit 1
(ii)	c.	EM&V activities for the rate period	Holbrook Exhibits 10 and 11
(ii)	d.	Expected summer and winter peak demand reductions	Holbrook Exhibit 1
(ii)	e.	Expected energy reductions	Holbrook Exhibit 1
(iii)		Filing requirements for DSM/EE EMF rider, including:	
(iii)	a.	Total expenses for the test period in the aggregate and broken down by type of expenditure, unit, and jurisdiction	Holbrook Exhibit 3
(iii)	b.	Total avoided costs for the test period in the aggregate and broken down by type of expenditure, unit, and jurisdiction	Holbrook Exhibit 1
(iii)	c.	Description of results from EM&V activities	Testimony of Karen Holbrook and Holbrook Exhibits A-G
(iii)	d.	Total summer and winter peak demand reductions in the aggregate and broken down per program	Holbrook Exhibit 1
(iii)	e.	Total energy reduction in the aggregate and broken down per program	Holbrook Exhibit 1
(iii)	f.	Discussion of findings and results of programs	Testimony of Karen Holbrook and Holbrook Exhibit 6
(iii)	g.	Evaluations of event-based programs	Holbrook Exhibit 5
(iii)	h.	Comparison of impact estimates from previous year and explanation of significant differences	Testimony of Karen Holbrook and Holbrook Exhibits 6 and 8
(iv)		Determination of utility incentives	Testimony of Karen Holbrook and Holbrook Exhibit 1

(v)	Actual revenues from DSM/EE and DSM/EE EMF riders	Listebarger Exhibit 3
(vi)	Proposed DSM/EE rider	Testimony of Shannon Listebarger and Listebarger Exhibit 1
(vii)	Projected NC sales for customers opting out of measures	Listebarger Exhibit 6
(viii)	Supporting work papers	Digital medium accompanying filing

IV. PROGRAM OVERVIEW

Q. WHAT ARE DEP'S CURRENT DSM AND EE PROGRAMS?

A. The Company's current DSM and EE programs are as follows:

RESIDENTIAL CUSTOMER PROGRAMS

- EE Education Program
- Multi-Family EE Program
- MyHER Program
- Neighborhood Energy Saver Program
- Residential Smart $aver EE Program
- New Construction Program
- Load Control Program (EnergyWise)
- Save Energy and Water Kit Program *(*now part of the EE Appliances and Devices Program)
- Energy Assessment Program
- Low-Income Weatherization Pay for Performance Pilot Program
- Energy Efficient Appliances and Devices Program

NON-RESIDENTIAL CUSTOMER PROGRAMS

- Non-Residential Smart $aver Energy Efficient Products and Assessment Program
- Non-Residential Smart $aver Performance Incentive Program
- Small Business Energy Saver Program
- CIG Demand Response Automation Program
- EnergyWise for Business

COMBINED RESIDENTIAL/NON-RESIDENTIAL PROGRAMS

- Energy Efficient Lighting Program
- DSDR

Q. PLEASE DESCRIBE ANY UPDATES MADE TO THE UNDERLYING ASSUMPTIONS FOR DEP'S PROGRAMS THAT HAVE ALTERED PROJECTIONS FOR VINTAGE 2023.

A. EM&V results were used to update the savings impacts for those programs for which DEP received EM&V results after it prepared its application in Docket No. E-2, Sub 1273. Updating programs for EM&V results changes the projected avoided cost benefits associated with the projected participation and, hence, impacts the calculation of the specific program and overall portfolio cost-effectiveness, as well as the calculation of DEP's projected shared savings incentive.

Q. AFTER FACTORING THESE UPDATES INTO DEP'S PROGRAMS FOR VINTAGE 2023, DO THE RESULTS OF DEP'S PROSPECTIVE

COST-EFFECTIVENESS TESTS INDICATE THAT IT SHOULD DISCONTINUE OR MODIFY ANY OF ITS PROGRAMS?

A. DEP performed a prospective analysis of each of its programs and the aggregate portfolio for the Vintage 2023 period. The results of this prospective analysis are contained in Holbrook Exhibit 7. This exhibit shows that all programs pass the UCT cost effectiveness threshold of 1.0. This includes programs that did not previously pass, including Neighborhood Energy Saver and EnergyWise for Business. The Company is planning to file a modification to the Energy Wise for Business program to include winter demand response savings. The Bring Your Own KW Option will provide customers the opportunity to participate in a demand response program during the winter peaking season where the customer decides how much electrical load to reduce during the peaking event. The planned modification results in a UCT of 1.19.

V. DSM/EE PROGRAM RESULTS TO DATE

Q. HOW MUCH ENERGY, CAPACITY AND AVOIDED COST SAVINGS DID DEP DELIVER AS A RESULT OF ITS DSM/EE PROGRAMS DURING VINTAGE 2021?

A. During Vintage 2021, DEP's DSM/EE programs delivered 379 million kilowatt hours ("kWh") of energy savings and over 335 megawatts ("MW") of capacity savings, which produced a net present value of avoided cost savings of over $112 million. The 2021 performance results for individual programs are provided in Evans Exhibits 6 and 8.

Q. DID ANY PROGRAMS SIGNIFICANTLY OUT-PERFORM RELATIVE TO THEIR ORIGINAL ESTIMATES FOR VINTAGE 2021?

A. Yes. In the residential market, two programs did significantly out-perform compared to their original energy savings estimates: the Energy Efficient Lighting Program and Residential Smart $aver. When compared to estimates originally filed for Vintage 2021, the programs exceeded projections by 92 percent and 48 percent, respectively. The increases in both were achieved primarily through changes in participation.

