STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

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

RE: 2024 Renewable Energy Growth Program — Docket No. 23-44-REG

PREFILED DIRECT TESTIMONY OF

Michael W. Brennan, Consultant

On Behalf of Rhode Island Division of Public Utilities and Carriers

March 1, 2024

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DIRECT TESTIMONY OF MICHAEL W. BRENNAN

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND THE BUSINESS ADDRESS OF YOUR 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.

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

A. I am testifying on behalf of the Rhode Island Division of Public Utilities and Carriers (“Division”).

Q. WOULD YOU PLEASE OUTLINE YOUR EDUCATIONAL BACKGROUND?

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 of Business Administration from Wake Forest University in 2000.

Q. PLEASE BRIEFLY DESCRIBE YOUR EXPERIENCE WITH ELECTRIC 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. Attached is my Curriculum Vitae Exhibit MWB-1. I have been actively involved in all aspects of electric utility strategic and financial planning, utility investment analysis, public policy, ratemaking, and renewable energy program management. I also have experience advising clients on energy markets and renewable energy project development.

Q. HAVE YOU PREVIOUSLY TESTIFIED AS AN EXPERT BEFORE THE RHODE ISLAND PUBLIC UTILITIES COMMISSION?

A. Yes, I testified in Docket 5088 in 2021, in Docket 5202 in 2022, in Docket 22-39-REG in 2023, and in Docket 23-05-EL in 2023.

Q. HAVE YOU PREVIOUSLY TESTIFIED AS AN EXPERT IN OTHER JURISDICTIONS?

A. No.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?

A. The purpose of my testimony is to provide observations and recommendations on the following key elements of the proposed 2024 Renewable Energy Growth (REG) program:

1. Tariff and Program Rule changes proposed by Rhode Island Energy;
2. The recommended 2024 ceiling prices, including observations on key inputs and assumptions used to develop the ceiling prices;
3. The proposal to establish ceiling prices for a three year period (2024 through 2026) as opposed to the traditional approach of establishing ceiling prices for one year only;
4. The proposal to establish adders for certain preferred sites; and
5. The recommended MW allocations to the RE Growth Classes, also proposed for a three year period.

III. TARIFF AND RULE CHANGES

Q. DID RHODE ISLAND ENERGY PROPOSE CHANGES TO THE RE GROWTH TARIFFS AND PROGRAM RULES?

A. Yes, Rhode Island Energy (RIE) made significant edits to both the RE Growth tariffs and the program rules for both Residential and Non-Residential customers.

Q. WHAT PROMPTED THESE CHANGES?

A. As described in RIE's filing the changes were intended to: "(1) reflect recent statutory amendment to Rhode Island's Renewable Energy Growth statute, R.I. Gen. Laws § 39-26.6; (2) propose changes to the Program that stem from the recent statutory amendment; (3) address stakeholder and developer feedback to the existing Program; and (4) clarify and improve the overall structure and flow of the Tariffs and Rules.

Q. DOES THE DIVISION SUPPORT THE PROPOSED CHANGES?

A. Yes, the Division supports the proposed changes.

Q. DOES THE DIVISION HAVE ANY RECOMMENDATIONS FOR EDITS OR ADDITIONS TO THE TARIFFS AND / OR RULE CHANGES?

A. Yes, the Division respectfully offers the following observations and recommendations:

1. Performance Guarantee language – it is the Division's understanding that Small Scale Solar Projects are not required to provide Performance Guarantee deposits. Referencing the table on page 14 of 28 of the redlines for the Rules for Projects >25 kW, if this is the case, for the avoidance of confusion, the Small Scale Solar category should be removed.
2. Preferred Site Adders – The Division does not support the proposal for incentive adders, however, in the event that the Commission approves such adders, the Division suggests that section of the Rules associated with the preferred site adders

(see pages 10 and 11 of the redline to the Rules for Projects >25 kW) requires more clarity:

a. Definitions of Brownfield (including Superfund site) and Landfill should be developed to provide clarity on what sites will qualify for this designation.

b. More clear description of the process for making a proportional adder award based on a project being only partially located on a Brownfield or Landfill including any minimum % of MW that must be achieved to be eligible for an adder. This process should include a step that occurs during development but also a final calculation based on "as-built" drawings that delineate the final location of panels, turbines, or other generating equipment, sufficient to validate the calculation of the portion of the project located on the preferred site.

c. More clear description of the expectations for the cost data provided and the reason for submitting this. The intent as the Division understands it is to use this data to corroborate the assumptions used to establish the adder value. As such, it will be important for the developer to be required to provide information to the best of their knowledge on both the total costs of the project and on the portion of the costs that are incremental to a typical/ greenfield project of similar size and configuration. This should also include estimates of the expected ongoing costs. These costs should be provided at the time of the application and should be required to be updated upon commercial operation.

