

January 27, 2023

VIA Electronic Filing

Ms. A. Shonta Dunston, Chief Clerk
North Carolina Utilities Commission
Dobbs Building
430 North Salisbury Street
Raleigh, North Carolina 27603

Re: *Motion to Open New 2023-2024 Solar Procurement Program Dockets, Grant Flexibility to Administer Future Solar RFPs through Resource Solicitation Clusters, and for Extension of Time to Allow Further Stakeholder Engagement*
Docket No. E-100, Sub 179

Dear Ms. Dunston:

Enclosed for filing in the above-referenced proceedings is Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's *Motion to Open New 2023-2024 Solar Procurement Program Dockets, Grant Flexibility to Administer Future Solar RFPs through Resource Solicitation Clusters, and for Extension of Time to Allow Further Stakeholder Engagement.*

If you have any questions, please do not hesitate to contact me. Thank you for your attention to this matter.

Very truly yours,

/s/E. Brett Breitschwerdt

EBB/tll

Enclosures

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-100, SUB 179

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of

Duke Energy Carolinas, LLC, and Duke Energy Progress, LLC, 2022 Biennial Integrated Resource Plans and Carbon Plan)))))))	MOTION TO OPEN NEW 2023-2024 SOLAR PROCUREMENT PROGRAM DOCKETS, GRANT FLEXIBILITY TO ADMINISTER FUTURE SOLAR RFPS THROUGH RESOURCE SOLICITATION CLUSTERS, AND FOR EXTENSION OF TIME TO ALLOW FURTHER STAKEHOLDER ENGAGEMENT
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NOW COME Duke Energy Carolinas, LLC (“DEC”), and Duke Energy Progress, LLC (“DEP” and together with DEC, “Duke Energy” or the “Companies”), by and through counsel and pursuant to Rule R1-7 of the Rules of Practice and Procedure of the North Carolina Utilities Commission (“Commission”) and N.C.G.S. § 62-80, and respectfully request the Commission: 1) open new dockets for further consideration and oversight of the Companies’ planned 2023 and 2024 procurement program request for proposals (“RFP”) to procure solar and solar paired with storage resources selected in the Commission’s *Order Adopting Initial Carbon Plan and Providing Direction for Future Planning* (“Carbon Plan Order”); 2) grant the Companies flexibility to utilize the “Resource Solicitation Cluster” option under the Companies’ approved generator interconnection procedures in administering the 2023 RFP and future RFPs; and 3) extend the time for the Companies to file the 2023 solar procurement program proposal (the “2023 Solar Procurement Program” or “2023 RFP”) to April 6, 2023, to allow time for additional pre-filing stakeholder engagement on the 2023 RFP.

In support of the relief requested in this Motion, the Companies show the following:

I. Background

1. On December 30, 2022, the Commission issued the Carbon Plan Order, directing the Companies to target procurement of 2,350 MW of new solar, and to “hold stakeholder discussions regarding a competitive, least cost 2023 Solar Procurement and [to] file, by [] no later than February 15, 2023, a proposal to procure new solar generation to be placed in service by 2028, subject to a [Volume Adjustment Mechanism (“VAM”)], including a targeted procurement of Solar Plus Storage in alignment with the 2023 DISIS.”¹

2. The Carbon Plan Order also authorized the Companies to “conduct the initial development and procurement activities for . . . 600 MW of Solar Plus Storage, consistent with those activities outlined for the 2022-2024 timeframe in Table 4-11 of Duke’s Carbon Plan proposal” and directed the Companies to “include proposed terms and conditions, operational conditions, and a pro forma PPA to be used for Solar Plus Storage resources” in the Companies’ 2023 Solar Procurement Program proposal.²

3. On December 16, 2022, the Companies announced preliminary plans for a 2023 solar procurement to procure both standalone solar and solar paired with storage. On this same date, the Companies also solicited market participant feedback on solar paired with storage contract terms and operational conditions in order to inform the procurement design. The Companies requested feedback by January 17, 2023,³ and received helpful

¹ Carbon Plan Order at 132-133 (Ordering Paragraphs 19-20).

² Carbon Plan Order at 133 (Ordering Paragraphs 20-21).

³ The Companies accelerated the initially-requested date for feedback in light of the Commission’s Order directing the Companies to file a 2023 Solar Procurement Program proposal with the Commission by February 15, 2023.

input from one entity, the Carolinas Clean Energy Business Association (“CCEBA”) on behalf of its market participant members.

4. On January 23, 2023, the Companies held their first 2023 Solar Procurement Program engagement session to discuss a number of topics with market participants including: the Carbon Plan Order directives; the ongoing balancing-area wide competitive procurement proceedings before the Public Service Commission of South Carolina⁴; lessons learned from aligning the ongoing 2022 Solar Procurement Program with the 2022 DISIS; the Companies’ recommendation to utilize a Resource Solicitation Cluster (“RSC”) for the 2023 RFP; the draft timeline for alignment of an RSC and the annual DISIS cluster; initial 2023 RFP summary terms and conditions and SPS sizing and operational parameters; and, the Companies’ ongoing work to develop a red zone expansion plan (“RZEP”) cost allocation framework and VAM as directed in the Carbon Plan Order. The Companies’ January 23, 2023, presentation to stakeholders is provided as Attachment 1 to the Companies’ Motion (“January 23 Presentation”).

5. The Companies plan to continue to engage stakeholders to develop a competitive, least cost 2023 Solar Procurement Program, as directed by the Carbon Plan Order.

