STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS PUBLIC UTILITIES COMMISSION

The Narragansett Electric Company d/b/a Rhode Island Energy

RE: 2023 Renewable Energy Growth Program Docket No. 22-39-REG

PREFILED DIRECT TESTIMONY OF

Michael W. Brennan, Consultant

On Behalf of Rhode Island Division of Public Utilities and Carriers

January 24, 2023

Prepared by: Michael W. Brennan 14460 Falls of Neuse Road, Suite 149-110 Raleigh, North Carolina 27614 (919) 219-2957

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DIRECT TESTIMONY OF MICHAEL W. BRENNAN

1 I. INTRODUCTION

2 Q. PLEASE STATE YOUR NAME AND THE BUSINESS ADDRESS OF YOUR 3 EMPLOYER.

A. My name is Michael W. Brennan. I am a consultant for Gregory L. Booth, PLLC ("Booth,
PLLC"), mailing address 14460 Falls of Neuse Road, Suite 149-110, Raleigh, North
Carolina 27614.

7 Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS MATTER?

8 A. I am testifying on behalf of the Rhode Island Division of Public Utilities and Carriers
9 ("Division").

10 Q. WOULD YOU PLEASE OUTLINE YOUR EDUCATIONAL BACKGROUND?

- 11 A. I graduated from North Carolina State University in Raleigh, North Carolina in 1992 with
- a Bachelor of Science Degree in Civil Engineering and received a Master's in Business
 Administration from Wake Forest University in 2000.

14 Q. PLEASE BRIEFLY DESCRIBE YOUR EXPERIENCE WITH ELECTRIC 15 UTILITIES.

- A. I have worked in the electric utility industry since 2000. I was employed by Progress
 Energy from 2000 to 2012 and Duke Energy from 2017 to 2019 in a multitude of positions.
- 18 Attached is my Curriculum Vitae Exhibit MWB-1. I have been actively involved in all
- 19 aspects of electric utility strategic and financial planning, utility investment analysis, public
- 20 policy, ratemaking, and renewable energy program management. I also have experience
- 21 advising clients on energy markets and renewable energy project development.

22 Q. HAVE YOU PREVIOUSLY TESTIFIED AS AN EXPERT BEFORE THE RHODE

23 ISLAND PUBLIC UTILITIES COMMISSION?

1 A. Yes, I testified in Docket 5088 in 2021 and in Docket 5202 in 2022.

2 Q. HAVE YOU PREVIOUSLY TESTIFIED AS AN EXPERT IN OTHER

- 3 JURISDICTIONS?
- 4 A. No.

1	II.	PURPOSE OF TESTIMONY
2	Q.	WHAT IS THE PURPOSE OF THIS TESTIMONY?
3	A.	The purpose of my testimony is to provide observations and recommendations on the
4		following key elements of the proposed 2023 Renewable Energy Growth (RE Growth)
5		program.
6		1. The recommended 2023 ceiling prices including observations on key inputs and
7		assumptions used to develop the ceiling prices.
8		2. The recommended MW allocations to the RE Growth Classes.
9		3. The tariff update filed by Rhode Island Energy (RIE).
10	III.	2023 CEILING PRICES
11	Q.	DID THE DIVISION PARTICIPATE IN THE STAKEHOLDER PROCESS FOR
12		THE DEVELOPMENT OF CEILING PRICES FOR THE 2023 PROGRAM YEAR?
13		Yes, the Division participated in three stakeholder meetings as follows:
14		1) August 23, 2022 – Webinar hosted by Sustainable Energy Advantage (SEA) to
15		discuss the impacts of the newly passed Inflation Reduction Act;
16		2) August 30, 2022 – the first stakeholder meeting; and
17		3) September 22, 2022 – the second stakeholder meeting.
18		The Division also participated in the October 24, 2022, DG Board meeting at which the
19		final recommendations for ceiling prices and MW allocations were made to the DG Board
20		by SEA and the Office of Energy Resources (OER).
21		In addition, the Division participated in informal calls with SEA to discuss the key factors
22		influencing the ceiling price calculations and the CREST model. On September 9, 2022
23		and October 6, 2022, the Division submitted written comments in response to the requests
24		for comments issued by OER/SEA at each of the two stakeholder meetings.