IV. 2023 CEILING PRICES

Q. DID THE DIVISION PARTICIPATE IN THE STAKEHOLDER PROCESS FOR THE DEVELOPMENT OF CEILING PRICES FOR THE 2024 PROGRAM YEAR?

A. Yes, the Division participated in three stakeholder meetings and provided feedback and comments to SEA. The Division also participated in the November 6, 2023 session focused on the adders and the role of the Rhode Island Department of Environmental Management. In addition, the Division participated in informal calls with SEA to discuss the key factors influencing the ceiling price calculations and the CREST model. The Division submitted written comments in response to the requests for comments issued by OER/SEA during the stakeholder process.

Q. WHAT KEY ISSUES INFLUENCED THE DEVELOPMENT OF CEILING PRICES FOR THE 2024 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 – inflationary pressure continued in 2023, 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;

2) Increasing interest rates – the cost of borrowing has continued to increase as the Federal Reserve raises interest rates in an effort to tamp down inflation. This impacts the amount of debt a project may be able to take on as well as the costs of periodic interest payments, thereby decreasing potential returns on equity; and

3) Changes in Law based on passage of 2023-S 684/2023-H5853 – An Act Related to Public Utilities and Carriers – Net Metering. Notably, the law changes:
   a. Allowed for, but did not require, the establishment of ceiling prices over a three-year period as opposed to single years. The law also allowed for the recommended allocation of MW targets to be approved for up to three years.
   b. Restricted siting of REG Programs located in "Core Forests".
   c. Expanded the Large Solar classes by establishing three new classes greater than 5 MW and as large as 39 MW.
   d. Modified the section of the law dealing with zonal and other incentive payments by expanding the types of benefits that could be used to justify an incentive payment and including the DG Board and OER as entities that could recommend such adders (previously, the law specified that only the electric distribution company could propose such adders).

Q. WHAT FEEDBACK AND INPUT DID THE DIVISION PROVIDE TO THE STAKEHOLDER PROCESS?

A. The Division provided written comments on the following issues:

- Concern over price increases – The Division expressed concern that the proposed ceiling prices have the potential to increase the costs of the RE Growth program to all ratepayers via the RE Growth charge. The Division noted that this is especially true of the Small Solar category in which these prices are administratively set. For the competitive classes, the Division noted that higher ceiling prices may not directly translate to higher costs as the competitive bidding process should result in the most cost effective projects being awarded certificates. The Division also noted that significant uncertainty exists in the market with some indications of potential easing of inflationary pressures.[1]

- 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. This value is quantified by applying a value to the generation produced after the 15 or 20 year tariff term. The Division also provided specific feedback that the approach that SEA proposed to reflect the change in law provisions regarding the net metering credit value resulted in a projected value of post tariff market revenues that was too low. This will be discussed in more detail below.
- Three Year Pricing – In the event that three year pricing was approved, the Division recommended consideration of a clearly defined mechanism to reopen the pricing for years 2 and 3 of a multi-year pricing plan based on changes in key drivers. In follow up comments after the second meeting, the Division expressed that the current environment of volatility and uncertainty in key inputs may warrant delaying a recommendation of multi-year ceiling prices.
- Landfill and Brownfield Adders – The Division noted that the assumption of land lease costs for these sites was the same as that for greenfield locations. Given the challenges associated with these sites and potentially limited alternative uses, the Division suggested that the land lease costs on these sites could be significantly lower than that

[1] In the Divisions comments provided to SEA the Division referenced the NREL Solar Industry Update Spring 2023: https://www.nrel.gov/docs/fy23osti/86215.pdf [nrel.gov]
The fall 2023 update, which came out after the final ceiling price recommendations were made shows further signs of leveling off and potential decreases in costs:
https://www.nrel.gov/docs/fy24osti/88026.pdf

for a greenfield site. The Division also suggested that a minimum size of 1 MW be established for eligibility for any adder approved for Landfill and Brownfield sites.

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

A. Some of the comments were addressed, however, the consulting team declined to accept the Division's position on the post tariff market prices with respect to the multiple discounts on the assumed future value of net metering.

Q. CAN YOU ELABORATE ON THE DIVISION'S POSITION WITH RESPECT TO POST TARIFF MARKET VALUE ASSUMED IN THE PROPOSED 2024-2026 CEILING PRICES?