II. Request to Open 2023 Solar Procurement Program Dockets

6. The Companies respectfully request the Commission to open new dockets for DEP and DEC, respectively, in order to receive updates on the ongoing 2023 Solar Procurement Program pre-issuance engagement process. The Companies will file the 2023

⁴ See *In re: Application of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC for Approval of Competitive Procurement of Renewable Energy Program*, Public Service Commission of South Carolina Dockets 2022-239-E, 2022-240-E (“South Carolina CPRE Dockets”).

Solar Procurement Program proposal and other 2023 RFP documents directed by the Carbon Plan Order in these new dockets and provide any ongoing updates on the progress in administering the 2023 RFP, as requested by the Commission.⁵ Opening these new dockets will promote regulatory efficiency by segregating filings on the 2023-2024 RFPs from the broader Carbon Plan proceeding, and will benefit market participants and other stakeholders that are interested in tracking filings with the Commission on the 2023 Solar Procurement Program, but who are less focused on the overall Carbon Plan process. This approach is also consistent with the Commission's procedure in establishing new dockets for the 2022 Solar Procurement Program⁶ as well as the South Carolina Public Service Commission's ongoing South Carolina CPRE Dockets.⁷

III. Request for Flexibility to Use Resource Solicitation Clusters Associated With 2023-2024 RFPs

7. As noted above, the Carbon Plan Order directs the Companies to design the 2023 RFP to “. . . includ[e] a targeted procurement of Solar Plus Storage in alignment with the 2023 DISIS.”⁸ The Carbon Plan Order further directs the Companies to develop and file another proposal for new solar generation by February 15, 2024, that must also include a targeted procurement of paired storage “in alignment with the 2024 DISIS.”⁹

⁵ Consistent with the ongoing 2022 Solar Procurement Program, the Companies anticipate that the 2023 RFP Independent Evaluator (“IE”) will be tasked with filing a pre-RFP issuance report opining on the reasonableness of the final 2023 RFP documents and bid evaluation process as well as a post-solicitation report to inform the Commission on the bid evaluation process and results of the RFP.

⁶ See *Order Opening Separate Dockets and Establishing Procedural Deadlines*, Docket Nos. E-2, Sub 1297 and E-7, Sub 1268 (March 11, 2022).

⁷ See *infra* footnote 4.

⁸ Carbon Plan Order at 133 (Ordering Paragraphs 20).

⁹ Carbon Plan Order at 133 (Ordering Paragraphs 21).

8. In approving these near-term solar and solar paired with storage procurement requirements, the Carbon Plan Order noted testimony that the 2023 RFP was presumed to align with the 2023 DISIS.¹⁰ However, very limited testimony was presented in the Carbon Plan proceeding on this point and no testimony was presented by the Companies or other parties on the potential benefits of utilizing an RSC, as provided for under the applicable North Carolina-, South Carolina- and Federal Energy Regulatory Commission-approved generator interconnection procedures.¹¹

9. After the Carbon Plan proceeding concluded and over the past several months, the Companies have been exploring the use of an RSC for the 2023 RFP and determined that the RSC is the preferred interconnection study process for the 2023 procurement for reasons that are stated in the January 23 Stakeholder presentation and articulated in this filing.

10. Prior to the issuance of the Carbon Plan Order, the Companies began preparing a 2023 RFP timeline for an RSC to occur between the 2023 and 2024 DISIS clusters in an effort to incorporate lessons learned in the ongoing 2022 Solar Procurement Program bid evaluation process and to improve RFP evaluation and interconnection study alignment.

11. As described at Slides 11-12 of the January 23 Presentation, there are multiple benefits to using an RSC to study the grid impacts and network upgrade requirements of 2023 RFP projects versus using DISIS. Studying RFP proposals in the DISIS power flow study requires the Companies to assume all proposals in the cluster (both

¹⁰ Carbon Plan Order at 86.

¹¹ See Attachment 1, Slide 12, identifying that LGIP Section 10.2, NC Interconnection Procedures Section 4.4.2 and SC Generator Interconnection Procedures Appendix Duke CS 5.3.2 each provide for use of an RSC.

RFP and non-RFP) will interconnect and generate, which has proven challenging in the 2022 RFP as over 10,000 MW of generation between the DEC and DEP clusters were required to be studied collectively, about half of which were non-RFP generators. This resulted in numerous interdependencies between projects, regardless of whether such projects were or were not likely to move forward. Interdependencies and project uncertainty have an impact to the RFP timeline, the relative ranking of projects (due to increased assigned interconnection costs and reallocation risks) and the amount of RFP project restudy that will be required. Simply put, such a large volume of projects beyond those that will ultimately be selected through the RFP—whether the projects are also participating in the RFP or not—serve to dramatically increase the network upgrade cost reallocation risk and amount of work required to properly select RFP winners.

12. In contrast, an RSC provides flexibility to assess portfolios or combinations of Interconnection Customers “determined to meet the goals of the Competitive Resource Solicitation” as well as flexibility to estimate upgrade reallocations based off of a power flow study of the “short list” of proposals.¹² In addition, an RSC avoids most of the risk resulting from including non-RFP generators in DISIS, because both ready and non-ready projects can proceed in DISIS, requiring study of those projects’ network upgrade impacts in the cluster along with all RFP projects.

13. As described at Slide 14, the Companies believe there are significant “pros” to utilizing an RSC that substantially outweigh the “cons” of performing an additional RFP-focused cluster study. First, aligning with an RSC falling between the 2023 and 2024 DISIS clusters results in only a slight delay in 2023 RFP projects receiving an

¹² See NCIP 4.4.2.

