STATE OF NORTH CAROLINA

UTILITIES COMMISSION

RALEIGH

In the Matter of Biennial Consolidated Carbon Plan and Integrated Resource Plans of Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, Pursuant to N.C.G.S. § 62-110.9 and§ 62-110.l(c)	)))))	Docket No. E-100, SUB 190

DIRECT TESTIMONY OF

NICOLE MILLER

ON BEHALF OF

CAROLINAS CLEAN ENERGY BUSINESS ASSOCIATION

MAY 28, 2024

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-100, SUB 190

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of Biennial Consolidated Carbon Plan and Integrated Resource Plans of Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, Pursuant to N.C.G.S. § 62-110.9 and§ 62-110.l(c)	**DIRECT TESTIMONY OF NICOLE MILLER ON BEHALF OF CAROLINAS CLEAN ENERGY BUSINESS ASSOCIATION**

Q: PLEASE STATE YOUR NAME, JOB TITLE, EMPLOYER AND BUSINESS ADDRESS.

A: My name is Nicole Miller. I am Associate Director of Development for Cypress Creek Renewables, and my business address is 5310 South Alston Avenue, Building 300, Durham, NC 27713.

Q: PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL QUALIFICATIONS.

A: I have a Masters' Degree in Energy and Environmental Management from The Nicholas School of the Environment at Duke University and a B.A. in Religion from Denison University. I have 12 years of experience in the energy industry including energy efficiency, nuclear asset management, and solar and storage development. Prior to my current position, I was a Business Manager at NextEra Energy Resources where I was responsible for two nuclear sites and evaluated recontracting opportunities for extended operation.

Q: WHAT ARE YOUR RESPONSIBILITIES IN YOUR CURRENT POSITION?

A: I have worked with Cypress Creek for 2.5 years developing and finding contract opportunities for solar and storage facilities in North and South Carolina. This includes the annual Duke Solar Procurement and the Green Source Advantage Program. I am also working with our asset management team to understand long term offtake potential for facilities currently in operation.

Q: HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?

A: No.

Q: ON WHOSE BEHALF ARE YOU TESTIFYING HERE TODAY?

A: The Carolinas Clean Energy Business Association (CCEBA). Cypress Creek is a member of CCEBA.

Q: ARE YOU SUBMITTING ANY EXHIBITS WITH YOUR TESTIMONY TODAY?

A: Yes, I have attached my resume as Exhibit A and Duke's Response to CCEBA Data Request 2-1 as Exhibit B.

Q: WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A: The purpose of my testimony is to bring to the Commission's attention the issue of solar Qualifying Facilities (QFs) with Power Purchase Agreements (PPAs) that are soon to expire; the treatment of those facilities in the Duke Carbon Plan; and the opportunities those facilities offer to help meet Duke's significantly increased load forecast while saving money for ratepayers.

Q: CAN YOU PROVIDE AN OVERVIEW OF THIS ISSUE, AND WHY IT IS SIGNIFICANT?

A: Almost all of the utility-scale solar facilities developed in Duke's North Carolina service territories prior to the advent of the Competitive Procurement of Renewable Energy (CPRE) program were Qualifying Facilities that sold their energy and capacity to Duke at avoided cost rates via PPAs entered into under the Public Utility Regulatory Policies Act (PURPA). Many of these PPAs will be expiring in the next few years. While Duke appears to rely on these generators in its resource planning, the Company seems to have given little or no thought either to ensuring that these generators remain available to provide carbon-free energy to Duke and its customers, or to identifying ways that these generators might provide additional benefits to Duke's system.

Q: WHAT IS AN EXPIRING QF PPA?

A: An "expiring QF PPA" refers to an existing QF PPA which by its terms will, unless renewed, terminate at the end of a fixed term of years. Many existing QF PPAs are legacy standard offer PPAs with terms of fifteen years, although some QFs have PPAs with five- or ten-year terms.

Q: HOW MANY SOLAR QFs DOES DUKE HAVE ON ITS SYSTEM?

A: In response to data requests from CCEBA, the Companies report that as of 2024 there are 467 solar facilities with PURPA PPAs on DEC and DEP's combined systems, with a total capacity of 2,723 MW. In addition, there are 317 facilities with Renewable Power Purchase Agreements (which call for the sale of RECs as well as energy and capacity), with a total capacity of 1,527 MW. As indicated below,

this capacity is expected to rise modestly through 2027, and then fall off rapidly as existing PPAs expire.