A. Yes, the approach in recent years of estimating the value of the kWh production after the RE Growth tariff term (e.g. after the 15 or 20 years of fixed payments) has assumed that RE Growth customers would be eligible to transition to net metering. The future value of net metering credits was estimated based on an escalation of current net metering values to future years. This value was then <u>reduced</u> by 40% to account for uncertainty in net metering policy in future years. The 2023 changes in the RE Growth statute resulted in a requirement that the Renewable Net Metering Credit be reduced by 20% for virtual net metering projects once the cumulative capacity of virtual net metering facilities enrolled in the net metering program reaches 275 MW. As a result of this change in law, the consulting team determined that it was appropriate to further reduce the expected value of net metering by an additional 20% (on top of the 40% already assumed). The Division argued that the whole point of the 40% reduction was to account for precisely these types of changes in law, in other words, the 20% reduction in the new law should be considered part of the 40% adjustment that has been historically assumed for the purpose of making a conservative estimate of future net metering credit values. Another way to look at it is that there is still an additional 20% of net metering reductions that are assumed beyond the 20% already enacted. It is also important to note that the 20% reduction in the current law only takes effect if and when the 275 MW cap is met. The Division strongly recommends adhering to the past practice of applying one adjustment factor (40%) that accounts for the risk that future net metering values will be at a reduced value from the current basis for net metering credits.

Q. WHAT WERE THE RESULTS OF THE 2023 ENROLLMENT PERIODS?

A. The 2023 enrollment process resulted in considerably fewer projects and MWs participating in the three open enrollment periods than previous years. SEA Figure 1 on page 23 of the Direct Testimony of Jim Kennerly and Tobin Armstrong present evidence that both 2022 and 2023 enrollment years have seen sharp declines in participation. In the three open enrollments for the competitive classes in 2023, only 9 Medium Scale Solar projects were accepted totaling 1,900 kW, 1 Commercial Scale Solar project was accepted totaling 383 kW, and 1 Large Scale Solar project was accepted totaling 4,998 kW.

Q. WHAT FACTORS OTHER THAN CURRENT CEILING PRICES WOULD IMPACT THE ENROLLMENTS?

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

1) Uncertainty created by supply chain issues, volatile prices and increasing interest rates has made project developers risk averse due to uncertain timelines and final costs. This may have caused developers to pause development and forego applications in 2023;

2) Issues with land availability for larger scale projects;

3) Concerns with unknown potential delays in the interconnection process coupled with unknown cost impacts; and

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

In addition, the potential for higher ceiling prices in subsequent years may have influenced participation. Notably with respect to the third and final open enrollment period of 2023, when a single Medium Scale Solar project was enrolled, the anticipation of higher ceiling prices in 2024, coupled with the current environment of volatility and uncertainty, may have driven some potential market participants to decide to wait until 2024 to propose projects that they have under development into the RE Growth program. Because the annual process of developing ceiling prices overlaps with the open enrollment periods (notably the final enrollment), market participants have an early signal of what the range of potential ceiling prices may be for the coming program years. In years past, this often meant an expectation of lower ceiling prices based on the historical trend of declining ceiling prices in each subsequent year. However, beginning in 2021, and continuing into 2023, the historic dynamics have changed as inflationary pressures and financing costs have resulted in higher prices on a year over year basis.

Q. WHAT UNDERLYING INTEREST RATES WERE USED IN THE CREST MODEL TO CALCULATE THE 2024 CEILING PRICES?

A. Based on the presentation made at the October 24, 2023 meeting, the interest rates were based on yields on 10 and 20 year Treasuries as of October 11, 2023 as well as projections of future rates to arrive at the underlying 10 and 20 year rates used in the analysis.

Q. SINCE OCTOBER HOW HAVE INTEREST RATES CHANGED?

A. Yes, with signs of easing inflation, in recent Federal Open Markets Committee meetings the Federal Reserve Bank has signaled that they may cease the pattern of steady increases in the Federal Funds target rates and may consider cutting rates in 2024.[2] As a result, yields on the 10 year (and 20 year Treasury notes) have declined. The attached chart shows the recent (1 year) history of the yield on the 10 year treasury note. As shown, October 2023 saw some of the highest yields of the year. Since October when yields reached almost 5%, the yields contracted sharply to below 4% by year end 2023 before climbing back to more than 4.2% in February after unexpectedly higher than expected inflation was reported for January 2024.