1Q.WHAT KEY ISSUES INFLUENCED THE DEVELOPMENT OF CEILING2PRICES FOR THE 2023 RE GROWTH PROGRAM YEAR?

- A. The ceiling prices are impacted by many key inputs and assumptions, but the following
 factors had the most impact on the ceiling prices for the 2023 program year:
- 1) Cost pressures inflation in 2022 continued at historically high levels, resulting
 in upward cost pressure on key inputs to the construction of renewables
 including solar panels, wind turbine blades, inverters, steel and other metals for
 racking and posts, and other electrical equipment. In addition, labor costs have
 surged making this component of construction higher.
- 102) The passage of the Inflation Reduction Act (IRA) in August 2022 this11sweeping legislation restored and extended investment and production tax12credits, added bonus credits for certain qualifying projects, and enabled13transferability of tax credits between unrelated parties among other provisions.14This bill provides a significant boost to the renewable generation industry and15establishes more certainty regarding the level and nature of incentives into the16future.
- 17 3) Increasing interest rates the cost of borrowing has increased as the Federal
 18 Reserve raises interest rates in an effort to tamp down inflation. This impacts
 19 the amount of debt a project may be able to take on as well as the costs of
 20 periodic interest payments, thereby decreasing potential returns to equity.

Q. WHAT FEEDBACK / INPUT DID THE DIVISION PROVIDE AFTER THE FIRST DRAFT CEILING PRICES WERE RELEASED?

- A. The Division provided written comments dated September 9, 2022, in response to the first
 draft ceiling prices issued on August 30, 2022. In those comments the Division focused
 on the following key issues:
- Post Tariff Market Value The Division reiterated its long-standing position
 on this matter, specifically that these assets have value beyond the term of the
 RE Growth tariff and that this value should be factored into the development of
 the ceiling prices.
- Project Financing the Division asked for more details on how the total cost of
 debt used in the CREST analysis was calculated. Specifically, the Division
 requested information on how the spread over the underlying Secured
 Overnight Financing Rate (SOFR) rate was calculated.
- Bonus Depreciation the Division recommended that Bonus Depreciation be
 incorporated into the ceiling price calculations and noted that the IRA included
 tax credit transferability provisions that should enable projects to more
 efficiently utilize all tax incentives available, including bonus depreciation.
- ITC for Hydro the first draft ceiling prices continued to assume that Hydro
 projects would not be able to take advantage of the available Federal Investment
 Tax Credit (ITC) due to uncertainty over permitting and the associate potential
 delays in construction that would result. The Division recommended that
 Hydro projects be modeled assuming the full ITC value is utilized based on the
 provisions of the IRA that transition the tax credits to Clean Energy Investment
 Tax Credits after 2025, continuing at the 30% level.
- The Division noted that the first enrollment period in 2022 resulted in fewer projects and MWs proposed than typically have been submitted in prior

1		program years, but also observed that the prices proposed were below the 2022
2		ceiling prices and that these were proposed before the passage of the IRA. This
3		comment was made as an observation, but the Division requested that the
4		second round of comments be delayed such that sufficient time was available
5		for stakeholders to review the second enrollment results.
6	Q.	WERE THE DIVISION'S COMMENTS INCORPORATED IN THE
7		DEVELOPMENT OF THE SECOND DRAFT OF CEILING PRICES?
8	A.	The following changes were made that were consistent with the recommendations from the
9		Division:
10		• The cost of debt financing was revised based on a different methodology that
11		included a benchmark rate (Treasury Bond Yield for duration of project debt)
12		and a credit spread of 325 basis points (350 for Wind and Hydro). This resulted
13		in a lower cost of debt than previously estimated.
14		• Post tariff market value was included in that the second round of ceiling prices
15		included two versions of the ceiling price – one that included post tariff value
16		and one that did not.
17		The following comments were not adopted or were deferred to the final round:
18		Bonus depreciation was not included.
19		• ITC for Hydro was deferred pending discussions with Industry participants for
20		this class.
21	Q.	DID THE DIVISION PROVIDE COMMENTS ON THE SECOND DRAFT OF
22		CEILING PRICES?