Operating QFs	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Solar PPAs												
Capacity (MWs)	2723	2804	2851	2872	2421	1932	1627	1583	1172	932	283	229
Counts	467	461	444	431	403	359	326	294	228	197	48	38
Solar RPPAs												
Capacity (MWs)	1527	1527	1527	1488	1381	1280	1130	824	562	506	438	438
Counts	317	317	317	316	307	299	256	193	142	112	96	96
Total Solar QFs												
Capacity (MWs)	4250	4331	4378	4360	3803	3213	2757	2407	1734	1438	721	666
Counts	784	778	761	747	710	658	582	487	370	309	144	134

Table 1: Solar QFs contracted with Duke under PURPA PPAs and PURPA RPPAs[1]

Q: PLEASE DESCRIBE THE PPAs THAT THESE QF FACILITIES ARE CONTRACTED UNDER.

A: Until 2017, solar QFs up to 5 MW were eligible for PURPA contracts with standard rates and terms approved by the Commission, with a term up to 15 years. Larger QFs, up to the maximum capacity of 80 MW, could enter into negotiated contracts with Duke, with a term agreed to by the parties. H.B. 589, enacted in 2017, pushed solar development in North Carolina away from the "PURPA put" model in favor of competitive procurements. H.B. 589 lowered the maximum capacity for standard offer rates and contracts to 1 MW and established a ten-year maximum duration for standard offer contracts. It further provided that PPAs for solar QFs not eligible for the standard offer would have a maximum duration of five years. H.B. 589 also established the CPRE program and authorized development of Duke's Green Source Advantage program.

[1] Duke Response to CCEBA Data Request CCEBA Request No. 2-1(a) (attached as Exhibit B).

It should be noted that H.B. 589 did not affect any QF that had established a "Legally Enforceable Obligation" (LEO) under PURPA before the law was passed. Primarily because of long interconnection delays, many QFs with pre-H.B. 589 LEOs did not achieve commercial operation until several years after the law was passed.

Q: WHEN DO THESE PPAS EXPIRE?

A: According to information provided by Duke, about 100 MW of PPAs and RPPAs will expire in 2024-2026. However, starting in 2027 those PPAs and RPPAs will expire in large numbers, with an average of 530 MW expiring annually through 2033, when almost all existing PURPA PPAs and RPPAs will have expired.

Expiring QFs	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Solar PPAs												
Capacity (MWs)	23	28	16	520	489	305	44	411	240	649	54	26
Counts	9	18	14	29	44	33	32	66	31	149	10	7
Solar RPPAs												
Capacity (MWs)	0	0	39	107	101	151	305	262	56	69	0	0
Counts	0	0	1	9	8	43	63	51	30	16	0	0
Total Solar QFs												
Capacity (MWs)	23	28	55	627	590	456	350	673	296	718	54	26
Counts	9	18	15	38	52	76	95	117	61	165	10	7

Table 2: PURPA PPAs and PURPA RPPAs assumed to expire[2]

Q: WHAT OPTIONS DO THESE FACILITIES CURRENTLY HAVE WHEN THEIR PPA EXPIRES?

A: Currently, QFs with a capacity of 1 MW AC or less may enter 10-year Standard Offer Contracts at rates set by the Commission in biennial avoided cost proceedings.

[2] Exhibit B - Duke Response to CCEBA Data Request CCEBA Request No. 2-1(b).

However, there are few, if any utility-scale solar facilities of this size. Larger QFs—including almost all of the standard-offer QFs that established LEOs before H.B. 589—may enter a five-year fixed avoided cost contract. Alternatively, QFs may sell energy at Duke's "as-available" energy rate, including either (1) the Marginal Cost Rate or (2) the two-year contractual Variable Rate. The Marginal Cost Rate ("MCR") is a floating "as-available" avoided cost rate based on Duke's actual hourly marginal cost of producing energy during each month. QFs selling under the MCR do not have an obligation to sell to Duke (i.e., there is no fixed contract term), and QFs could opt to sell to another buyer at any time. Under the Variable Rate, on the other hand, QFs may sell under Duke's current "Variable Rate", which is updated during each biennial avoided cost proceeding. The Variable Rate is fixed for each two-year period in between the biennial updates.

Given that these facilities are not required under PURPA or Duke's PURPA PPAs to convey Renewable Energy Credits (RECs), to Duke, they may sell RECs to alternate offtakers while providing Duke with the energy.

Q: WHAT IS THE EXPECTED LIFE OF A SOLAR FACILITY?