Interconnection Agreement (~3 months after 2023 DISIS projects). Second, an RSC also mitigates the risk of a Phase 3 restudy (which would add up to 150 days for the restudy and 30 days for an additional customer engagement window, extending the DISIS Cluster timeline about six months) if later-stage withdrawal of 2023 DISIS projects occur.¹³ This restudy risk is mitigated because Duke's recommended timeline allows for RFP winners to be selected after the RSC Phase 1, and only the RFP winners would move to the RSC Phase 2. Upon entering RSC Phase 2, 2023 RFP winners would be highly unlikely to withdraw from the RSC (which would be the main driver of a Phase 3 restudy) since these projects would already have an executed agreement (PPA or Letter of Intent for utility ownership track projects) at this time.

14. During the recent January 23 stakeholder meeting, the Companies also provided stakeholders detailed indicative timelines showing the process for aligning the 2023 RFP with 2023 DISIS versus an RSC held subsequent to 2023 DISIS Phase 1 being completed.¹⁴ Importantly, there is no material time difference between the two approaches, as both a DISIS-aligned RFP and an RSC-aligned RFP result in bid selection and contract execution in the late May to late June 2024 timeframe. Further, this timeline does not negatively impact the Companies' ability to meet the Carbon Plan objectives given that the anticipated dates for executed Interconnection Agreements (which is required before the facility can begin construction) are only about three months later. Mitigating the risk of a Phase 3 restudy also supports the Companies' ability to meet the near-term procurement and development plans for new solar resources approved in the Carbon Plan Order.

¹³ The Phase 3 restudy process is described at NCIP 4.4.7.4 and 4.4.7.5.

¹⁴ See Attachment 1, Slide 13.

15. The Public Utilities Act provides the Commission discretion to alter or amend its prior orders or decisions at any time upon notice to the public utility and to the other parties of record affected, and after providing an opportunity to be heard as provided in the case of complaints. *See* N.C.G.S. § 62-80; *State ex rel. Utilities Comm'n v. MCI Telecommunications Corp.*, 132 N.C. App. 625, 630, 514 S.E.2d 276, 280 (1999). The Commission cannot do so arbitrarily or capriciously. “Rather, there must be some change in circumstances or a misapprehension or disregard of a fact that provides a basis for the Commission to rescind, alter or amend a prior order.”¹⁵ As discussed above, the Carbon Plan Order did not consider the Companies’ ability under the approved generator interconnection procedures to use an RSC as an alternative to alignment with DISIS, which the Companies believe presents a more efficient and optimal approach. Accordingly, the Companies respectfully request the Commission alter the Carbon Plan Order’s directive requiring alignment of the 2023-2024 RFPs with the 2023 and 2024 DISIS Clusters.

16. More specifically, the Companies respectfully motion the Commission for flexibility to utilize an RSC to administer the 2023 RFP as well as a future 2024 RFP. Granting the Companies’ request to utilize an RSC for administering the 2023 and 2024 RFPs will create process efficiencies and benefits in comparison to requiring the Companies to align the RFPs with DISIS, and will better facilitate the Companies’ meeting their execution plan objectives for procuring solar and solar paired with storage resources under the Carbon Plan. Accordingly, granting the Companies’ motion is in the public interest.

¹⁵*See e.g., Order Deciding Motions for Reconsideration and Clarification, and Requiring Implementation of New Rates*, at 4 Docket No. E-22, Subs 562 and 566 at (July 28, 2020) *citing State ex rel. Utilities Comm'n v. North Carolina Gas Service*, 128 N.C. App. 288, 293-294, 494 S.E.2d 621, 626, rev. denied, 348 N.C. 78, 505 S.E.2d 886 (1998).

IV. Request for Extension of February 15 Proposal Filing Date

17. As noted above, the Carbon Plan Order directs the Companies to file their 2023 Solar Procurement Program proposal by no later than February 15, 2023, and imposes a similar requirement in advance of the 2024 RFP.¹⁶

18. Adhering to this schedule for filing the 2023 RFP proposal will substantially limit the Companies' ability to engage with stakeholders and consider their feedback in advance of submitting the 2023 RFP to the Commission. Recognizing that solar paired with storage is a relatively new-to-the-Carolinas resource, and that solar paired with storage introduces new RFP design and bid evaluation considerations as well as operating and PPA contractual requirements that must be carefully considered. Market participants as well as the Public Staff have also expressed interest in discussing the Companies' planned approach to the RZEP cost allocation framework and VAM as well as other aspects of the 2023 RFP. Accordingly, the Companies submit that additional pre-filing engagement with market participants and other stakeholders will allow for improvements to the 2023 RFP.¹⁷

19. Aligning the 2023 RFP with an RSC to be held after 2023 DISIS begins provides additional time for stakeholder engagement. Slide 13 of the January 23 Presentation identifies that utilizing an RSC instead of DISIS allows the Companies approximately four months¹⁸ to finalize and issue the 2023 Solar Procurement Program.

¹⁶ Carbon Plan Order at 133 (Ordering Paragraphs 20-21).

¹⁷ Slides 17, 20 and 21 of the January 23 Presentation summarize the parameters of the resources and PPAs that would benefit from more extended engagement with Public Staff, Office of Regulatory Staff and market participants.

¹⁸ This period was calculating based on the delta between an assumed April 15, 2023 Final Procurement Plan issuance date to align with DISIS versus an August 1, 2023 Final Procurement Plan issuance date if the Companies use a RSC after DISIS. As identified on Slide 14, one benefit of the RSC approach is that it enables a shorter RFP timeline (bid window to winners announced) and allows for contract execution before entering Phase 2 of the Cluster Study.