Source – WSJ Market Data Center February 13, 2024

Over the past 12 months, the yield on US 10 year treasuries has fluctuated considerably ranging from as low as ~3.4% last spring to highs near 5% (when the proposed ceiling prices were calculated) and then as noted recently trending below 4%. These large swings in the underlying interest rates make it very difficult to predict what financing terms

[2] https://www.wsj.com/livecoverage/stock-market-today-dow-jones-01-03-2024/card/fed-officials-saw-end-to-rate-increases-fed-meeting-minutes-fALFMo953ikfMtpiDQwx?mod=Searchresults_pos18&page=1

projects seeking to bid into the 2024 enrollments will incorporate in the formulation of their bid prices. Predicting what the interest rate environment will look like in 2025 and 2026 is even more challenging.

Q. HOW DOES THE PRICING OF THE BIDS ACCEPTED IN 2023 COMPARE TO THE 2023 CEILING PRICES AND THE PROPOSED 2024 CEILING PRICES?

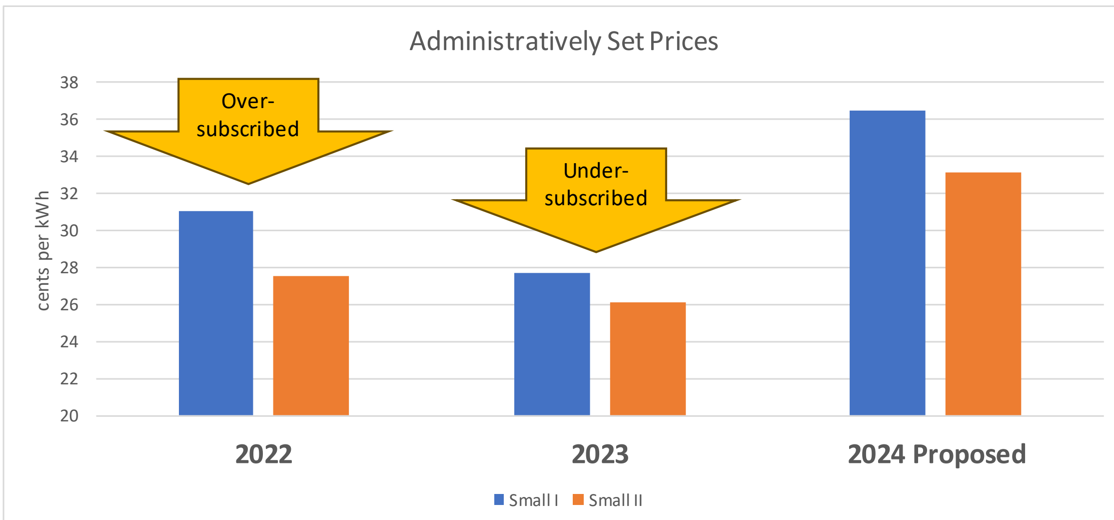
A. The only meaningful data set for such a comparison is the Medium Scale Solar class in which 9 bids were received. The average bid price was 25.18 cents / kWh with a range of 24.50 to 25.64. This is approximately 27% below the recommended ceiling price of 34.35 cents per kWh for 2024. Given a single data point for both Commercial and Large Solar and no bids for other technologies, no meaningful comparison can be made.

Q. WHAT WERE THE RESULTS OF THE SMALL SOLAR CLASS ENROLLMENTS IN 2023 AND HOW SHOULD THIS BE USED TO ASSESS THE APPROPRIATE CEILING PRICE FOR 2024?

A. In contrast with 2022 when the Small Solar class experienced very high demand from customers, the 2023 results to date reveal that there is very low demand for the RE Growth program from Small Solar customers. In 2022, the enrollment target was exceeded well before the end of calendar year 2022 and the MW allocation to this class was increased by the DG Board by reallocating MWs from other classes. This high level of demand and the associated desire on the part of OER and the DG Board to increase the MW allocation was the focus of considerable discussion in the hearing in Docket 22-39-REG. In that Docket the Commission ruled that in future program years, no reallocation of MWs from a competitive class(es) to the non-competitive Small Solar class could occur until after the processing of the third open enrollment period (this change was further codified in the 2023 statute changes). The 2023 ceiling prices for the Small Solar class were reduced from the

2022 levels based on the CREST model results and supported by the high levels of demand for this program at the 2022 prices. The chart below shows the 2022, 2023 and proposed 2024 prices. The 2023 prices were 5% to 11% lower than the 2022 levels.