A: Solar developers commonly assume that a new solar facility will have a useful life of approximately 30 years. The performance of solar panels is generally expected to degrade approximately 2% in the first year of operation, and about 0.5% per year thereafter.[3] So after ten years in operation, the overall output of a solar facility might be about 92.5% of the output when it was constructed (assuming that panels

[3] "Analysis of Performance Degradation of PV Modules," *PowerMag* (July 21, 2023), at https://www.powermag.com/analysis-of-performance-degradation-of-pv-modules/ (retrieved May 28, 2024).

are not replaced). This phenomenon is well understood by both developers and utility planners, and both solar facilities and energy models are constructed to reflect and account for panel degradation.

Moreover, this decline in output can be reversed by replacing some or all of the solar panels at the facility with newer panels. The efficiency of solar panels has increased significantly over the last decade and this trend is expected to continue. This means that "repaneling" can actually increase the total output of a solar facility over its original design specifications. Repaneling or other equipment replacement does, however, require significant capital expenditures.

Q: HOW ARE THESE FACILITIES BEING MODELED IN THE CPIRP?

A: The Resource Plan assumes that after the PPAs for these facilities expire, the utility will procure a "like-kind" replacement.[4] However, it is unclear what would qualify as "like-kind." For example, if Duke intends to replace the QFs with new generation, it is unclear from the Resource Plan what the new generation will be and whether it would be obtained through its annual solar procurements.

Duke also states that these replacement resources "are assumed to retire prior to 2050 without additional like kind replacement." The CPIRP and Duke's responses to CCEBA's data requests do not specify when those resources are assumed to retire, but information provided by Duke in response to CCEBA Data Request DR 2-1(a) (reflected in Table 1, above) suggests that the Companies may be allowing these resources to drop out of its portfolio entirely.

[4] Exhibit B - Duke Response to CCEBA Data Request CCEBA Request No. 2-1(c)(i).

Depending on what Duke considers "like kind" replacement, and what its plans for retiring replacement resources are, allowing this existing generation to exit Duke's portfolio before the end of its useful life could unnecessarily impair Duke's efforts to meet its 70% carbon reduction targets and to reach carbon neutrality by 2050.

Q: IN WHAT WAY COULD NEED TO REPLACE RETIRING QFs DIMINISH DUKE'S ABILITY TO REACH CARBON NEUTRALITY BY 2050?

A: First, as witnesses Newell and Hagerty explain, Duke contends that its annual procurement process will solicit as much solar as possible given practical limitations on the ability to interconnect new solar generators, as shown by the fact that the preferred portfolio forecasts procurements of solar equal to those interconnection limitations year after year. Accordingly, under Duke's view, it is not possible to exceed those amounts of procurement on an annual basis.

If Duke assumes these expiring QF resources are "replaced with like-kind resources" procured through annual solar procurements, the interconnection of those resources must come at the expense of either existing, interconnected QFs or yet-to-be procured solar. If only certain amounts of new interconnections can be achieved each year, then the like-kind resources must be accounted for within the interconnection limit. This points to a very strong need to keep existing QFs – with already-established interconnections – online and generating at current or expanded levels.

Second, given that need, current contractual arrangements unfortunately do not incentivize existing solar QFs to maximize long-term generation. If larger solar

QFs can only renew PPAs for five years at a time, there is insufficient certainty about long-term revenues to make the significant capital investments required to maintain production or even make these facilities more productive in the long-term. Such long-term investments could, however, benefit the entire Duke system by providing for continued carbon neutral generation that supports ultimate compliance with H.B. 951 to achieve carbon neutrality by 2050.

Third, Duke's assumption of "like kind" replacement, even if it were feasible, fails to consider the full value that these facilities could bring to the system if the Commission were to examine other potential offtake options. For example, Duke could offer (as an alternative to renewal of PURPA PPAs) a form of contract that provides for greater dispatch rights, similar to current CPRE or RFP PPAs. According to Duke, such dispatch rights provide reliability and other benefits to Duke's system planners and operators, making those resources more valuable to the system.

In addition, a form of offtake that provides greater long-term revenue certainty than a five-year contract could facilitate the kind of capital investment required to upgrade the inverters and panels on these facilities to increase production, or (where feasible) even add battery storage. Because these existing facilities are already interconnected to Duke's grid, these improvements could potentially be achieved without incurring additional upgrade costs or having to wait for the construction of major system upgrades.