In contrast, aligning with 2023 DISIS would not allow time for additional stakeholder meetings in advance of filing the 2023 RFP proposal with the Commission and the Companies' Motion and request for extension is premised on their plans to move forward with a RSC to follow 2023 DISIS as discussed earlier in this Motion.

20. If the requested extension is granted, the Companies plan to host another open stakeholder engagement meeting in late February and a third meeting in March to further discuss the 2023 RFP design and requirements. The Companies believe that this additional time can be put to good use engaging with market participants and further developing the 2023 Solar Procurement Program and contracting documents. These additional engagement efforts should benefit the RFP process and achieve the public interest through enhancing market participants' understanding, acceptance and participation in the 2023 RFP. Accordingly, the Companies request the Commission extend the February 15, 2023 filing date by 50 days to April 6, 2023.

WHEREFORE, Duke Energy Carolinas, LLC and Duke Energy Progress, LLC respectfully request that the Commission grant this Motion and provide the following relief:

- 1) Open new dockets for further consideration and oversight of the Companies' planned 2023 Solar Procurement Program and future 2024 Solar Procurement Program to oversee the Companies procurement of the solar and solar paired with storage resources selected in the Carbon Plan Order;
- 2) Allow the Companies flexibility to use the RSC option under the Companies' approved generator interconnection procedures for both the 2023 RFP and 2024 RFP;

- 3) Allow the Companies an extension of time to file the 2023 Solar Procurement Program proposal to April 6, 2023, to allow time for meaningful pre-filing stakeholder engagement on solar paired with storage terms and conditions, the volume adjustment mechanism and other issues; and
- 4) Direct such other and further relief as the Commission determines to be in the public interest.

/s/E. Brett Breitschwerdt

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2023 Carolinas Solar RFP Stakeholder Meeting 1



JANUARY 23, 2023

Safety Moment

Safety Moment



Who does radon affect? Anyone can develop lung cancer from long-term exposure to high radon levels.

What are the health effects of radon? Radon can cause lung cancer.

Where can I be exposed to radon? Radon can build up to harmful levels in any home or building anywhere in the world.

When should I install a radon reduction system? First, test radon levels at your home or business.

Why should I raise awareness about radon? Radon-associated lung cancer can be prevented.

Safety Moment (cont.)

Resource Title	North Carolina	South Carolina
IAQ State Program	NC Department of Health and Human Services, Radon Program	SC Department of Health and Environmental Control
Program Website	State Radon Website	State Radon Website
Phone	828-712-0972	800-768-0362
Fax Number		803-898-4117
State Resources	Phillip Gibson (Phillip.Gibson@dhhs.nc.gov) and Catherine Rosfjord (Catherine.Rosfjord@dhhs.nc.gov) ncgov.com	Leslie Coolidge (coolidln@dhec.sc.gov)
Radon Data	NC Zone Map from EPA	SC Zone Map from EPA
Regional Resources	Region 4; Indoor Air Quality IED's Tribal Resources Mary Reynolds (Reynolds.Mary@epa.gov) 404-562-8991	Region 4; Indoor Air Quality IED's Tribal Resources Mary Reynolds (Reynolds.Mary@epa.gov) 404-562-8991

Agenda

- Commission Updates
 - Ongoing Solar Procurement Docket in SC
 - Directives for 2023 Solar Procurement from the NC Carbon Plan Order
- Stakeholder Engagement
- Aligning RFP with Resource Solicitation Cluster (RSC) vs 2023 DISIS Cluster
- Operational Parameters for Solar Paired with Storage (SPS)
- RFP Terms and Conditions
- Red Zone Transmission Expansion (RZEP) Cost Allocation Proposal

SC Renewable Energy Procurement Docket Update

- Seeking PSCSC approval under Act 62 for renewable energy procurement activities for DEC and DEP system wide procurement
- Act 62 allows procurements across utility balancing areas
- Application filed in September, 2022
 - (PSCSC Dockets 2022-239-E, 2022-240-E)
- DEC/DEP filed testimony January 17, 2023
- Hearing to occur in April, 2023
- Certain Customer Programs dependent upon approval of Procurement

Directives from NC Carbon Plan Order

- Approves “all of the above plan” including selecting solar and storage resources for procurement in 2023-2024
 - Identifies need for 2,350 MW of new solar and 600 MW paired storage to be procured in 2023-2024 for DEC and DEP
 - Directs Duke to hold stakeholder discussions regarding a competitive, least cost 2023 Solar Procurement
- Assumes alignment with 2023 DISIS timetable and directs 2023 Solar Procurement Proposal filing by Feb. 15, 2023
 - New solar generation to be placed in service by 2028
 - Target volume subject to a volume adjustment mechanism (VAM)
 - Filing shall include proposed terms and conditions, operational conditions, and a pro forma controllable PPA to be used for Solar Plus Storage (SPS) resources
- Directs the creation of mechanism to include an “appropriate cost” for RZEP projects in the evaluation process for RZEP dependent proposals

Stakeholder Engagement

Stakeholder Input Received to Date

- Duke sent questions on SPS to stakeholders Dec. 16, 2022 (with reminder Jan 10) seeking written feedback regarding example PPAs, solar/storage ratios, warranties, and limitations.
 - One stakeholder (CCEBA) provided feedback on Jan. 17
 - Much of that feedback aligns with Duke's initial thoughts on the RFP
 - CCEBA identified the need for additional storage vendors on Approved Vendor List – Duke agrees and is working on compiling this to share in early Feb.
 - If there are specific vendor requests for the AVL for Duke to review, please e-mail us.
- Duke believes all parties and customers would benefit from additional engagement and opportunities for stakeholder feedback in advance of filing the 2023 RFP Proposal with NCUC
 - The 2022 Solar Procurement benefited from several iterative rounds of engagement
 - The February 15th deadline makes that difficult.
 - Duke plans to request an extension of time and is preparing a more optimal RFP timeline that makes that extension feasible.