The non-residential program with the largest percentage increase in expected energy savings from those forecasted for 2021 is the Energy Efficient Lighting. This program produced energy savings that exceeded DEP's projections by 93 percent. The difference is primarily associated with increased participation.

Q. HAVE ANY PROGRAMS SIGNIFICANTLY UNDERPERFORMED RELATIVE TO THEIR ORIGINAL ESTIMATES FOR VINTAGE 2021?

A. Yes. During 2021, most programs underperformed due to the ongoing COVID pandemic. Many of these programs required in-person interactions with customers, which have been limited by the pandemic.

VI. PROJECTED RESULTS

Q. PLEASE PROVIDE A PROJECTION OF THE RESULTS THAT DEP EXPECTS FROM IMPLEMENTING ITS PORTFOLIO OF PROGRAMS.

A. DEP will update the actual and projected DSM/EE achievement levels in its next annual DSM/EE cost recovery filing to account for any program or measure additions based on the performance of programs, market conditions, economics, and consumer demand. The actual results for Vintage 2021 and projection of the results for the next two years, as well as the associated actual and projected program expenses, are summarized in the table below:

DEP System (NC & SC) DSM/EE Portfolio 2021 Actual Results and 2022-2023 Projected Results			
	2021	2022	2023
Annual System MW	380	415	399
Annual System Net Gigawatt-Hours	379	462	410
Annual Program Costs (Millions)	$77	$105	$96

VII. EM&V ACTIVITIES

Q. CAN YOU PROVIDE INFORMATION ON THE COMPANY'S EM&V ACTIVITIES?

A. Yes. Holbrook Exhibit 10 provides a summary of the estimated activities and timeframe for completion of EM&V by program. Holbrook Exhibit 11 provides the actual and expected dates of when the EM&V for each program or measure will become effective. Holbrook Exhibits A through G provide the completed EM&V reports or updates for the following programs:

Holbrook Exhibit	EM&V Reports	Report Finalization Date
A	EnergyWise Home Demand Response Program Winter 2020/2021	11/09/2021
B	Small Business Energy Saver Program 2019-2020	11/23/2021

Holbrook Exhibit	EM&V Reports	Report Finalization Date
C	Online Savings Store Program 2021	11/30/2021
D	K12 Education Program 2019-2020	12/02/2021
E	My Home Energy Report Program Evaluation	03/06/2022
F	Commercial, Industrial and Governmental Demand Response Automation Program 2020-2021	03/24/2022
G	Multifamily Energy Efficiency Program	04/20/2022

Q. HOW WERE EM&V RESULTS UTILIZED IN DEVELOPING THE PROPOSED RATES?

A. The Company has applied EM&V in accordance with the process approved by the Commission in its 2020 Mechanism Order. The level of EM&V required varies by program and depends upon that program's contribution to the total portfolio, the duration the program has been in the portfolio without material change, and whether the program and administration is new and different in the energy industry. DEP estimates, however, that no additional costs above five percent of total program costs will be associated with performing EM&V for all measures in the portfolio.

Q. WHICH PROGRAMS CONTAIN IMPACT RESULTS BASED ON CAROLINAS-BASED EM&V?

A. All of the impact results included in the Company's filing (Holbrook Exhibits A through G) are based on Carolinas-based EM&V.

VIII. RATE IMPACTS

Q. HAVE THE PARTICIPATION RESULTS AFFECTED THE VINTAGE 2021 EMF?

A. Yes. The EMF accounts for changes to actual participation relative to the forecasted participation levels used in DEP's 2021 DSM/EE rider. As DEP receives actual participation information, it updates the participation-driven actual avoided cost benefits and the net lost revenues derived from its DSM and EE programs. For example, with all other things being equal, for programs that underperform relative to their original participation targets, the EMF will be reduced to reflect lower costs, net lost revenues, and shared savings incentives. On the other hand, higher-than-expected participation in programs causes the EMF to reflect higher program costs, net lost revenues, and shared savings incentives. In addition, the EMF is impacted by the application of EM&V results.

Q. HOW WILL EM&V BE INCORPORATED INTO THE VINTAGE 2021 EMF COMPONENT OF ITS RATES?

A. All of the final EM&V results that were received by DEP as of December 31, 2021 have been applied prospectively from the first day of the month immediately following the month in which the study participation sample for the EM&V was completed. Accordingly, for any program for which DEP has received EM&V results, the per participant impact applied to the projected program participation in Vintage 2023 is based upon the actual EM&V results that have been received.

Q. HAS THE OPT-OUT OF CERTAIN NON-RESIDENTIAL CUSTOMERS AFFECTED THE RESULTS OF APPROVED PROGRAMS?

A. Yes, the opt-out of qualifying non-residential customers has significantly impacted DEP's overall non-residential participation and the associated impacts. For Vintage 2021, DEP had 4,136 eligible customer accounts opt out of participating in DEP's non-residential portfolio of EE programs and had 4,226 eligible customer accounts opt out of participating in DEP's non-residential portfolio of DSM programs. This is a decrease from the 5,233 EE accounts and 5,441 DSM opt-outs reported for 2020. Also during 2021, 11 opt-out eligible accounts opted-in to the EE portion of the Rider, and 3 opt-out eligible accounts opted-in to the DSM portion of the Rider.