1	A.	The Division provided written comments dated October 6, 2022, in response to the second
2		draft ceiling prices issued on September 22, 2022. In those comments the Division focused
3		on the following key issues:
4		• The Division reiterated the same comments made regarding post tariff market
5		value, bonus depreciation, and the appropriateness of including the ITC for
6		Hydropower projects.
7		• The Division expressed support for the revised costs of debt financing that were
8		included in the second draft.
9		• The Division commented on the first two competitive enrollment periods in 2022
10		as follows:
11		• Observed that both enrollments had deadlines for proposal submissions that
12		occurred before the IRA was passed, and therefore would not have reflected
13		the enhanced incentives contained in the Act;
14		• Observed the continuing dearth of projects and MWs in 2022 compared to
15		prior years; and
16		\circ Observed that the average prices bid for projects that were submitted were
17		below the 2022 ceiling prices.
18		• The Division noted that the Small Solar class has <u>not</u> experienced the same lack of
19		interest from the industry as the competitive classes and that, in fact, the opposite
20		was true, with the Small Solar class almost fully subscribed as of the date these
21		comments were provided. Note, subsequently, Rhode Island Energy requested the
22		DG Board to reallocate MWs from the other classes to Small Solar to meet this
23		surging demand. Based on this evidence, the Division recommended that the ceiling
24		price for this class be set no higher than the 2022 level.

Q. WERE THE DIVISION'S SECOND SET OF COMMENTS INCORPORATED IN THE DEVELOPMENT OF THE FINAL DRAFT OF CEILING PRICES?

3 A. The Division was pleased to see that the recommendations regarding the ITC for Hydro 4 was adopted in the final round of ceiling prices proposed to the DG Board on October 24, 5 2022. The Division's recommendations regarding bonus depreciation were not 6 incorporated. Furthermore, the final draft of the ceiling prices proposed that two sets of 7 prices be presented to the Commission in this docket, one with post tariff market prices 8 and one without. The Division continues to believe that the ceiling prices including an 9 estimate of value after the term of the tariff is appropriate. The Division also believes that including bonus depreciation is appropriate. 10

Q. DID THE DEVELOPMENT OF THE CEILING PRICES APPROPRIATELY CAPTURE THE TAXABILITY OF PERFORMANCE BASED INCENTIVES FOR THE SMALL SOLAR I CLASS?

In Docket 5202, the question of taxability of the performance-based incentives (PBI's) was 14 A. a topic of considerable interest, with the Division maintaining that these should not be 15 16 taxable. Evidence was presented in that docket to suggest that a considerable percentage 17 of the value of PBI's was in fact paid in cash to the residential customers (as opposed to 18 bill credits). Depending on the annual total amounts paid in cash, some of these customers 19 would in fact receive a form 1099 Misc. reporting these payments as income. The Commission directed SEA to further explore this matter in this docket and adjust the tax 20 21 calculations for this Class accordingly. SEA worked with RIE to determine that 22 approximately 52% of the total PBI payments were made in cash based on historical data. 23 SEA further determined that, based on the average income of likely residential solar customers in Rhode Island, the effective tax rate would be 14%. SEA replaced the previous
 26% tax rate with 14%. The Division supports these changes.

3 Q. CAN YOU ELABORATE ON THE DIVISION'S POSITION WITH RESPECT TO 4 BONUS DEPRECIATION AND WHY IT IS APPROPRIATE TO INCLUDE THIS 5 INCENTIVE?

- A. Yes, the Division has long maintained that this incentive should be included in the ceiling
 price calculations. This program should encourage projects that can take full advantage of
 all incentives available. Given that Rhode Island ratepayers are also taxpayers, they are
 paying for both the costs of the RE Growth program and the costs of tax incentives.
- The CREST model has long incorporated an assumption that tax equity is
 brought in to support the full utilization of the ITC. If this is the case, it stands
 to reason that the tax equity partners would also have the tax appetite to utilize
 all tax attributes, including bonus depreciation. Tax equity structures are
 typically complex and if a developer is going to utilize this complex structure,
 they would only do so if the full range of tax benefits available are realized,
 including bonus depreciation.
- Bonus depreciation is phasing out. Projects placed in service in 2024 would
 only be eligible for 60% bonus depreciation, declining to 40% for projects
 placed in service in 2025 (as opposed to 100% for projects placed in service in
 20 2022). This step down in the amount of the project eligible for bonus
 depreciation makes it easier to absorb this upfront benefit than in prior years.
- The IRA allows for transferability of the value of the ITC to non-related third
 parties. While this will not be a "frictionless" process, the flexibility afforded
 by this provision frees up additional tax appetite for other tax incentives such

as bonus depreciation. This transferability provision allows the developer/
 owner of a project eligible for an investment tax credit to transfer this credit to
 a non-related party, thus potentially eliminating the need for tax equity or
 potentially simplifying tax equity structures.