	CP's in cents/ kWH				% Change		
	2022	2023	2024 Proposed		2022 to 2023	2023 to 2024	2022 to 2024
Small I	31.05	27.75	36.45		-11%	31%	17%
Small II	27.55	26.15	33.15		-5%	27%	20%



As mentioned above, these lower prices have not resulted in high demand for the Small Solar RE Growth program in 2023, with only ~5% of the allocated MW to the Small Solar class being subscribed as of December 5, 2023. The proposed ceiling prices for 2024 are 27% to 31% higher than the 2023 levels and are also 17% to 20% higher than the 2022 prices. As noted, the 2022 prices spurred significant demand from Small Solar customers prompting the DG Board to reallocate MWs to this class to meet the demand. Based on this history, the Division is concerned that the proposed pricing may be swinging the pendulum too far into pricing that exceeds the level that would make small solar projects economically viable.

Q. DOES THE DIVISION SUPPORT THE PROPOSED SOLAR CEILING PRICES FOR SMALL SOLAR IN THIS DOCKET?

A. While agreeing that the Small Scale Solar prices likely need to increase, the Division does not support the proposed ceiling prices for Small Solar. The Division believes these should be further modified to include a higher value for post tariff market revenues (i.e. excluding the additional 20% reduction in these values). Furthermore, the relatively high level of cost for debt suggests that market participants may elect to finance the cost of these projects with cash. Notably for Small Solar I customer, taking into consideration the upfront fees and interest costs assumed in the CREST model, the all-in cost of the debt financing is ~8.4% which exceeds the required equity return of 7% for these projects. Financing 100% with equity would reduce the Small Solar I price by ~1 cent. Based on the evidence from 2022, the Division believes that the Small Solar class ceiling prices should be set at a level that is more in line with the 2022 prices based on the strong demand for projects in this class during the 2022 program year. Given the significant change in interest rates since the ceiling prices for the competitive solar classes were established, the Division recommends that these prices be recalculated to reflect the latest interest rate data including interest rate projections. This recalculation should also reflect the recommended changes in the post tariff market pricing assumption noted above.

Q. DOES THE DIVISION SUPPORT THE PROPOSED CEILING PRICES FOR PROJECTS GREATER THAN 25 KW?

A. Recognizing that the competitive classes will reflect the changing dynamics of interest rates, project costs and other factors in the prices that they bid and that Rhode Island Energy will select only the most competitive eligible projects in the open enrollments, the Division believes that the ceiling prices recommended by SEA and the DG Board should be approved for PY 2024.

Q. DOES THE DIVISION SUPPORT THE PROPOSAL TO ESTABLISH CEILING PRICES FOR A THREE YEAR PERIOD IN THIS DOCKET?

A. No, the Division believes that the current environment is too volatile and uncertain to support a multi-year recommendation of prices. The volatility in interest rates alone over the three month period since SEA calculated the recommended ceiling prices provides ample evidence of this. Recent data regarding solar panel pricing points to a potential turning point with supply / demand dynamics resulting in falling prices in recent months driven by oversupply as supply chain issues have abated. For example in the Fall 2023 Solar Industry Update presentation, NREL noted that "In Q3 2023 (first 2 months), the average U.S. module price ($0.33/W dc) was down 11% q/q and down 23% y/y"[3]. This Fall 2023 update was published after the ceiling price recommendations were made, but the significant potential decline in key component costs as well as the noted volatility in recent years makes predicting future capital costs extremely challenging, especially as inflation generally has been so hard to predict as noted above in the discussion of interest rates. The recent lack of participation in both the competitive classes and the non-competitive Small Solar class further illustrate the level of uncertainty with renewable energy costs at this time. The Division believes that the most prudent approach for this docket is to establish pricing only for program year 2024. If the Commission decides that the proposal to establish three year ceiling prices (with the proposed adjustment mechanism for changes in key industry and market factors) is appropriate, at a minimum the Division

[3] Page 56 - https://www.nrel.gov/docs/fy24osti/88026.pdf

strongly recommends that the administratively set prices for the Small Solar class only be established for one year (2024 only). Because this class is not subject to the competitive bidding process, the risk of establishing unnecessarily high prices for Small Solar for a three year period is too great.

V. ADDERS FOR PREFERRED SITES

Q. WHAT IS THE PURPOSE OF INCENTIVE ADDERS FOR PREFERRED SITES?

A. Consistent with R.I. Gen Laws § 39-26.6-22 these adders are intended to encourage siting of projects on sites that provide "identifiable system benefit, reliability benefit, or cost savings to the distribution system in that geographical area, or conservation benefit, or climate resilience benefit in that geographical area…". The incentive structure is intended to compensate project developers for the additional costs associated with siting projects in such areas with the premise being that, absent such adders, these sites would not be cost effective to build on and would therefore not be competitive with other projects that are located on sites that are more cost effective, but that may not provide the benefits identified in the statute.