Q: HAVE THERE BEEN ATTEMPTS TO OFFER OTHER OPTIONS TO EXISTING QFs?

A: Yes. H.B. 951 provided certain eligible QFs a one-time opportunity to recontract through the Blend and Extend program, which was administered by this Commission through Docket E-100, Sub 181. This legislatively-mandated option was taken by many solar facilities and seemed to be successful in terms of both administration and number of participants.

At the Commission's direction, Duke also allowed certain QFs the opportunity to retrofit with battery storage via the Energy Storage System Retrofit ("ESS Retrofit") Rates authorized by the Commission in Docket No. E-100, Sub 175. Unfortunately, the short tenor of these PPAs limited the payback period for that investment and storage retrofit was deemed unfinanceable by many in the industry and, therefore, had little to no uptake. The future potential for this option needs further evaluation among stakeholders and Duke.

Q: WHAT OPPORTUNITY IS OFFERED TO THE COMMISSION BY EXPIRING QFs?

A: Each of these QF facilities has an existing interconnection agreement and has already been connected to the grid. If interconnection is the primary limitation on adding the most economic resource option to the grid – Solar – we must be able to maximize existing interconnections because they do not face the same uncertainty as new solar generation resources, which are faced with long interconnection timelines. As witness Newell testifies, long interconnection timelines expose projects to cost and financing risks that can result in attrition and leave ratepayers paying higher rates to purchase more expensive energy from less economic resources.

Under the right contractual terms, options such as a Blend and Extend program 2.0, adding storage, or potentially investing in repowering could help North Carolina reach carbon neutrality by 2050. Moreover, maximizing the continued use and reliance on these early interconnections through an expedited procurement or other offtake process could avoid the need to add more expensive resources to the grid, or delay the need for additional resources until the longer-term carbon-free resources in Duke's plan, such as offshore wind and SMRs, are more feasible and economic. These resources could, in other words, fill a resource gap that Duke's Resource Plan currently fills with new gas generation resources.

The continued operation of these facilities is an essential component of Duke's plan to achieve H.B. 951's carbon reduction goal of 100% by 2050. As such, the Commission should encourage Duke to work with intervenors to explore this opportunity further and to develop an expedited process to allow these existing QFs to renew their PPAs for longer terms and to maximize their production and capacity value through upgrades and the addition of storage on existing interconnections.

Q: WHY DOES THIS MATTER NOW, IN THIS CARBON PLAN CYCLE?

A: Developers such as Cypress are currently evaluating financing and re-financing of QF with PPAs that will expire in the next few years. This timing coincides with coal retirements that will begin in earnest in 2028. Our financing parties look for long-term contracting certainty. As North Carolina does not have a wholesale market, they are examining risk associated with (i) the lack of clarity on avoided cost rates for the five-year recontracts and (ii) the relatively short tenor of the five-

year recontracts. Longer contracts, with clear compensation for the addition of storage and other investments in upgrades to the resources already interconnected, will make such financing more obtainable.

As discussed, existing PURPA PPAs will start expiring in large quantities in 2027 or 2028. Any near-term action plan that is ultimately approved by the Commission will likely be implemented during 2025-2026, just ahead of the those QF retirements. Major capital investments such as repaneling or the addition of battery storage require significant lead times, on the order of one to two years. If Duke is to capture the benefits that could result from more thoughtful deployment of these resources, it is important that stakeholders begin to engage on this issue sooner rather than later.

Q: WHAT IS CCEBA ASKING THE COMMISSION TO DO?

A: Because of the timing considerations discussed above, we respectfully request the Commission to direct Duke, as part of the 2024 CPIRP Final Order, to convene a stakeholder process that will examine and make recommendations to the Commission on re-contracting options for existing QFs.

Q: DOES THIS CONCLUDE YOUR TESTIMONY?

A: Yes.

Nicole Miller

Experience

Cypress Creek Renewables — Durham, NC
Associate Director — 2024

- Worked directly with internal asset management and development teams and utilities and corporate offtakers to find opportunities for renewable energy projects both in development and in operation including Green Tariff programs, Power Purchase Agreements, and Renewable Energy Credit (REC) contracts
- Supported renewable friendly policy development as company representative in multiple Carolina's renewable energy trade groups

Senior Project Developer — 2021-2023

- Originated >500 MW of utility scale solar and BESS in North and South Carolinas
- Responsible for zoning approval and RFP submission of 495 MW of late-stage projects of which 160 MW were ultimately awarded by Duke Energy in the 2022 Solar Procurement
- Negotiated with corporate offtake partner to secure a Green Source Advantage PPA for 80 MW solar facility
- Managed and led developers on the early-stage development of 450 MW of solar and storage