Q. IS THE COMPANY CONTINUING ITS EFFORTS TO ATTRACT THE PROGRAM PARTICIPATION OF OPT-OUT ELIGIBLE CUSTOMERS?

A. Yes. Increasing the participation of opt-out eligible customers in DSM and EE programs is very important to the Company. DEP continues to evaluate and revise its non-residential programs to accommodate new technologies, eliminate product gaps, remove barriers to participation, and make its programs more attractive. The Company also continues to leverage its Large Account Management Team to make sure customers are informed about product offerings.

IX. NET LOST REVENUES

Q. IS DEP REQUESTING RECOVERY OF NET LOST REVENUES FOR ALL OF ITS PROGRAMS?

A. No. At this time, DEP is not requesting recovery of net lost revenues for its DSDR, EnergyWise, or CIG Demand Response Automation programs.

Q. PLEASE EXPLAIN HOW NET LOST REVENUES FOR THE MYHER PROGRAM ARE ACCOUNTED FOR IN THE RIDER CONSIDERING THE INCLUSION OF HISTORICAL IMPACTS IN THE LAST GENERAL RATE CASE.

A. Per the approved mechanism, the Company recovers lost revenues for: (i) the lesser of 36 months or the measure life, or (ii) until reflected in a general rate case. Although historical participation in MyHER was reflected in the most recent general rate case, MyHER, by its nature, has a one-year measure life. Therefore, *each* year of participation is new.

MyHER engages, educates, and empowers the Company's residential customers to save energy. If DEP were to discontinue the MyHER program, the energy savings resulting from MyHER would likewise not continue. This would result in an increase in customer energy usage with a corresponding increase in the associated revenues to the Company. Through the MyHER program, the Company's revenues for energy use do not increase, but decrease. Accordingly, continued recognition and recovery of lost revenues associated with this program is appropriate.

Q. DO ALL RESIDENTIAL RATEPAYERS PAY THE NET LOST REVENUES FOR THE MYHER REPORT WHETHER THEY ARE MYHER PARTICIPANTS OR NOT? IF SO, PLEASE EXPLAIN WHY

NON PARTICIPANTS SHOULD BE OBLIGATED TO PAY FOR THE NET LOST REVENUES RESULTING FROM PARTICIPANTS.

A. Because all utility system retail customers benefit from cost-effective EE programs (the avoided costs from the programs exceed the program costs), all of the Company's retail customers (except for certain large commercial or industrial customers) pay under the Company's DSM/EE rider. All cost-effective EE programs deliver greater system value; thus, the Company's ratepayers (except for certain large commercial or industrial customers) all pay under the Company's DSM/EE riders. When an EE program is first approved by the Commission and in every subsequent annual cost recovery proceeding while the EE program remains in effect, the Commission reviews its cost-effectiveness. In 2020, the Commission determined that the utility cost test ("UCT") would be the primary cost-effectiveness test for review of EE programs. If an EE program scores higher than a 1.0 on the UCT, system savings resulting from the program outweigh the costs. MyHER has a UCT test of 2.69, meaning that the resulting system savings, which benefit *all* customers, outweigh the program's costs. Therefore, because all residential customers benefit from the system savings, they all pay the same rate, which includes a component of net lost revenue recovery.

To illustrate, I note that residential DEP customers that do not participate in the MyHER program are often classified as members of the MyHER "control group" for EM&V purposes. The control group is necessary to accurately measure the impacts of the MyHER program. Although the

members of the control group do not directly recognize savings from MyHER's reduced usage, they still benefit overall. A UCT score of higher than 1 means that the utility system savings, that is, reductions in DEP's generation capacity costs, transmission and distribution capacity costs, and energy costs resulting from the program, outweigh the program costs to the utility. Thus, all customers enjoy the benefits of these lesser costs because DEP has avoided generation capacity costs, transmission and distribution capacity costs and energy costs that would otherwise be passed along to its ratepayers.

Q. HAS THE COMPANY RECOGNIZED FOUND REVENUES IN ITS CALCULATION OF NET LOST REVENUES?

A. Yes. The recognized found revenues are provided in Holbrook Exhibit 4.

Q. PLEASE DESCRIBE HOW DEP DETERMINES ITS FOUND REVENUES.

A. Consistent with the Commission's 2020 Mechanism Order, DEP has adopted the "Decision Tree" located in Attachment C of the approved revised cost recovery mechanism. Consistent with the methodology employed by DEP, found revenue activities are identified, categorized, and netted against the net lost revenues created by DEP's EE programs. Found revenues, as calculated, result from DEP's activities that are perceived to directly or indirectly result in an increase in customer demand or energy consumption within DEP's service territory. However, revenues resulting from load-building activities would not be considered found revenues if they (1) would have occurred regardless of DEP's activity, (2) were a result of a Commission-approved economic

development activity not determined to produce found revenues, or (3) were part of an unsolicited request for DEP to engage in an activity that supports efforts to grow the economy. Additionally, under N.C. Gen. Stat. § 62-3(23)(n) any increases from customer demand or energy consumption associated with transportation electrification shall not constitute found revenues for an electric public utility. DEP also adjusts the calculation of found revenues to account for the impacts of activities outside of DSM/EE programs that it undertakes that reduce customer consumption – i.e., "negative found revenues." Based on the results of this work, all potential found revenue-related activities are identified and categorized in Evans Exhibit 4.