Interconnection Alignment: DISIS and RSC

DISIS Alignment Lessons Learned

- DISIS power flow study of a cluster of proposals requires Duke to assume all of the proposals are interconnecting and generating.
- Generally, the larger the quantity being studied in the power flow, the more network upgrades will be identified.
- However, if the actual quantity that will be selected in the RFP is far less than the quantity studied, then the study is producing cost estimates that are not representative of a realistic scenario.
 - The 2022 SP had almost 5,000 MW of solar proposals, and a target of 1,200 MW.
 - This creates complexity in the bid evaluation process and reduces the precision of the rankings due to the NU estimates being less accurate.
- To improve the study results, Duke will complete the first round of RFP evaluation and create a short list *before* the first Power Flow study.
 - The “short list” would be approximately 2-2.5 times the target volume.
 - This order of short listing after the first evaluation (without NU) is aligned with the CPRE process.

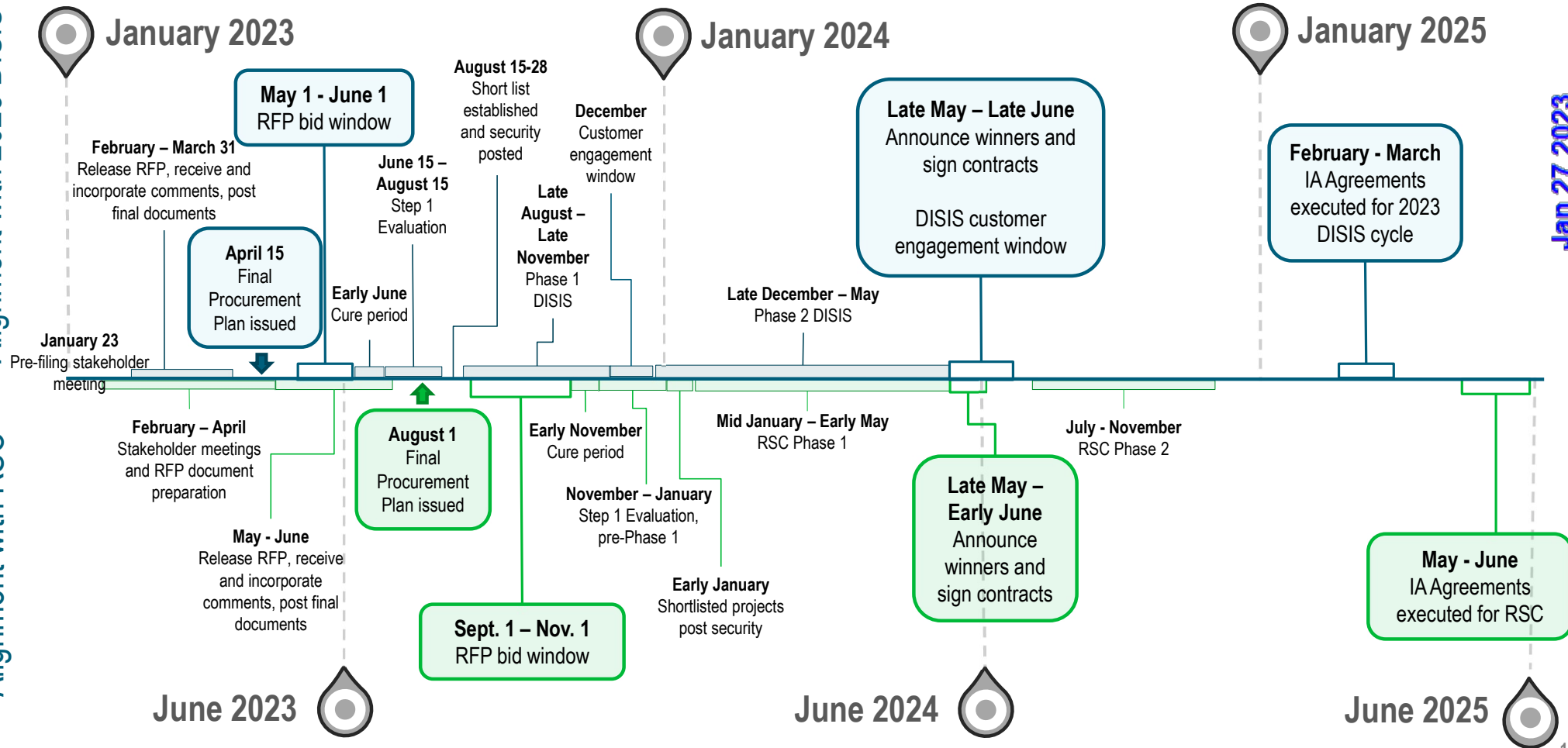
RFP Schedule and DISIS Alignment

- Non-RFP generators are the other major impact on accuracy of NU cost estimates; they add uncertainty and complexity to the evaluation.
 - Non-RFP projects are very influential in the NU cost estimates for many RFP projects in 2022.
- There is no flexibility to iterate or evaluate combinations of projects in the DISIS; however a Resource Solicitation Cluster (RSC) does allow flexibility and possible iteration of results.
- Prior to receiving the NC Carbon Plan order, Duke was preparing a timeline to create an RSC for the 2023 RFP to come between the '23 and '24 DISIS cycles to improve RFP evaluation and interconnection study alignment.
- **Duke continues to believe utilizing a separate RSC for bid evaluation is a more optimal study approach than aligning with the 2023 DISIS.**
 - The interconnection procedures allow for a Resource Solicitation Cluster for an active RFP (LGIP 10.2; NCIP 4.4.2; SCGIP App Duke CS 5.3.2).
 - An RSC and the updated bidding structure lead to greater efficiency and allow Duke to better control for quantity of projects studied in Phase 2 and more effectively manage the risk of a “Phase 3” restudy.