5 Based on all of these factors, the Division believes that it is appropriate to include bonus 6 depreciation when calculating the ceiling prices. Given the uncertainty that projects face 7 in terms of project schedules, applying a conservative 40% bonus depreciation assumption 8 is both reasonable and appropriate.

9 Q. CAN YOU ELABORATE ON THE DIVISION'S POSITION WITH RESPECT TO 10 POST TARIFF MARKET VALUE?

11 Yes, as the Division noted in our comments this year and in prior dockets in the RE Growth A. 12 program, the renewable energy assets in question have a useful life that exceeds the term 13 of the RE Growth tariffs. The transition to a clean energy future will require that assets 14 built today maximize their useful lives. Otherwise, the additional waste and costs associated with "changing" out solar and other technologies after 20 years will negate the 15 16 gains made. Solar panel manufacturers provide performance warranties that typically 17 extend to 25 years or more recognizing the long life of these assets. The Division believes 18 that this post tariff period must be considered in the ceiling price development as it 19 represents real value that will accrue to the project owner and can help defray the amount 20 of PBI payments required to achieve the desired return. The Division further believes that 21 this is not a matter of interpretation of the legislative statutes related to future eligibility for 22 net metering. The period in question is more than 20 years in the future. It is impossible 23 to know what form net metering will have in that timeframe, or if net metering will even 24 exist at that time. What is important here is that these assets will have remaining useful

1		life and will have real value to the ass	et owner. The C	REST model ma	kes a number of
2		assumptions to arrive at the ceiling price	es, and the Divisi	on believes that a	a reasonable (and
3		conservative) estimate of the post tariff	market prices h	as been made and	d that the ceiling
4		prices calculated using these estimates s	hould be the basi	s for the ceiling p	prices in 2023 RE
5		Growth program.			
6	Q.	SHOULD THE 2022 ENROLLME	NT RESULTS	BE USED TO	ASSESS THE
7		APPROPRIATE LEVEL OF THE 20	023 CEILING P	RICES?	
8	A.	Yes, this data represents the most recen	t prices bid by a	ctual project in H	Rhode Island and
9		is a relevant factor to consider.			
10	Q.	WHAT WERE THE RESULTS OF 7	ГНЕ 2022 ENR	OLLMENT PEH	RIODS?
11	A.	The 2022 enrollment process result	ed in consider	ably fewer proj	jects and MWs
12		participating in the three open enrollm	ent periods than	previous years.	The table below
13		summarizes this. This suggests that e	either the ceiling	g prices establish	ned for the 2022
14		program year were lower than the price	that many project	ts needed in order	to be financially
15		viable or that other factors impacted the	e level of interest	and resulting em	rollments.
16		Table 1 – 2022 Enrollments Compare	ed to 2019 throu	gh 2021 Averag	e ¹
			2022	2019 – 2021 Avg	Difference
		Total kWs Enrolled	24,276	48,274	(23,998)

17

15,208

40,174

Total kWs Enrolled, Excl Small Solar

(24,966)

¹⁸ The following chart depicts the data underlying Table 1 visually over the four program19 years, including 2022:

¹ Rhode Island Energy response to Commission First Data Request PUC 1-4

RIPUC DOCKET NO. 22-39-REG TESTIMONY: MICHAEL W. BRENNAN



2 Q. WHAT FACTORS OTHER THAN PRICE WOULD IMPACT THE 3 ENROLLMENTS?

A. Non price factors that would discourage bidding into the RE Growth program include the following:

6 1) Uncertainty created by supply chain issues, volatile prices and increasing interest rates

7 has made project developers risk averse due to uncertain timelines and final costs. This

8 may have caused developers to pause development and forego applications in 2022

9 2) Issues with land availability for larger scale projects

10 3) Concerns with unknown potential delays in the interconnection process coupled with

11 unknown cost impacts, and

1

4) Risks associated with obtaining the necessary permits and approvals including zoning,environmental reviews, etc.