Q. PLEASE DISCUSS DEP'S ADJUSTMENT TO ITS FOUND REVENUE CALCULATION TO ACCOUNT FOR NEGATIVE FOUND REVENUES.

A. DEP continues to aggressively pursue, with its outdoor lighting customers, the replacement of aging Mercury Vapor lights with Light Emitting Diode ("LED") fixtures. By moving customers past the standard High-Pressure Sodium ("HPS") fixture to an LED fixture in this replacement process, DEP is generating significant energy savings. Because they come outside of DEP's EE programs, these energy savings are not captured in DEP's calculation of lost revenues. One of the activities that DEP includes in the calculation of found revenues is the increase in consumption from new outdoor lighting fixtures added by DEP; accordingly, it is logical and symmetrical to count the energy consumption reduction realized in outdoor lighting efficiency upgrades. The

Company does not take credit for the entire efficiency gain from replacing Mercury Vapor lights, but rather takes credit only from the efficiency gain from replacing HPS with LED fixtures. Also, DEP has not recognized any negative found revenues in excess of the found revenues calculated; in other words, the net found revenues number will never be negative and have the effect of increasing net lost revenue calculations.

X. PPI AND PRI CALCULATIONS

Q. PLEASE PROVIDE AN OVERVIEW OF THE SHARED SAVINGS RECOVERY MECHANISM APPROVED IN THE COMMISSION'S 2020 MECHANISM ORDER.

A. Pursuant to the Commission's 2020 Mechanism Order, for Vintage Year 2017 and subsequent vintage years, DEP's revised cost recovery mechanism allows it to (1) recover the reasonable and prudent costs incurred for adopting and implementing DSM and EE measures in accordance with N.C. Gen. Stat. § 62-133.9 and Commission Rules R8-68 and R8-69; (2) recover net lost revenues incurred for up to 36 months of a measure's life for DSM and EE programs; and (3) earn a PPI based upon the sharing of a percentage of the net savings achieved through DEP's DSM/EE programs on an annual basis. Prior to 2022, the shared savings percentage was 11.5 percent; starting in 2022, this percentage is lowered to 10.6 percent. The PPI is also subject to certain limitations that are set forth in the Cost Recovery and Incentive Mechanism.

Q. PLEASE EXPLAIN HOW DEP DETERMINES THE PPI.

A. First, DEP determines the net savings eligible for incentive by subtracting the present value of the annual lifetime DSM/EE program costs (excluding approved low-income programs as described below) from the net present value of the annual lifetime avoided costs achieved through the Company's programs (again, excluding approved low-income programs). The Company then multiplies the net savings eligible for incentive by the applicable shared savings percentage to determine its pre-tax incentive.

Q. PLEASE EXPLAIN WHETHER DEP EXCLUDES ANY PROGRAMS FROM THE DETERMINATION OF ITS PPI CALCULATION.

A. Consistent with the Commission's Orders in Docket No. E-2 Sub 931, DEP has excluded the impacts and costs associated with the Neighborhood Energy Saver Program and the EE Education Program from its calculation of the PPI. At the time these programs were approved, they were not cost-effective, but were instead approved based on their societal benefit. Beginning in 2022, the Income-Qualified EE and EE Education programs are eligible to receive a program return incentive ("PRI"). The PRI is determined by multiplying the net present value of avoided cost by 10.6 percent. As with the PPI, the PRI is also subject to certain limitations that are set forth in the 2020 Mechanism Order.

XI. FIND IT DUKE

Q. WHAT EFFORTS DOES DEP MAKE TO IDENTIFY AND RECRUIT HISTORICALLY DISADVANTAGED BUSINESSES FOR PARTICIPATION IN FID?

A. The program has partnered with Duke Energy Supplier Diversity, an internal organization within Duke Energy, and the Company has established a cross-jurisdictional team that is responsible for defining disadvantaged business terms, goals, and tactical plans for Trade Ally identification and recruitment. In 2021, the Company applied internal data sources and external surveys to the existing Smart $aver/FID Trade Ally network for identification and classification. As a result of this research, Duke Energy identified the following,:

Supplier Diversity Initial Email Responses

total companies surveyed	# of companies	Responded Diverse	Responded not diverse	African Amer	Women Owned	Service Disabled	Native Amer	Veteren	Hispanic Amer	total responses
DEP	537		71	1	5	0	1	0	0	78

Based on this information, Duke Energy is developing plans to communicate with trade-related businesses and engage in recruitment opportunities during 2022. Additionally, with respect to these recruitment opportunities, Duke Energy has engaged with the following organizations:

- National Minority Supplier Development Council
- Woman's Business Enterprise National Council
- African American Chamber of Commerce
- National Veteran Business Development Council
- National LGBT Chamber of Commerce

Additionally, an LOE (level of effort) was signed on November 22, 2021 with the FID program vendor to build an automated process that will capture supplier diversity classification upon each new Trade Ally registration and allow FID to

track success. That work has been completed, and the results are being incorporated into the database.

Q. HOW MANY HISTORICALLY DISADVANTAGED BUSINESSES ARE CURRENTLY PARTICIPATING IN FID?

A. There is currently one historically disadvantaged business enrolled in the FID channel.

Q. PLEASE PROVIDE THE NUMBER OF HISTORICALLY DISADVANTAGED BUSINESSES PARTICIPATING IN FID THAT ARE FEMALE-OWNED BUSINESSES, MINORITY-OWNED BUSINESSES, AND ALL OTHER SUBCATEGORIES DESCRIBING THE NATURE AND OWNERSHIP OF SUCH BUSINESSES.

