BEFORE THE
PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA

DOCKET NO. 2019-1-E

In the Matter of Annual Review of Base Rates for Fuel Costs for Duke Energy Progress, LLC	)))))	**DIRECT TESTIMONY OF GLEN A. SNIDER FOR DUKE ENERGY PROGRESS, LLC**

ELECTRONICALLY FILED - 2019 April 26 10:42 AM - SCPSC - Docket # 2019-1-E - Page 1 of 7

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Glen A. Snider. My business address is 400 South Tryon Street, Charlotte, North Carolina 28202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am currently employed by Duke Energy Corporation ("Duke Energy") as Director of Carolinas Resource Planning and Analytics.

Q. PLEASE DESCRIBE YOUR CURRENT RESPONSIBILITIES IN YOUR POSITION WITH DEC AND DEP.

A. I am responsible for the development of the Integrated Resource Plans ("IRPs") for both Duke Energy Carolinas ("DEC") and Duke Energy Progress ("DEP" or the "Company"), (collectively, the "Companies"). In addition to the production of the IRPs, I have responsibility for overseeing the analytic functions related to resource planning for the Carolinas region. Examples of such analytic functions include unit retirement analysis, developing the analytical support for certificate of public convenience and necessity filings for new generation, and production of analysis required to support the Companies' avoided cost calculations that are used in the Companies' avoided cost rate proceedings.

Q. HAVE YOU TESTIFIED BEFORE THIS COMMISSION BEFORE?

A. Yes. I have testified before the Public Service Commission on multiple occasions, including in fuel proceedings in Docket Nos. 2018-1-E, 2017-1-E, 2016-1-E, and 2016-3-E, and in the net energy metering methodology proceeding in Docket No. 2014-246-E.

ELECTRONICALLY FILED - 2019 April 26 10:42 AM - SCPSC - Docket # 2019-1-E - Page 2 of 7

Q. PLEASE BRIEFLY SUMMARIZE YOUR EDUCATIONAL AND PROFESSIONAL EXPERIENCE.

A. My educational background includes a Bachelor of Science in Mathematics and a Bachelor of Science in Economics from Illinois State University. With respect to professional experience, I have been in the utility industry for over 25 years. I started as an associate analyst with the Illinois Department of Energy and Natural Resources, responsible for assisting in the review of Illinois utilities' integrated resource plans. In 1992, I accepted a planning analyst position with Florida Power Corporation and for the past 17 years have held various management positions within the utility industry. These positions have included managing the Risk Analytics group for Progress Ventures and the Wholesale Transaction Structuring group for ArcLight Energy Marketing. Prior to my current role and immediately prior to the merger of Duke Energy and Progress Energy Corporation, I was Manager of Resource Planning for Progress Energy Carolinas.

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

A. The purpose of my testimony is to support the Company's calculation of the components of the value of Net Energy Metering ("NEM") Distributed Energy Resources ("DER").

Q. COMMISSION ORDER 2015-194 REQUIRES THAT THE VALUE OF NEM DISTRIBUTED ENERGY RESOURCES IS COMPUTED

ELECTRONICALLY FILED - 2019 April 26 10:42 AM - SCPSC - Docket # 2019-1-E - Page 3 of 7

ANNUALLY. WHAT IS THE 2019 VALUE AND HOW DID YOU ARRIVE AT THAT NUMBER?

A. Through the review of applicable input assumptions, the Company has updated the 2019 value of NEM Distributed Energy Resources to $0.05033 per kWh for Schedules RES and R-TOUD, $0.05032 for Schedule SGS and $0.05024 for all other schedules. Table 1, below, lists the components used to determine the value of NEM Distributed Energy Resources and their value. The calculation is consistent with the methodology approved in Order No. 2015-194. The methodology includes all categories of potential benefits or costs to the utility system that are capable of quantification or possible quantification in the future.

ELECTRONICALLY FILED - 2019 April 26 10:42 AM - SCPSC - Docket # 2019-1-E - Page 4 of 7

ELECTRONICALLY FILED - 2019 April 26 10:42 AM - SCPSC - Docket # 2019-1-E - Page 5 of 7