14 Q. HOW DOES THE PRICING OF THE BIDS ACCEPTED IN 2022 COMPARE TO 15 THE 2022 CEILING PRICES AND THE PROPOSED 2023 CEILING PRICES?

1	A.	While the number of projects participating and total MWs enrolled was lower than prior
2		years, the resulting prices bid in 2022 provide some insight into the market potential. Until
3		the third enrollment period, all projects submitted and enrolled were in the Medium and
4		Commercial Solar categories. Furthermore, as discussed previously, the Small Solar
5		category saw strong demand all year, easily exceeding the original MW target. In the third
6		enrollment period, one Large Solar project, one Wind project and one Hydropower project
7		were accepted. The table below provides details on the pricing of awarded projects in 2022:

8

Table 2 –	2022 Enrollments I	by Class and	Pricing (prices	s in cents per kWh)
		•	0 1	1 /

Class	# Of Projects	Total kWs	Range of	Mean Price	2022 Ceiling
			Prices Bid		Price
Medium Solar	19	3,808	20.95 -24.45	23.42	24.45
Commercial	4	1,976	16.97 -18.98	17.80	19.25
Solar (251-					
500kW)					
Commercial	3	2,631	15.74-15.75	15.75	15.75
Solar 501-					
999kW)					
Large Solar (1	1	5,000	10.85	10.85	10.95
MW to 5 MW)					
Wind	1	1,000	21.98	21.98	22.40
Hydropower	1	793	37.15	37.15	37.15

- 9
- 10
- 11
- The Medium Solar mean bid price of 23.42 cents/ kWh in 2022 is approximately 91% of the proposed 2023 ceiling price.
- The Commercial (251-500kW) mean bid price of 17.80 cents/ kWh is
 approximately 80% of the proposed 2023 ceiling price with post tariff market
 revenue and approximately 79% of the ceiling price without post tariff revenues.
- The Commercial (501-999 kW) mean bid price of 15.75 cents/ kWh is
 approximately 85% of the proposed 2023 ceiling price with post tariff market
 revenue and approximately 82% of the ceiling price without post tariff revenues.
- The single Large Solar bid price of 10.85 cents/ kWh received in the final open
 enrollment period is approximately 76% of the proposed 2023 ceiling price with

- post tariff market revenue and approximately 70% of the ceiling price without post
 tariff revenues.
- The single Wind bid price of 21.98 cents/ kWh received in the final open enrollment
 period is approximately 115% of the proposed 2023 ceiling price with post tariff
 market revenue and approximately 110% of the ceiling price without post tariff
 revenues.
- The single Hydropower bid price of 37.15 cents/ kWh received in the final open
 enrollment period is approximately 117% of the proposed 2023 ceiling price with
 post tariff market revenue and approximately 115% of the ceiling price without post
 tariff revenues.
- While the overall enrollment totals were substantially below the historical averages, the pricing in the solar categories suggests that the proposed ceiling prices in 2023 should provide adequate compensation to attract competitive proposals, barring unforeseen changes in the market for renewable energy equipment or other disruptions to the industry. For the classes that only received a single proposal, it is more difficult to draw substantive conclusions about the potential for the 2023 program year.

17 Q. WHAT WERE THE RESULTS OF THE SMALL SOLAR CLASS 18 ENROLLMENTS IN 2022 AND HOW SHOULD THIS BE USED TO ASSESS THE 19 APPROPRIATE CEILING PRICE FOR 2023?

A. The Small Solar class experienced very high demand from customers in 2022, exceeding the enrollment target well before the end of calendar year 2022. The MW allocation to this class was increased by the DG Board in the September meeting and the enrollments have continued at a steady pace, now totaling 9,068 kW². This strong demand suggests that the

² Rhode Island Energy response to Commission First Data Request PUC 1-4

1		2022 ceiling price is more than adequate to incentivize small solar installations. In fact,
2		many of these enrollments occurred before the passage of the IRA. The Division firmly
3		believes that this data should inform the setting of the 2023 ceiling prices for Small Solar
4		class.
5	Q.	DOES THE DIVISION SUPPORT THE PROPOSED SOLAR CEILING PRICES
6		IN THIS DOCKET?
7	A.	The Division supports ceiling prices calculated using post tariff market prices. The
8		Division believes these should be further modified to include bonus depreciation for all
9		classes. The Division firmly believes that the Small Solar class ceiling prices should not
10		be set at a level that exceeds the 2022 prices based on the continued strong demand for
11		projects in this class during the 2022 program year.