A. There is currently one African American-owned Trade Ally participating in FID.

Q. WHAT IS THE TOTAL NUMBER OF BUSINESSES CURRENTLY PARTICIPATING IN FID?

A. At the end of 2021, there were 78 active Trade Allies in the FID channel.

Q. IN 2021, WHAT WAS THE AVERAGE DOLLAR VALUE FOR WORK PERFORMED BY HISTORICALLY DISADVANTAGED BUSINESSES IN FID?

A. The average reported dollar value for work performed by the historically disadvantaged business is approximately $10,900. This Trade Ally supports HVAC installations, which are higher in project cost compared to other services such as insulation services.

Q. IN 2021, WHAT WAS THE AVERAGE DOLLAR VALUE OF WORK PERFORMED BY CONTRACTORS THAT WERE NOT HISTORICALLY DISADVANTAGED BUSINESSES?

A. The average reported dollar value of work performed by contractors that were not historically disadvantaged businesses is reported to be approximately $4,400. Notably, the non-disadvantaged Trade Allies mainly span a wider variety of services, including HVAC, attic insulation, heat pump water heater and pool pump services. The addition of the lower priced jobs and a larger pool of contractors resulted in a lower average value.

Q. DID DEP FILE ITS CALCULATIONS AND WORKPAPERS SHOWING THE FID REFERRAL CHANNEL COSTS AND REVENUES EXCLUDED AND METHOD(S) USED TO EXCLUDE THOSE AMOUNTS?

A. Please refer to Holbrook Exhibit 14. Based on FID activity during calendar year 2021, 26.1 percent of revenue was classified as Non-DSM/EE. Using this allocation, expenses totaling $86,900 were removed from the DSM/EE revenue requirement along with the $61,470 in Non-DSM/EE revenue. In addition to revenues and expenses, a change in the PPI totaling $2,924 was accounted for. As a result of these adjustments, the DSM/EE revenue requirement was decreased by $22,506. The total net non-utility allocation totaled $25,430.

XII. RESERVE MARGIN ADJUSTMENT FACTOR

Q. **DID DEP WORK WITH THE PUBLIC STAFF TO CODIFY THE RMAF METHODOLOGY INTO THE MECHANISM, AS REVISED BY THE 2020 MECHANISM ORDER?**

A. Yes. The Company and the Public Staff worked together to develop mechanism language concerning the RMAF for the Commission's consideration and approval. The redline contained on Evans Exhibit 13 illustrates the proposed RMAF-related modifications to subsection 20 of the Mechanism.

XIII. COMMISSION APPENDIX A QUESTIONS

Q. DESCRIBE HOW THE NEW CUSTOMER DATA ANALYSIS AND VISUALIZATION COMPONENTS OF AMI AND CUSTOMER CONNECT ARE BEING USED TO MARKET EXISTING EE AND DSM PROGRAMS IN GENERAL AND, SPECIFICALLY, WHAT DEP WILL DO TO INTEGRATE THE NEW AMI/CUSTOMER CONNECT CAPABILITIES WITH THE MYHER PROGRAM TO AVOID REDUNDANCY AND REDUCE COSTS.

A. At this time, the deployment of AMI and Customer Connect has not had any direct impact on the implementation and marketing of EE and DSM programs. DEP does not expect the full deployment of AMI and Customer Connect to directly impact the implementation of EE or DSM programs. Nevertheless, the Company will continue to review whether the deployment of AMI and Customer Connect can impact the implementation of EE and DSM programs and rider calculations to the benefit of customers.

Although the use of AMI does not directly impact implementation of the Company's DSM/EE programs, it has an indirect, positive impact on the EM&V of the EE and DSM programs that are used in the rider calculations. Through the use of AMI, EM&V-verified impacts used in the rider calculations may now be derived from analytical approaches that are better able to tease out household-level energy and demand savings.

In terms of the MyHER program, the AMI/Customer Connect capabilities are not redundant. AMI data provides just data, absent normative comparisons and energy saving advice. The MyHER program adds the normative comparison that engages the customers. MyHER also empowers customers by advising on how they may save more energy and directing them to other programs they may engage in to further their savings. All customers have access to their AMI data. Customers that participate in MyHER, however, receive their MyHER reports in addition to the AMI data that everyone may access. Therefore, because both the control group and treatment group have access to AMI data, the incremental savings of the treatment group are the MyHER savings, and the AMI data is effectively canceled out. In other words, the difference between the two groups is a result of the report itself.

Q. PROVIDE AN UPDATE ON THE PROGRESS OF EXPANDING THE USE OF CUSTOMER DATA IN DETERMINING EE AND DSM SAVINGS IN PROGRAM EVALUATIONS AND COST EFFECTIVESS TESTS.

A. The Company is continuing to make progress on its use of customer data, specifically AMI, in its program evaluations. AMI is now being incorporated into evaluations, when feasible, for the following programs:

- CIG-DRA
- EnergyWise for Business
- Power Manager
- EnergyWise Home
- PowerShare
- Residential New Construction
- Residential Assessments
- Energy Efficiency in Education
- Neighborhood Energy Saver
- Weatherization
- Smart $aver HVAC
- Online Savings Store/Marketplace
- MyHER
- Save Energy & Water Kit
- NR Custom

Q. PROVIDE A TABLE COMPARING THE PERFORMANCE OF DEP'S DSM/EE PORTFOLIO'S FIRST YEAR COSTS, LEVELIZED COSTS, AND ANNUAL SAVINGS DURING THE 2020 DSM/EE RIDER TEST YEAR WITH THE PERFORMANCE IN THE 2021 DSM/EE RIDER TEST YEAR. THE TABLE SHOULD SHOW BOTH PROJECTED AND ACTUAL SAVINGS AND PROJECTED AND ACTUAL PROGRAM FIRST YEAR COSTS AND LEVELIZED COSTS.