Timing of Aligning RFP with DISIS or RSC

Alignment with 2023 DISIS

Alignment with RSC



RSC vs DISIS Benefits

	Pros	Cons
Aligning with 2023 DISIS	<ul style="list-style-type: none"> MPs are familiar with the timeline. 	<ul style="list-style-type: none"> Interdependency with non-RFP projects in the cluster can cause greater uncertainty and risk Unlimited volume of non-RFP projects adds cost and time to study process More likely to cause a Ph 3 restudy Prescriptive deadlines leave insufficient time for RFP evaluation & no ability to “iterate” Longer RFP timeline (bid window to winners announced)
Creating RSC between 2023 and 2024 DISIS	<ul style="list-style-type: none"> Shorter RFP timeline (bid window to winners announced) and allows for contract execution <i>before</i> entering Phase 2 Allows for more iteration and optimization of RFP projects with interconnection estimates Will limit quantity of Proposals studied so Phase 1 results are more accurate Timeline flexibility allows for alignment around DISIS cycle dates and holidays Allows time for more Stakeholder Engagement 	<ul style="list-style-type: none"> Creates another cluster cycle to study, report out on, and manage If 2023 DISIS is highly unstable, it could still make RSC unstable (but this issue would also exist if RFP was part of the DISIS) Slight delay in receiving IA (~3 months after ‘23 DISIS) but mitigates risk of Ph 3 restudy

RFP Terms and Conditions

SPS Sizing and Operational Parameters

- CCEBA’s stakeholder comments recommend that “DEC and DEP should select a particular duration for bidders to meet, and explain why that duration is needed and what they are trying to achieve.”
- Carbon Plan included several SPS configurations along with standalone solar and standalone storage.

Selected Resources (2026 thru 2028)	P1	P2	P3	P4	P5	P6	Assumed ELCC
Standalone Solar	0 - 1,500	1,275 - 1,640	1,200 - 1,275	1,200 - 1,275	675	300 - 750	6% - 8% or less
SPS, 25%; 4-hour	2,100 - 3,600	1,125 - 1,200	1,200 - 1,500	1,425 - 1,500	825	1,050 - 1,950	~ 30%
SPS, 50%; 2-hour	0	0	0	0	0	0	~30%
SPS, 50%; 4-hour	N/A	N/A	N/A	N/A	1,125	0	~50% - 55%
Dynamic or Fixed Dispatch in Model	Fixed	Fixed	Fixed	Fixed	Dynamic	Dynamic	

SPS Sizing and Operational Parameters

- The need for additional energy in Companies' resource plan by 2030 was the primary driver for SPS
- In addition, SPS enables time shifting of energy and creates more winter peak capacity value than solar only.
- Characteristics of the facility:
 - The storage portion of the facility will be required to provide a 4 hour duration.
 - The Companies are reviewing 25% storage capacity and 50% storage capacity.
 - 365 cycles/year, as the storage will generally charge off the solar once and discharge once per day
 - Duke will provide dispatch instruction to the facility on when to charge and discharge and must have real-time visibility to both solar production data and storage state of charge.
- Charging of storage will be primarily from the co-located solar, however the ability to grid charge is required as part of the facility design.