1 IV. <u>PROPOSED MW ALLOCATION</u>

- 2 Q. DID YOU REVIEW THE PROPOSED ALLOCATIONS OF MW'S TO THE
 3 RENEWABLE ENERGY CLASSES?
- 4 A. Yes.

5 Q. DOES THE DIVISION HAVE RECOMMENDATIONS REGARDING THE 6 ALLOCATIONS TO THE CLASSES?

A. The Division does not have recommendations to change the proposed MW allocations but
cautions that allocating too many MWs to the small solar category has the potential to drive
higher overall costs to ratepayers. Given the alternative net metering options available to
potential small solar customers, the amount available in the RE Growth program should be
limited. Further discussion of this is contained in the next section of my testimony
regarding changes to the tariff.

13

1 V. **REVIEW OF PROPOSED TARIFFS**

2 **DID YOU REVIEW THE PROPOSED TARIFFS? Q**.

3 Yes, I did. A.

4 WHAT WERE THE SIGNIFICANT CHANGES IN THE TARIFFS FROM THE Q. 5 **PREVIOUS VERSIONS?**

6 A. The Small Solar tariff includes language that affords greater flexibility on the part of Rhode 7 Island Energy, the DG Board and the OER to modify allocations. Specifically, this 8 language was added to the tariff: "If there is an over-subscription in one class and an under-9 subscription in an enrollment MW target, then Rhode Island Energy, the OER, and the 10 Board may mutually agree to allocate megawatts from one class to another class within the 11 RE Growth Program without Commission approval as long as the re-allocated targets 12 would not exceed the annual MW Target." Rhode Island Energy describes this change as 13 being necessary to make the Solicitation and Enrollment Process Rules for Small Solar 14 (less than 25 kW) consistent with the Solicitation and Enrollment Process Rules for Solar (Greater than 25 kW), Wind, Hydro and Anaerobic Digester Projects. 15

16 Q. **DOES THE DIVISION SUPPORT THE REVISED TARIFFS?**

17 The Division does not support this change. The Division believes that there should be a A. 18 distinct allocation to the Small Solar class that the Commission approves each year. Any 19 changes to this allocation within a year should only be made with Commission approval. 20 The Division believes that the provision allowing for changes in allocations among the 21 larger scale classes is appropriate because these classes generally have better economies of 22 scale and lower costs than the small solar class, including the impacts of competitive bidding. Additionally, as noted earlier in my testimony, net metering alternatives exist, 23 24 without limit, for small solar customers.

1 VI. <u>CONCLUSION</u>

2	Q.	DO YOU AND THE DIVISION SUPPORT RHODE ISLAND ENERGY'S FY 2023
3		RENEWABLE ENERGY GROWTH FILING?

- 4 A. The Division supports the ceiling prices calculated with post tariff market revenues and
- 5 recommends that bonus depreciation should be incorporated to further adjust the calculated
- 6 price. The Division supports the proposed MW allocation but does not support the tariff
- 7 changes proposed that would allow for unlimited re-allocation of MW's during a program
- 8 year without commission approval.

9 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

10 A. Yes.

Exhibit 1 – Resume for Michael W Brennan

Professional Experience

MW BRENNAN CONSULTING, LLC

Owner

- Consulting services on energy policy and utility regulatory activities •
- Business and financial consulting for a wide range of industries and clients on business • strategy, capital investment analysis, mergers and acquisitions, renewable energy projects and general business consulting

DUKE ENERGY

Renewable Compliance Manager

March 2018 to April 2019 Repsonsible for development, oversight and implementation of a multi-year, 2,600 MW renewable competitive procurement program for Duke Energy Carolinas and Duke Energy Progress

- Development of program structure and guidelines including compliance with enabling statute and regulatory orders, procurement targets and schedule and proposal evaluation approach
- Regulatory filings and approvals for key documents including power purchase agreement, RFP documents and other guidance to bidders

• Key point of contact and interface with independent third party RFP administrator Lead Wholesale Renewable Analyst March 2017 to March 2018 Provides deal structuring and analytic support to Duke Energy's Regulated Renewables and Distributed Energy department. Responsibilities include:

- Support of compliance activities related to NC Renewable and Energy Efficiency Portfolio Standards (REPS) including ownership and maintenance of tools to support decision making, compliance and reporting
- Analysis and pricing support for business development activities for new regulated utility products and services, investments and purchase activities for renewable and distributed energy technologies
- Development and ongoing maintenance of key Excel based analytic tools for project evaluation, rate design, and strategic analytics to support regulatory and legislative initiatives

ECO-SITE, INC.