A. Please refer to Holbrook Exhibit 15.

Q. PROVIDE A RESPONSE TO PUBLIC STAFF WITNESS WILLIAMSON'S TESTIMONY IN DOCKET NO. E-2, SUB 1273 RELATED TO THE PROVISIONS OF COMMISSION RULE R8-69(B)(5) AS APPLIED TO THE OVERLAP OF AMI INFORMED

SERVICES AND THE SPECIALIZED TIPS SUPPORTED BY THE MYHER EE PROGRAM. HAS DUKE ENERGY INVESTIGATED MODIFYING OR EXPANDING THE CAPABILITIES OF THE MYHER PROGRAM NOW THAT IT HAS AMI DATA THAT CAN TRACK CUSTOMER USAGE AND, THEREFORE, EE OPPORTUNITIES AT A MUCH MORE GRANULAR LEVEL?

A. As the Commission's question reflects, most of the Company's residential customers may obtain data about their energy usage from two sources – AMI informed services and the MyHER program. All Duke Energy customers, at their option, may go online to see their hourly usage AMI data, regardless of whether they receive a MyHER report. In contrast, residential customers that receive a MyHER report receive data educating them about their energy usage, engaging them with a normative comparison them and empowering them with specialized energy saving tips. To distinguish the EE savings resulting from MyHER, as opposed to AMI information services, the Company has developed the following evaluation method. First it has "treatment group customers," which are MyHER recipients. Next, the Company also has "a control group," set of residential customers, that the Company has determined do not and will not receive the MyHER report. Under the MyHER evaluation methodology, the control group serves as the baseline against which MyHER impacts are measured. Thus, any reduction in energy consumption among MyHER recipients is directly attributed to the tips and normative messaging available only through the MyHER program.

Q. HAS DUKE INVESTIGATED MODIFYING OR EXPANDING THE CAPABILITIES OF THE MYHER PROGRAM NOW THAT CUSTOMER CONNECT PAIRED WITH AMI DATA HAS CREATED EXPANDED OPPORTUNITIES FOR COMMUNICATING WITH CUSTOMERS?

A. The Company is exploring additional opportunities through MyHER to educate, engage, and empower customers to reduce energy or demand savings in their home. Items that have been explored and are currently in development include:

1) Providing alerts to MyHER participants that AMI data has detected unexpected energy spikes in participant's appliances such as HVAC systems and refrigerators;

2) Improving modeling to identify discrepancies between MyHER participant's self-reported heating systems and what AMI detects as the most likely heating system. This will, in turn, provide more accurate tips tailored to the specific heating type in the participant's home;

3) Identifying through AMI data likely MyHER participants with pools, spas and hot tubs as well as those MyHER participants who charge electric vehicles and tailoring tips or programs to the treatment group on how to use less electricity with these different items.

In addition, the Company is in exploratory discussions to potentially provide tips to MyHER participants who are enrolled in Time-of-Use and other dynamic pricing tariffs. AMI data will be critical to understand any incremental decrease in energy or demand savings achieved by these participants.

Q. DOES DEP HAVE METRICS THAT SHOW THE NUMBER OF MYHER PARTICIPANTS THAT HAVE UTILIZED NEW AMI OR CUSTOMER CONNECT CAPABILITIES, SUCH AS THE PERCENTAGE OF MYHER CUSTOMERS THAT HAVE VISITED THE AMI USAGE WEB SITE COMPARED WITH THE NUMBER OF MYHER PARTICIPANTS THAT HAVE VISITED THE MYHER ONLINE PORTAL? IF SO, PROVIDE THAT INFORMATION?

A. The following table provides monthly data for the period November 2021 through December 2021:

- The number of customers in DEP who have accessed the MyAccount AMI charts showing usage at a level less than standard one-month billing;
- The number who are part of the MyHER Treatment Group; and
- The percentage of MyHER participants that this quantity of customers represents.

Month	Distinct Accounts1/	MyHER Treatment Accts	DEP MyHER Part	% MyHER Part
11/21	5,975	2,906	801,272	0.363%
12/21	6,378	3,068	792,333	0.387%

[1] *Number of DEP customers accessing MyAccount AMI charts*

The above table reflects that the correlation between MyAccount AMI Charts and MyHER was available after the roll-out of Customer Connect in DEP, which occurred in November, 2021. This allowed the Company to distinguish between customers accessing their MyAccount AMI Charts and comparing that with customers accessing their MyHER data.

Q. DESCRIBE ANY IMPACTS THAT DEP'S NEW DYNAMIC PRICING TARIFFS ARE EXPECTED TO HAVE ON EXISTING EE AND DSM PROGRAM MARKETING, IMPLEMENTATION, COST EFFECTIVENESS CALCULATIONS, AND EVALUATION. SPECIFICALLY, WILL THE SAVINGS ATTRIBUTED TO THE IMPLEMENTATION OF AN EE MEASURE FOR A CUSTOMER SUBSCRIBED TO A DYNAMIC PRICING TARIFF BE DIFFERENT FROM THOSE OF A CUSTOMER ON A TRADITIONAL RATE STRUCTURE?