NextEra Energy Resources — Juno Beach, FL
Business Manager — 2018-2021

- Managed P&L, relationships and Power Purchase Agreements for 2 of NEER's largest carbon free generators
- Consulted with customers to achieve sustainability goals of reaching net carbon neutrality
- Led asset useful life change with accounting experts worth $40 MM annual benefit over 5 years
- Analyzed financial impact of contract opportunities worth up to $650 M through project valuation models and coordination with subject matter experts, presented findings to senior management
- Collaborated across internal groups including development, accounting and legal in response to customer demand
- Developed and tracked program and site performance and reported actuals to management

Rotational Business Associate

- Completed rotations in development, power marketing and business management as part of leadership program
- Supported >400 MW of solar development in PJM, MISO and SPP with a focus on Louisiana and Mississippi
- Worked with local leadership in Kentucky to develop favorable a solar ordinance needed for successful projects
- Forecasted ancillary products using market and data analysis and presented recommendations to be used when bidding for competitive projects in ISO-NE
- Analyzed PJM battery market in order to optimize bidding strategy to maximize revenues of operating assets

Rocky Mountain Institute, Business Renewables Center — Washington, DC
Stanback Assistantship — 2017

- Consulted companies interested in sustainable energy procurement, including storage analysis for 2 Fortune 500 companies with active Power Purchase Agreements for a 200 MW solar site
- Supported development of Dutch Wind Consortium case study including Google, Philips and AkzoNobel
- Assisted in conference for corporations interested in utility-scale renewable energy procurement

PGH Green Innovators — Pittsburgh, PA
Project Coordinator — 2015-2016

- Coordinated solar initiative that provided community nonprofits with $65,000 worth of PV installations

GTECH Strategies — Pittsburgh, PA
ReEnergize Pgh Project Coordinator — 2013-2015

- Created and managed the Healthy Homes Incentive Program, community-driven project connecting home energy and health in association with the County Health Department and University of Pittsburgh Medical School
- Managed local coalition including local government to increase energy efficiency market demand in Pittsburgh

Education/Certifications

Duke University, Nicholas School of the Environment — Durham, NC
Masters of Environmental Management, Energy Concentration — May 2018
Select Coursework: Life Cycle Analysis, Business and Sustainability, Sustainable Systems
Masters Project: "Simulating Financial Returns using Battery + Solar in 3 U.S. Electricity Markets

Denison University — Granville, OH
Bachelor of Arts, Religion and Environmental Studies — May 2011

Six Sigma Yellow Belt — November 2018

DUKE ENERGY CAROLINAS, LLC & DUKE ENERGY PROGRESS, LLC

Request:

All information regarding treatment of existing solar PURPA PPAs and solar PURPA RPPAs in Duke's Carbon Plan/IRP Supplement filed January 31, 2024. This includes but is not limited to the following: a. Number and nameplate capacity of solar QFs contracted with Duke pursuant to PURPA PPAs and PURPA RPPAs assumed to be operating in planning years 2024-2035 b. Number and nameplate capacity of PURPA PPAs and PURPA RPPAs assumed to expire in each of the planning years 2024-2035. Please distinguish between solar and non-solar PPAs and RPPAs. c. A detailed description of Duke's modeling assumptions regarding QF generators delivering power pursuant to PURPA PPAs and/or RPPAs, after the expiration of those contracts, including but not limited to: i. Whether those resources are included in Duke's portfolios. ii. Assumptions regarding resource cost. iii. Assumptions regarding total output and availability, including any assumptions regarding reductions in output due to panel degradation. iv. Assumptions regarding capacity contribution. v. Assumptions regarding Duke's rights (if any) to economically dispatch those generators. vi. Whether Duke uses the same assumptions regarding solar and non-solar QFs; if Duke uses different assumptions, Duke's rationale for doing so. d. Any investigation of how, if at all, Duke's resource needs or portfolios might be impacted if Duke were to obtain limited rights to economic dispatch of QFs currently contracted under PURPA PPAs and/or RPPAs, via agreements entered into after the expiration of existing PURPA PPAs or RPPAs. e. Any capacity contribution calculations applicable to existing solar QF PPAs assumed to be operating in planning years 2024-2035.

Response:

2-1(a): Please see the attached file identified as CCEBA_DR2-1-a.xlsx.