Vice President – Finance and Administration

November 2012 to February 2017

Lead key finance functions for a growing developer of cell towers and other wireless infrastructure. Grew this function from the formation of the company to multimillion dollar annual G&A and Capital budgets and rapidly growing revenue. Interface for company management and private equity investors on all finance, information technology and human resource related matters.

- Responsible for monthly, quarterly and annual financial close and reporting as well as the preparation and approval of the annual budget for G&A and Capital spending
- Managed commencement and ongoing financial administration of leases related to wireless infrastructure assets
- Developed a comprehensive multi-year forecasting and analytic tool for evaluation of opportunities and near and long term financial and strategic planning.
- Built all financial infrastructure for start up company including implementation of accounting system, development of chart of accounts and key financial policies and processes
- Planned and coordinated the procurement and installation of key IT infrastructure to support growing staff and growing business needs
- Created and maintained key human resource functions including benefits programs, payroll, employee handbook, recruiting and onboarding procedures and performance management tools.

Raleigh, NC May 2019 to Present

Raleigh, NC

Durham, NC

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PROGRESS ENERGY

Director – Strategic and Financial Planning September 2012

Directed annual and ongoing corporate strategic planning process, financial planning process and market research function for Fortune 250 regulated electric utility company. Provided analytic and decision support for key strategic initiatives and decisions, coordinated and managed the preparation of consolidated financial forecasts/budgets and associated analysis, and planned and coordinated key strategic and financial planning meetings with CEO's senior management committee

- Led a key integration team that designed the financial planning and analysis, budgeting, strategy and M&A organizations for the new Duke Energy
- Played a key role in the analysis and due diligence associated with Progress Energy's merger with Duke Energy
- Revamped the strategic and financial planning process including improvements to subsidiary governance, enhanced interfaces with key stakeholders and more frequent and robust discussions with senior management
- In 2010, consolidated corporate strategy and financial planning and analysis functions into a single organization under my direction

Manager, Financial Analysis and Special Projects – Treasury Department 2004 to 2007 Managed team of 6 finance professionals responsible for providing financial analysis for major capital and O&M projects, wholesale power contracts, divestitures and acquisitions and for supporting special projects and initiatives.

Supervisor, Financial Services – Shearon Harris Nuclear Plant 2002 to 2004 Managed team of 6 finance and accounting professionals responsible for the financial governance and control activities for a nuclear power plant.

SeniorAnalyst / Lead Financial Specialist

2000 to 2002 Primary financial analyst for \$440 million project financing for 2,500 MW portfolio of natural gas fired power plants.

WOOLPERT, LLP - engineering and infrastructure consulting firm Charlotte, NC Project Engineer/ Project Manager, Water Resources Engineering Department 1995 to 1998 Managed numerous engineering projects for public and private clients and assisted municipal clients with program development

US ARMY

Fort Carson, CO/ Fort Leonard Wood, MO

Platoon Leader and Battalion Adjutant, 4th Engineer Battalion 1992 to 1995 Led combat engineer platoon and assault and obstacle platoon before being promoted to battalion adiutant

Deployed with battalion as part of division task force to National Training Center in Fort Irwin CA

Education

WAKE FOREST UNIVERSITY, Babcock Graduate School of Management Winston-Salem, NC

Master of Business Administration; Recipient, Charles H. Babcock Scholarship **May 2000** NORTH CAROLINA STATE UNIVERSITY Raleigh. NC Bachelor of Science in Civil Engineering; Magna Cum Laude; Recipient, Army ROTC Scholarship May 1992

Skills and Licensure

Licensed Professional Engineer (Inactive): State of North Carolina (PE # 022539) Licensed Private Pilot: Single Engine, Land