A. As with other DEP rate schedules, customers using the new dynamic pricing rates will be eligible to participate in EE and DSM programs per the availability section of the relevant tariffs. For example, Schedule SGSTC customers would be eligible for the Business Energy Saver program, but those customers would not be eligible for PowerShare Rider PS because that tariff specifically limits availability to customers on Schedules LGS, I, OPT-V and HP. Customers on dynamic pricing rates would be treated the same as other participants in DSM/EE programs.

Q. PROVIDE A SUMMARY OF KEY DEP DSM AND/OR EE PROGRAM MODIFICATIONS OR ADDITIONS INTRODUCED DURING AND AS A PRODUCT OF THE DSM/EE COLLABORATIVE DURING 2020 AND 2021, AND ESTIMATE THE ENERGY SAVINGS AND ECONOMIC IMPACTS ATTRIBUTED TO THOSE ACTIONS.

A. Attributing savings from each recommendation is problematic because deciding what portion of energy savings is attributable to the Collaborative's recommendation and what portion the Company achieved on its own contains inherent gray areas (e.g., proposed by the Collaborative, but improved upon by the Company). Without specific EM&V to determine the motivations behind each measure, the Company can only speculate. However, I have the program ideas or modifications introduced by a member of the Collaborative during 2020 or 2021 described below and the savings resulting from those modifications are reflected in Exhibit 16.

Low-Income Housing Tax Credit ("LIHTC")

Members originally brought this idea to the Company in March 2019 as a suggestion for a stand-alone program to reach multifamily housing developments that were applying for tax credits. Upon further investigation, the Company found and shared with the Collaborative that all the measures that would be part of this idea for a stand-alone program, along with substantial design assistance, were already offered to customers through the Smart $aver Custom New Construction Energy Efficiency Design Assistance program ("NCEEDA").

Although LIHTC was ultimately not appropriate for a stand-alone new program for the reasons stated above, DEP recognized and acted upon an opportunity to utilize a concept within this initiative to pair these incentives with federal tax credits in a way not previously administered under the existing NCEEDA program. The Company and several Collaborative members scheduled a joint statewide workshop with developers, architects, and contractors who construct or renovate low-income multifamily developments to generate interest in the NCEEDA program. Although the time between planning and completion is often long, developers are seeing the benefits of pairing rebates with tax credits, and the Company is continuing to pursue these projects.

Energy Star Retail Products Platform ("ESRPP")

The Collaborative submitted the ESRPP for consideration in January 2020. At a high level, the ESRPP offers incentives directly to retailers of Energy Star appliances, and those retailers, in turn, offer discounts on those appliances to consumers. However, the Company investigated the ESRPP when the Collaborative submitted the idea for consideration and found that it replicated many of the features that were part of a DEP program already in operation. The Company determined at that time that the best course of action was to allow the existing program to mature and not to pursue an external alternative simultaneously.

However, the Company recently, at the request of the Collaborative, revisited the idea of utilizing the ESRPP and found that the platform offered no

additional cost savings or measure expansion but could serve as a reference point in the future when the Company searches for new measures. DEP communicated that finding to the Collaborative in July 2021. Yet again, the Company acted on a specific recommendation and did its due diligence to determine whether the recommendation would provide savings to customers and meet the required thresholds for such EE programs under the Mechanism. In this instance, the recommendation would not have provided any additional savings, which is why it was not implemented by the Company.

Program Savings from Codes and Standards

In early 2020, members of the Collaborative suggested that the Companies could claim savings from advancing building energy codes and appliance standards in the Carolinas and suggested creating a program to capture those savings. However, North Carolina and South Carolina do not have a statutory or regulatory framework that defines the actions a utility must take to claim attributed savings or to determine the appropriate attribution methodology.[1] As such, there is no avenue by which the Companies could implement such a program. If and when the regulatory or statutory frameworks change, DEP will revisit this recommendation.

Residential Low-Income Single-Family Heat Pump Water Heater Rental Program

In recognition of the energy savings potential of heat pump water heaters ("HPWH"), members recommended in June 2020 that DEP offer a program

[1] The Companies informed the Collaborative of this in both January 2020 and July 2021.

whereby low-income customers rent a HPWH for their homes directly from DEP and add the rent payment to their electric bills. Members explained that eligible homes must have certain physical characteristics to ensure an HPWH functions properly. For example, members noted that an HPWH needs a minimum of 750 cubic feet of unobstructed space for proper ventilation or exhaust vents and should be located near a drain (like the one used for washing machines) or be connected to a condensate pump.

The Company immediately began investigating the feasibility of installations of an HPWH and determined there were several obstacles to implementation of such a program. For example, in addition to the required physical characteristics of the home mentioned above, the program would require the Company to implement an on-bill collection mechanism for receiving payments and also identify qualified vendors capable of installing HPWH on a wide scale. Then the Company would have to locate low-income customers – either homeowners or renters with owner approval – that would want to participate in the program and have the required physical characteristics to install the HPWH in their dwelling. Although these efforts will take time, the Company continues to research and investigate (for example, the Company has already reached out to vendors) this recommendation to determine whether it can be transformed into a feasible program option that would create additional savings for customers.

Non-Residential Multifamily Heat Pump Water Rebate Program

Also in 2020, members suggested that the Company approach multifamily property owners with the offer of a rebate for installing HPWHs. Each HPWH would serve multiple units within the building. To date, the Company has determined that it can include HPWH in the New Construction Energy Efficiency Design Assistance ("NCEEDA") program, but no developer has expressed an interest in participating.