CCEBA_DR2-1-a.xlsx

2-1(b): Please see the attached file identified as CCEBA_DR2-1-b.xlsx.

CCEBA_DR2-1-b.xlsx

2-1(c)(i.): As stated in Appendix C: Quantitative Analysis at page 23 under the heading "Capacity PPA Expiry", the IRP generally assumes that the utility is able to procure a "like-kind" resource replacement.

(ii.): Costs are not applicable/included as these are forecasted resources, not modeled resources.

(iii.): Solar PPA capacity is modeled with a 0.5% per year degradation starting from inception. Energy is based on the degraded capacity and the use of standardized 8760 profiles representing a range of configurations.

(iv.): Refer as well to Appendix C and the narrative related to "Reliability Requirements" starting on page 10 with a focus on the "Effective Load Carrying Capability" section on page 11.

(v.): There are no assumptions of economic dispatch of this capacity. Solar resources with PURPA PPAs are considered must take resources within Encompass.

(vi.): Non-solar QF resources are modeled in a like fashion as the solar QF resources.

Responder: Bryan J. Dougherty, Principal Structuring Analyst

2-1(d): No such investigation has been performed. The ability to obtain limited rights to economic dispatch of QFs would need to be addressed in new contracts that are not contemplated at this time.

Responder: Michael T. Quinto, Director, IRP Advanced Analytics

2-1(e): Please refer to the Carolinas Resource Plan Appendix C for a discussion related to the Effective Load Carrying Capability section on page 11. Please note that capacity contributions are not determined at the individual project level but as part of the larger renewable portfolio. For the capacity contributions used within Encompass, please refer to the results provided on Datasite in conjunction with the Plan filing, specifically the "Firm Capacity (MW)" column on the "Resource Monthly" tab.

Responder: Bryan J. Dougherty, Principal Structuring Analyst

EXHIBIT B
E-100 Sub 190

CCEBA_E-100_Sub190_DR2-1 (A)

Operating QFs	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Solar PPAs												
Capacity (MWs)	2,723	2,804	2,851	2,872	2,421	1,932	1,627	1,583	1,172	932	283	229
Counts	467	461	444	431	403	359	326	294	228	197	48	38
Solar RPPAs												
Capacity (MWs)	1,527	1,527	1,527	1,488	1,381	1,280	1,130	824	562	506	438	438
Counts	317	317	317	316	307	299	256	193	142	112	96	96
Total Solar QFs												
Capacity (MWs)	4,250	4,331	4,378	4,360	3,803	3,213	2,757	2,407	1,734	1,438	721	666
Counts	784	778	761	747	710	658	582	487	370	309	144	134
Non-Solar PPAs												
Capacity (MWs)	81	69	64	64	13	11	4	3	3	2	0	0
Counts	25	13	12	11	7	4	3	2	2	1	0	0
Non-Solar RPPAs												
Capacity (MWs)	165	135	125	116	103	96	83	66	48	47	40	40
Counts	43	33	31	27	20	17	15	8	5	4	2	2
Total Non-Solar QFs												
Capacity (MWs)	245	204	189	179	116	107	87	69	52	48	40	40
Counts	68	46	43	38	27	21	18	10	7	5	2	2

EXHIBIT B

E-100 Sub 190

CCEBA_E-100_Sub190_DR2-1 (B)

Expiring QFs	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Solar PPAs												
Capacity (MWs)	23	28	16	520	489	305	44	411	240	649	54	26
Counts	9	18	14	29	44	33	32	66	31	149	10	7
Solar RPPAs												
Capacity (MWs)	0	0	39	107	101	151	305	262	56	69	0	0
Counts	0	0	1	9	8	43	63	51	30	16	0	0
Total Solar QFs												
Capacity (MWs)	23	28	55	627	590	456	350	673	296	718	54	26
Counts	9	18	15	38	52	76	95	117	61	165	10	7
Non-Solar PPAs												
Capacity (MWs)	12	5	0	51	2	6	1	0	2	2	0	0
Counts	12	1	1	4	3	1	1	0	1	1	0	0
Non-Solar RPPAs												
Capacity (MWs)	30	11	9	12	7	13	18	17	2	7	0	0
Counts	10	2	4	7	3	2	7	3	1	2	0	0
Total Non-Solar QFs												
Capacity (MWs)	42	15	9	63	9	19	19	17	3	8	0	0
Counts	22	3	5	11	6	3	8	3	2	3	0	0