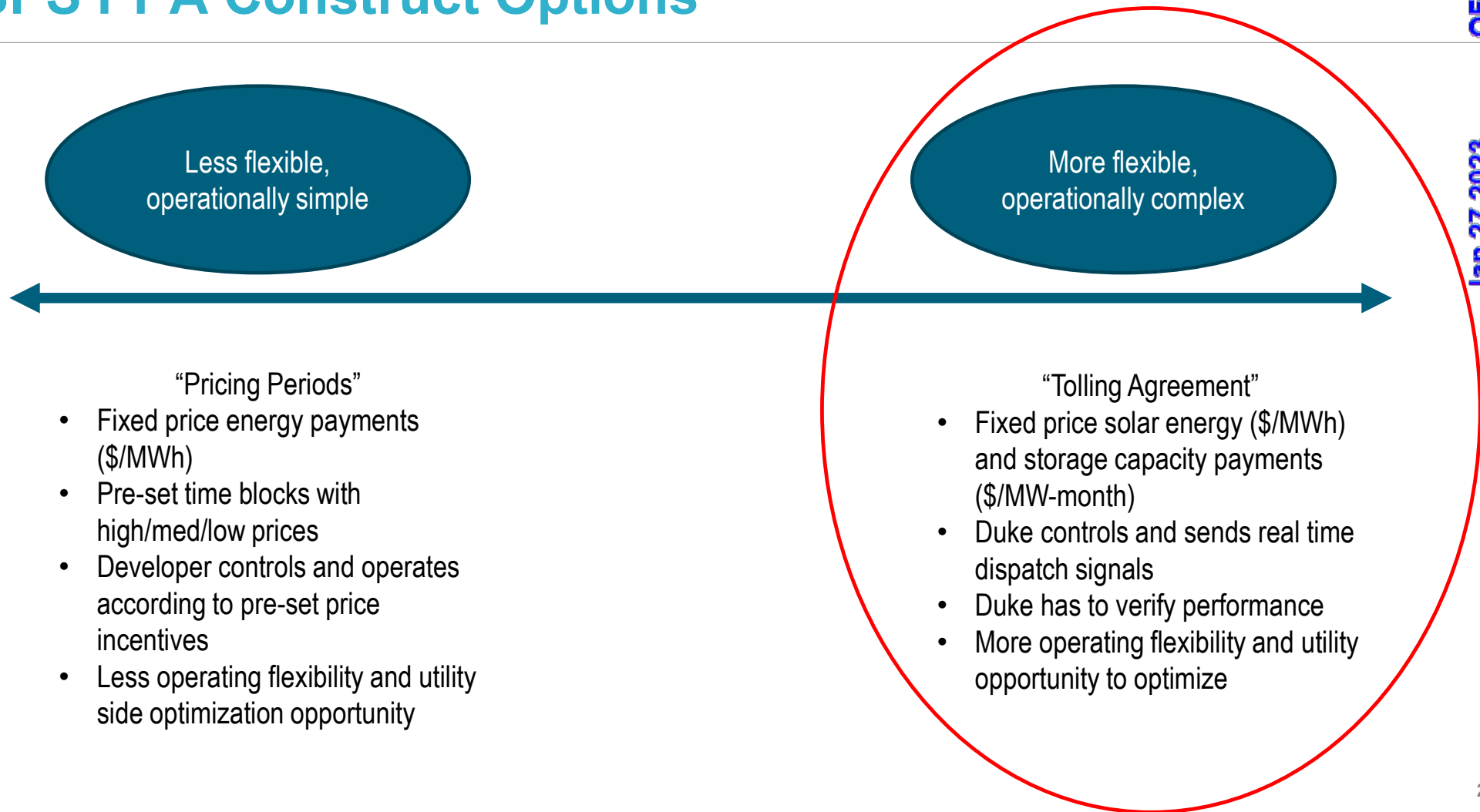
RFP Targets and Rules

- Carbon-Plan/IRP informed Solar Target: 2,350 MW
 - 2023 RFP: 1,000 MW solar with approximately 250 MW paired storage
 - 2024 RFP: 1,350 MW solar with approximately 350 MW paired storage
- Many similar parameters to 2022 SP RFP
 - RFP will have an Independent Evaluator
 - Joint System-Wide Procurement open to directly-interconnected projects in both NC and SC.
 - Transmission-connected in DEC or DEP
 - Will consider solar-only and SPS proposals but primarily targeting SPS
 - Balanced portfolio of UOT and PPA (55%/45%)
 - 2023 would have 550 MW/ 450 MW UOT/PPA (assuming 2022 RFP is balanced 55/45%)
 - Not proposing minimum DEC/DEP allocation but seeking feedback from Public Staff
 - Grid locational guidance identifying transmission constraints

Two Tracks for Proposals

- Utility Ownership Track
 - RFP UOT will have required design criteria and approved vendors, as before
 - Self-developed resources can participate
 - Will accept Asset Transfer-only, and Build-own-transfer proposals
 - Duke is considering not including “Asset Transfer + EPC”
- Controllable PPA Track
 - Solar-only PPA would look very similar to 2022 SP 25 year contract term
 - Proposals must be a Qualifying Facility
 - Would have “Part B” bid price adder to determine if developer or the Companies pay Network Upgrade costs
 - SPS Controllable Contract Structure – Different contract terms for solar and storage
 - Benchmarking to Hawaiian Electric, PacifiCorp, TVA and APS RFPs (informed by CCEBA feedback)

SPS PPA Construct Options



PPA SPS Pro Forma

- Fixed rate energy payment (\$/MWh) and fixed rate capacity payment (\$/MW-month)
- Performance requirements must be achieved to receive the full capacity payment
- Exploring bifurcated contract term
 - Storage is still nascent and, like many recent industry RFPs, a shorter term with an option to negotiate an extension is preferred
 - Seeking to align storage contract term with timing of cell refresh
 - Solar term still proposed to be 25 years

Evaluation Details from the Order

RZEP “cost allocation” for RFP evaluation

- RZEP projects included in draft NCTPC 2022 Local Transmission Plan Report, pending final NCTPC approval.
 - After approval, RZEP will be contingent upgrades in future IAs for both RFP and non-RFP projects.
- NC Carbon Plan Order acknowledged RZEP transmission projects as necessary to achieve the Carbon Plan and directed a cost allocation mechanism for use in 2023 RFP bid evaluation.
- Benefit-to-cost ratios for RZEP projects range between 5.1 to 22.5 (excluding any carbon reduction benefits); many projects will be replacing aging facilities with newer, more efficient/resilient components.
- Proposal: Use DISIS study calculated MW impact on RZEP line(s), the MVA headroom created by the RZEP upgrade, and the cost of the upgrade per upgrade to calculate a “shadow cost”.
 - $(\text{generator MW impact}) / (\text{MVA increase due to upgrade}) = \% \text{ of upgrade cost as shadow cost in bid evaluation}$
 - The list of contingent facilities subject to this evaluation method will be identified in RFP and grid locational guidance documents.