Manufactured Homes Retrofit Program

In late 2020, members suggested a program that retrofits manufactured homes to make them more energy efficient by installing more efficient heating and air conditioning equipment, replacing or repairing duct work, and insulating and sealing the structure's envelope. However, all of the recommended measures are part of the Company's existing Residential Smart $aver program and are currently available to manufactured homes. Therefore, the Company did not develop a new program in response to this recommendation.

Manufactured Home New and Replacement Programs

Also in late 2020, members suggested that the Company begin offering an incentive to replace inefficient manufactured homes with Energy Star manufactured homes. In response to this recommendation, the Company is investigating whether an incentive of this type can be included in the Residential New Construction program. If the Company determines that the program is feasible and will provide additional savings to customers, it will formalize the concept into a program and petition the Commission for approval.

Q. DESCRIBE ANY IMPLICATIONS THAT ANY OF THE NEW COMPONENTS OF S.L. 2021-165 WIL HAVE OR IS EXPECTED TO HAVE ON DEP'S EE AND/OR DSM PROGRAMS AND THE RIDER APPLICATION.

A. Consistent with S.L. 2021-165, on May 16, 2022, the Company filed its initial Carbon Plan. The Company's Carbon Plan assumed an aggressive amount of EE/DSM necessary to achieve the targeted carbon reductions established by S.L. 2021-165. The Company's plan assumed a minimum annual energy savings from the Company's EE programs of 1% of retail sales from eligible load (customers not opted out) for every year. To achieve these aggressive levels of EE/DSM, the Company's carbon plan identified a number of potential enablers that would allow it to offer programs and achieve the energy savings. As the Companies work to implement some of the currently identified and future enablers, they will continue to look to stakeholders for critical input and support. Accordingly, Carbon Plan stakeholders have been invited to participate in future EE/DSM Collaborative meetings.

One example of an enabler is the Company's request for approval of its plan to update the inputs underlying the determination of utility system benefits in the Company's Mechanism. These updates will be vetted with DSM/EE Collaborative members and other interested stakeholders. These updated inputs utilized for justifying demand-side utility programs are proposed to be based on specific costs associated with the selected marginal carbon-free and storage resources in the approved Carbon Plan added to the system energy and capacity,

inclusive of transmission and other required infrastructure. More specifically, the per kilowatt avoided capacity benefits and per kilowatt-hour avoided energy benefits used will be derived from levelized average marginal supply-side resource costs utilized in the most recently approved Carbon Plan production cost model.

Another example of an enabler, which I have mentioned before in this testimony, is the creation of an On-Tariff Financing mechanism to eliminate the upfront capital barriers associated with many customer investments in energy efficiency, which was also specifically identified in S.I. 2021-165.

Q. PROVIDE A SUMMARY OF THE MOST UP-TO-DATE PROJECTED AND ACTUAL PROGRAM PARTICIPATION (RESIDENTIAL ACCOUNTS), DIRECT SAVINGS PER PARTICIPANT (PROVISIONAL AND IF APPLICABLE CORRECTED), AND TOTAL PROGRAM DIRECT SAVINGS (PROVISIONAL PROJECTED IN RIDER YEAR APPLICATION AND FINAL AFTER ALL ADJUSTMENTS). DO NOT INCLUDE ANY AVOIDED COST OR RESULTING PPI IN THE SAVINGS TOTALS – ONLY PROVIDE DIRECT PARTICIPANT ANNUAL ENERGY SAVINGS ATTRIBUTED TO PROGRAM PARTICIPATION. FOR "FINAL" AND "ADJUSTED" TOTALS – USE ANY ADJUSTMENTS THAT WERE MADE IN THE YEARS AFTER INITIAL RIDER APPLICATION BASED ON ACTUAL DATA OR DATA FROM REVISED EM&V REPORTS.

A. Please see Holbrook Exhibit 17.

Q. TAKING INTO ACCOUNT ANY ADJUSTMENTS MADE AFTER THE INITIAL RIDER APPLICATION, PROVIDE A SUMMARY OF THE DIFFERENT MYHER PROGRAM COSTS AND OTHER REVENUE REQUIREMENT COMPONENTS THAT OCCURRED DURING ACTUAL RIDER RATE YEARS. FOR LATER YEARS SUCH AS 2021 OR 2022 ONWARDS WHEN ACTUAL COSTS WERE NOT AVAILABLE, PROVIDE ESTIMATES. VALUES SHOULD COINCIDE WITH THE RATE YEAR THEY WERE INCURRED, NOT THE YEAR WHEN THEY WERE ULTIMATELY INCLUDED IN THE RIDER REVENUE REQUIREMENTS

A. Please see Holbrook Exhibit 18.

Q. EXPLAIN HOW THE ANTICIPATED SAVINGS SHOWN IN THE TABLE ABOVE ARE INCORPORATED OR REFLECTED IN FUTURE LOAD PROJECTIONS (E.G., LOAD PROJECTIONS PRESENTED IN THE CARBON PLAN).

A. The savings from MyHER and other programs are provided to primarily to the group responsible for preparing the Integrated Resource Plan ("IRP"). The estimates from the first five years are provided, and those results are then extrapolated to the most recent Market Potential Study to derive the long term projected savings. The Carbon Plan did not use specific program forecasts, but rather assumed a reduction from EE/DSM initiatives of 1 percent of eligible load (load net of opt outs).

Q. PROVIDE ESTIMATES OF THE NUMBER OF MYHER PARTICIPANTS THAT BEGAN PARTICIPATION FOR THE FIRST TIME DURING EACH RIDER RATE YEAR

A. Please see Holbrook Exhibit 19.

XI. CONCLUSION

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.