Q. FOR WHAT TYPES OF PREFERRED SITES ARE INCENTIVE ADDERS BEING PROPOSED?

A. The incentive adders were only evaluated for sites considered to meet the definition of requiring remediation. This is based on the following language in the statute: "the electric distribution company, the board, or the office, shall propose to include an incentive-payment adder to the bid price of any winning bidder that proposes a distributed-generation project in the preferred sites that *require remediation*." (Emphasis added). As a result, the consulting team limited this to Brownfields (including Superfund sites) and Landfills.

After discussion with DEM, the team further limited the Landfill category to those sites that have not been capped, deeming capped Landfills to no longer "require remediation".

Q. HOW WERE THE ADDERS CALCULATED?

A. The analysis focused on Large Solar projects (Large Solar I through Large Solar IV). SEA gathered information on the incremental costs associated with development on both Landfills and Brownfields. This included both incremental costs to construct as well as incremental ongoing operating costs. For Landfills, a distinction was made between Landfills that do not have funding to cap the Landfill and those that do. For the first category, SEA gathered estimates for the cost to cap the Landfill and assumed that the solar project would fund such work. Additionally, SEA adjusted the expected performance of the project in terms of the kWh output, based on assumptions regarding likely less than optimal configuration on these sites driven by factors such as terrain, limitations on grading, etc. Finally, the CREST model was used to calculate the ceiling price for each class of solar on both Landfills and Brownfields. The calculated value of the ceiling price for standard (non-Landfill/ Brownfield) projects in the same class was then subtracted from the higher ceiling price for the Landfill/ Brownfield projects to arrive at the adder value. This adder is effectively the amount required to achieve the same financial return on a Landfill or Brownfield site as you would on a traditional site.

Q. DO THE PROPOSED ADDERS RESULT IN A POSITIVE BENEFIT TO COST OUTCOME FOR RATEPAYERS?

A. SEA presented the following BCA results (corrected from the original filing per Responses to Division Data Requests 1-3 and 1-4)

B/C Results for Adder Analysis (2024 PY)

	B/C – No Adder	B/C Ratio – w/ Landfill Adder, No Funds for Capping	B/C w/ Landfill Adder w/ Funds for Capping	B/C w/ Brownfield Adder
Large Solar I	1.28	0.95	1.15	1.16
Large Solar II	1.22	0.99	1.12	1.10
Large Solar III	1.19	0.98	1.10	1.10
Large Solar IV	1.20	0.99	1.11	1.10

Source – Response to DPUC First Data Request, Excel File Titled "Detailed BCA Results_23-44-REG_DPUC First Data Request_REVISED_1292024.xlx"

As the table shows, for all cases, the B/C ratio for projects with adders in each class is lower than the baseline B/C ratio for that class with no adders. This is true for all of the proposed adders across these classes. The conclusion is that the incremental costs of the adder must exceed the incremental benefits, thus reducing the overall benefit to cost ratio for a project with adders when compared to a project without adders.[4] Therefore, based on the SEA analysis, the incentive adders, as proposed, do not result in a positive benefit to cost outcome for ratepayers.

Q. DO YOU BELIEVE THAT THE BENEFIT TO COST ANALYSIS AS PRESENTED IS CONSISTENT WITH THE APPROACH THAT HAS BEEN APPLIED IN RECENT ENERGY EFFICIENCY DOCKETS AS IT RELATES TO ECONOMIC DEVELOPMENT (OR MACROECONOMIC) BENEFITS?

A. No, in Docket 5189, the Division submitted the joint testimony of Tim Woolf and Ben Havumaki. These witnesses made compelling arguments regarding the use of economic development impacts in benefit to cost analyses and the potential risks associated with

[4] For example, referencing the Excel File provided in Response to DPUC 1-3, in tab "Combined BCR Calcs", the incremental costs of a Large Solar I project with a Landfill adder compared to a Large Solar I project with no adder are $465,369 per MW (cell M25 minus cell M14). The incremental benefits of a Large Solar I project with a Landfill Adder compered to a Large Solar I project with no adder are $192,812/ MW (cell H25 minus cell H14).

double counting these impacts. In that docket the Division recommended that the monetary values of economic development impacts (also known as macroeconomic impacts) should not be added to the monetary values of the BCA, but rather should be reported separately. In the Commission ruling on this docket, the Commission concurred with this: "In addition, the Commission is concerned with how the economic development impacts are presented in the annual plan. In particular, the inclusion of large economic benefits in the benefit cost analysis may skew stakeholders or other interested parties' perception of the value of certain program investments. Going forward, as the Company and the Division agreed, the benefit cost ratios that Company presents should not include the economic benefits but should present those benefits separately."[5] The Division continues to support this position and believes that the BCA results presented in this docket should be adjusted to reflect this approach to the BCA. It is my understanding that EE Dockets, subsequent to Docket 5189, have applied this approach.