Example RZEP Cost Allocation for Evaluation

(generator MW impact) / (MVA increase due to upgrade) = % of upgrade cost as shadow cost in bid evaluation

Solar MW GIR (MWac)	74.9
MW impact on RZEP line	41.398
MVA increase with upgrade	654
Total cost of upgrade (\$M)	49.231
Shadow Cost (\$/W)	0.042

7.1.14 Erwin - Fayetteville East 230 kV (Erwin - Linden)

ID	MW Output (MW)	DFAX (%)	Loading Impact (%)	MW Impact (MW)	Cost Allocation Factor (%)	Cost Allocation (\$ M)
225140	70	3.827	0.494	2.679	1.667	0.821
564034	80	6.055	0.894	4.844	3.015	1.484
564510	80	4.438	0.655	3.550	2.210	1.088
564942	48	3.885	0.344	1.865	1.161	0.571
565074	75	5.169	0.715	3.877	2.413	1.188
565080	75	3.871	0.536	2.903	1.807	0.890
566096	200	4.985	1.839	9.970	6.206	3.055
566240	80	3.65	0.539	2.920	1.817	0.895
566478	74.9	3.856	0.533	2.888	1.798	0.885
566488	74.9	4.311	0.596	3.229	2.010	0.989
566518	74.9	3.869	0.535	2.898	1.804	0.888
566542	74.9	3.912	0.541	2.930	1.824	0.898
566580	60	3.543	0.392	2.126	1.323	0.651
566674	8	4.492	0.066	0.359	0.224	0.110
566724	74.9	4.05	0.560	3.033	1.888	0.929
566734	60	4.05	0.448	2.430	1.512	0.745
566856	60	3.898	0.432	2.339	1.456	0.717
568222	74.9	55.271	7.638	41.398	25.767	12.685

Volume Adjustment Mechanism

- The concept of the VAM is that if the actual bids are better than modeled cost assumptions, then the volume may be adjusted up, and if the bids are worse than the modeling assumptions, then the volume may be adjusted down
- In 2022 SP, the weighted average of the portfolio of proposals that hit the target quantity is calculated (for both UOT and PPA, inclusive of System Upgrade costs). If the weighted average cost is greater than or equal to 110% of the Solar Reference Cost, the target volume may be decreased by as much as 20%. If the weighted average cost is less than or equal to 90% of the Solar Reference Cost, the target volume may be increased by up to 20%.
- Companies are still evaluating how the past VAM calculation would be updated for SPS to incorporate storage.

Next Steps

- Stakeholders may provide written feedback to the 2023 RFP email inbox at CarolinasProcurement@duke-energy.com.
- Next stakeholder meeting targeted for mid to late February.
- Upcoming TSRG meeting January 25, 2023 from 9 am -12 pm will review new requirements and milestones for transmission connected inverter-based resources (IBRs).
 - <https://www.duke-energy.com/business/products/renewables/generate-your-own/tsrg>
 - Contact Anthony Williams at anthony.williams@duke-energy.com for more details

Appendix

2023 RFP Requirements from NC Carbon Plan Order

- p. 133 “20. That Duke shall hold stakeholder discussions regarding a competitive, least cost 2023 Solar Procurement and shall file, by than no later than February 15, 2023, a proposal to procure new solar generation to be placed in service by 2028, subject to a VAM, including a targeted procurement of Solar Plus Storage in alignment with the 2023 DISIS. Duke’s proposal shall include proposed terms and conditions, operational conditions, and a pro forma PPA to be used for Solar Plus Storage resources;”
- p. 119 “Accordingly, the Commission directs Duke to prepare a mechanism for the 2023 Solar Procurement that evaluates bids for solar projects that depend on the RZEP that includes an appropriate cost for the RZEP projects.”
- p. 132 “during the 2023-2024 period Duke shall target the procurement of 2,350 MW of new solar;”
- p. 133 “Duke is authorized to conduct the initial development and procurement activities for 1,000 MW standalone storage and 600 MW of Solar Plus Storage, consistent with those activities outlined for the 2022-2024 timeframe in Table 4-11 of Duke’s Carbon Plan proposal;”

Order Adopting Initial Carbon Plan and Providing Direction For Future Planning issued December 30, 2022 in Docket No.: [E-100, Sub 179](#)

VERIFICATIONE-100, Sub 179

I, Maura Farver, Distributed Energy Technology Strategy & Policy Director, for Duke Energy, do solemnly swear that the facts stated in the foregoing *Motion to Open New 2023-2024 Solar Procurement Program Dockets, Grant Flexibility to Administer Future Solar RFPs through Resource Solicitation Clusters, and for Extension of Time to Allow Further Stakeholder Engagement*, is true and correct to the best of my knowledge and belief.

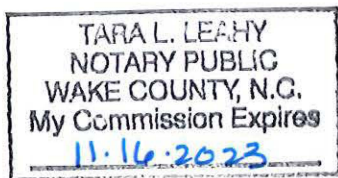
Maura Farver
Maura Farver

STATE OF NORTH CAROLINA)
) to wit:
County of Wake)

The foregoing instrument was sworn to and acknowledged before me this 27th day of January, 2023.

Tara L. Leahy
Notary Public

My commission expires: 11.16.2023



CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Motion to Open New 2023-2024 Solar Procurement Program Dockets, Grant Flexibility to Administer Future Solar RFPs through Resource Solicitation Clusters, and for Extension of Time to Allow Further Stakeholder Engagement, as filed in Docket No. E-100, Sub 179, were served electronically or via U.S. mail, first-class, postage prepaid, upon all parties of record.

This, the 27th day of January, 2023.

/s/E. Brett Breitschwerdt

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