Table 1: Value of NEM Distributed Energy Resource, by Component

Components of NEM Distributed Energy Resource Value	Component Value ($/kWh) Residential PV[1]	Component Value ($/kWh) SGS PV[1]	Component Value ($/kWh) Large PV[1]
Avoided Energy Costs	$0.036187	$0.036176	$0.036184
Avoided Capacity Costs	$0.013408	$0.013407	$0.013322
Ancilliary Services	$0.000000	$0.000000	$0.000000
T&D Capacity	$0.000000	$0.000000	$0.000000
Avoided Criteria Pollutants[2]	$0.000024	$0.000026	$0.000024
Avoided CO_2 Emissions Costs	$0.000000	$0.000000	$0.000000
Fuel Hedge[3]	$0.000000	$0.000000	$0.000000
Utility Integration & Interconnection Costs	$0.000000	$0.000000	$0.000000
Utility Administrative Cost	$0.000000	$0.000000	$0.000000
Environmental Costs	$0.000000	$0.000000	$0.000000
Subtotal	**$0.049619**	**$0.049609**	**$0.049530**
Line Losses[4]	$0.000712	$0.000715	$0.000711
Total Value of NEM Distributed Energy Resource	**$0.05033**	**$0.05032**	**$0.05024**

[1] "Residential PV" refers to a load shape reflecting generation installed by a residential customer. "SGS PV" refers to a load shape reflecting generation installed by a small commercial/industrial customer served under Small General Service Schedule SGS. "Large PV" refers to a load shape reflecting generation installed by a customer with higher consumption requirements and applies to all other nonresidential schedules. For the first time, the Company has separated the values for residential customers ("Residential PV") and small commercial/industrial customers ("SGS PV") as a result of available actual metered solar load profile data for the residential class. The Company continues to utilize third-party solar load profile data for non-residential customers.

[2] Avoided Criteria Pollutants reflects NOx and SOx that have been separately identified from approved marginal energy costs.

[3] Pursuant to the Settlement Agreement reached in DEP's 2016 annual fuel proceeding (Docket No. 2016-3-E), the Company has calculated the hedge value and determined that no fuel hedge exists; therefore, the value is zero.

[4] Line loss factors are 1.281% for on-peak marginal energy, 1.268% for off-peak marginal energy and 1.874% for marginal capacity per DEP's updated 2018 line loss analysis based upon 2018 cost of service.

Q. HOW DID THE COMPANY ARRIVE AT THE AVOIDED ENERGY AND AVOIDED CAPACITY VALUE FOR NEM DISTRIBUTED ENERGY RESOURCES?

A. Consistent with the Settlement Agreement approved in Docket No. 2014-246-E, the avoided energy and avoided capacity components of the Value of NEM

DER are based on DEP's avoided cost rates most-recently approved by the Commission in Order No. 2016-349 (Docket No. 1995-1192-E) for qualifying facilities ("QF") under the Public Utility Regulatory Policies Act of 1978 ("PURPA"). Consistent with the avoided cost methodology approved by the Commission in Order No. 2016-349, the QF avoided energy rates are given for both on-peak and off-peak periods, and QF capacity value is attributed to on-peak periods only and differs for summer and non-summer months. To arrive at an annualized energy and capacity NEM DER value, a weighted average of each of these constituent QF rate components is computed. The weights are based on a representative annual hourly solar load shape's relative contribution to each of the pricing periods. As described in footnote 1 to Table 1, the Company has updated its solar NEM load profiles for each of the three customer classes resulting in slight changes to the avoided energy and capacity values relative to the 2018 values.

Q. PLEASE EXPLAIN WHY SOME OF THE COMPONENTS ARE VALUED AT ZERO.

A. The Company has identified the benefits or costs of several of the components of the Value of NEM DER as zero either because insufficient data and analysis exists to quantify the cost or benefit of that component or because the Company believes the actual numerical value of that component is zero.

Q. DOES DEP ROUTINELY REVIEW THE COST AND BENEFIT COMPONENTS OF THE VALUE OF NET ENERGY METERING

ELECTRONICALLY FILED - 2019 April 26 10:42 AM - SCPSC - Docket # 2019-1-E - Page 6 of 7

("NEM") OF DISTRIBUTED ENERGY RESOURCES ("DER") CALCULATION?

A. Yes. As the amount of installed customer-owned generation increases, it is important that the Company continually monitors its impact to ensure safe and reliable grid operations. Through this monitoring and analysis of the impact of NEM DER on the Company's system, new costs and benefits are identified. Those identified costs and benefits of NEM DER are then incorporated into the the Value of NEM DER calculation in the next year's fuel case. Moreover, the Company has filed new avoided cost rates in Docket No. 1995-1192-E, which are pending before the Commission. In next year's fuel case the Company will update its NEM Value of Solar inputs to reflect the newly-approved rates resulting from the avoided cost proceeding.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. It does.

ELECTRONICALLY FILED - 2019 April 26 10:42 AM - SCPSC - Docket # 2019-1-E - Page 7 of 7