Q. HAS SEA AND THE DG BOARD PROVIDED B/C CALCULATIONS THAT REFLECT THE EXCLUSION OF THE ECONOMIC DEVELOPMENT BENEFITS?

A. Yes, in Response to PUC 2-8, SEA provided revisions to Tables 11 to 15 from the Direct Testimony of Jim Kennerly and Tobin Armstrong. These revised Tables present the BCA results without the inclusion of economic development benefits. The resulting B/C ratios declined substantially for all cases. For the adder cases, the resulting BC ratios were all below 1.0 for all proposed adder cases. The following Tables were presented in Response to PUC 2-8, providing the B/C ratios for the adder cases without economic development

[5] Page 47 of Commission Order "PUC Order 24440 issued to The Narragansett Electric Co. regarding the Company's 2022 Annual Energy Efficiency and Conservation Procurement Plan" Dated 7/22/2022

benefits. Note, the Response to PUC 2-8 did not provide recalculated B/C ratios for the case Landfill Adder with No Funds for Capping. Based on a review of the detailed BCA results Excel file that was provided in Response to DPUC 1-3, the B/C ratios for that case would be worse than those shown below given the higher proposed adder.

SEA Response to PUC 2-8 showing revised Tables 14 and 15 from testimony:

Renewable Energy Class	Incentive-Payment Adder by Renewable Energy Class (Brownfield/Superfund, ¢/kWh)	2024 PY BCR	2025 PY BCR	2026 PY BCR
Large Solar I	3.6	0.73	0.73	0.73
Large Solar II	3.4	0.76	0.76	0.76
Large Solar III	3.2	0.75	0.75	0.75
Large Solar IV	3.2	0.76	0.76	0.76

Renewable Energy Class	Incentive-payment Adder by Renewable Energy Class (Landfill Projects Not Requiring Full Cost of Physical Capping, ¢/kWh)	2024 PY BCR	2025 PY BCR	2026 PY BCR
Large Solar I	4.3	0.72	0.72	0.72
Large Solar II	3.6	0.76	0.76	0.76
Large Solar III	3.4	0.75	0.75	0.75
Large Solar IV	3.3	0.77	0.77	0.77

Q. SHOULD THE COMMISSION APPROVE THE ADDERS FOR BROWNFIELDS AND LANDFILLS WITH FUNDS TO CAP?

A. The Division does not support the proposed adders. The incremental costs of these adders will be borne by Rhode Island ratepayers and, without sufficient benefits to cover these incremental costs, the Division does not believe this to be a prudent recommendation. Even before adjusting the BCA calculations to exclude the economic development benefits, the BCA results show lower BCR's with the adder than without which is a clear indication that that the level of the proposed adders is inappropriately high. Given the current and projected costs of the RE Growth program[6] as a whole, and the lack of evidence of benefits that would serve to offset these incremental costs, the Division finds no compelling reason to support this adder. The Division would consider an alternative approach that establishes the adder value at a level that results in a neutral or positive B/C result for the adder scenarios, i.e. one that is at least equal to the baseline case with no adder. This approach would result in a lower adder than that proposed by OER and the DG Board. This would be a more conservative way to determine if siting of solar projects on these preferred sites is feasible without putting the ratepayers at risk for potentially higher than necessary costs. If this adder is insufficient to promote such development, this issue could be revisited in future program years.

Q. DOES THE DIVISION BELIEVE THAT A MINIMUM PERCENTAGE OF A PROJECT REQUESTING AN INCENTIVE ADDER BE LOCATED ON THE PARCEL/ AREA REQUIRING REMEDIATION?

A. Yes. For background, both RIE in the program Rules and Tariffs[7], SEA and the DG Board / OER have indicated that the adder amount will be adjusted if less than 100% of a project is located on the Brownfield or Landfill. The Division supports the proposed approach to this, which is to adjust the base adder level based on the % of the MW capacity that is located on the Brownfield or Landfill. For example, if 75% of the project MW are located on the Landfill, while the remaining 25% are on an adjacent parcel that is not a Landfill, the adder value in cents per kWh would be 75% of the base adder for Landfills. The Division further recommends that a minimum threshold (measured as the % of the MW

[6] See RIE Response to PUC 2-3, Attachment PUC 2-3. The projected costs of the RE Growth Program, as measured by RE Growth monthly bill impacts, is expected to triple over the next ten years.
[7] See Section 2.1.3 and Schedule 4 of the "Rhode Island Renewable Energy Growth Program Solicitation and Enrollment Process Rules for Solar (Greater than 25 kW), Wind, Hydro and Anaerobic Digester Projects" and Section 8b of the non-residential tariff.

capacity located on the Brownfield or Landfill) be established as a condition for eligibility for these adders. The Division recommends that this minimum be at least one half (50%) of the project capacity.

Q. WHAT IS THE DIVISIONS POSITION ON THE RECOMMENDED ADDER FOR LANDFILLS THAT DO NOT HAVE FUNDING TO CAP?

A. The Division does not support this adder in any circumstance. First, the very poor benefit to cost ratio results do not support even recommending this adder. More importantly, the Division does not believe that the electric ratepayers of Rhode Island through the RE Growth program should provide the funding required for municipalities or private owners of Landfills to close and cap a Landfill. This cost is the responsibility of the local taxpayers and in the case of a private owner, these costs are the responsibility of the private owner. The costs for this should have been accounted for in the fees that the Landfill operator charged for the use of the Landfill. This adder should not be approved.

VI. PROPOSED MW ALLOCATION

Q. DID YOU REVIEW THE PROPOSED ALLOCATIONS OF MWs TO THE RENEWABLE ENERGY CLASSES?

A. Yes.

Q. DID THE DG BOARD UTILIZE THE RESULTS OF THE BCA TO INFORM THE RECOMMENDED ALLOCATIONS?

A. Yes, in SEA Tables 11, 12 and 13, the results of the BCA analysis for each of the three program years (2024, 2025 and 2026) individually as well as the combined three year period were presented. These were presented based on capacity weighted results, reflecting the impact of the proposed MW allocations (i.e. capacity) to each class and the relative economics of each class. In addition, the tables present separate results for the smaller classes (< 1 MW) from the larger classes (=> 1 MW). These tables were produced to support the resulting B/C ratio of the program for the recommended MW allocation plan over the three year period.

Q. WHAT CONCLUSIONS CAN BE DRAWN FROM THIS ANALYSIS?

A. The analysis shows that the smaller classes produced significantly lower B/C ratios than the larger classes, driven by higher costs for these classes. In Response to PUC 1-8, SEA presented the same Tables 11-13, reflecting revised B/C ratios without the inclusion of economic development benefits. The result of that revised analysis provides the same conclusion, that the smaller classes produce significantly lower B/C ratios than the larger classes.

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

A. R.I. Gen. Law § 39-26.6-12 requires that 30 MW of the annual recommended MW target be reserved for projects less than 1 MW in size. The Division notes that the current proposed allocation to projects less than 1 MW is 33.5 MW for 2024. This allocation increases to 39.5 MW in 2025 and 46.5 MW in 2026. Based on the unfavorable b/c results for these smaller classes, to maximize the MWs allocated to classes that produce positive b/c results for ratepayers, the allocation to the smaller classes should be limited to 30 MW. If future year pricing supports more favorable b/c results for these smaller classes, an increased allocation to these classes could be warranted.

Q. DOES THE DIVISION BELIEVE THAT A THREE YEAR MW ALLOCATION PLAN SHOULD BE APPROVED IF THREE YEAR CEILING PRICES ARE NOT?

A. Yes, the program will likely benefit from providing potential developers with a multi-year MW allocation plan even in the absence of ceiling prices for the same years. This allows developers to understand what program capacity will be available in future years. In the case of the new Large Solar classes, this information is critically important as developers make plans to propose projects in these new classes.

VII. CONCLUSION

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Exhibit 1 – Resume for Michael W Brennan

Professional Experience

MW BRENNAN CONSULTING, LLC **Raleigh, NC**
Owner **May 2019 to Present**

- 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 **Raleigh, NC**
Renewable Compliance Manager **March 2018 to April 2019**
Responsible 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. **Durham, NC**
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.

PROGRESS ENERGY **Raleigh, NC**
Director – Strategic and Financial Planning **2007 to 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.
Senior Analyst / 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 adjutant
Deployed with battalion as part of division task force to National Training Center in Fort Irwin CA

Education

WAKE FOREST UNIVERSITY, Babcock 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**