

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-2, SUB 1169
DOCKET NO. E-7, SUB 1168

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of		
Joint Petition for Approval of Community)	REPLY COMMENTS OF THE PUBLIC STAFF
Solar Program Plan to Implement N.C.)	
Gen. Stat. § 62-126.8)	
)	

NOW COMES THE PUBLIC STAFF – North Carolina Utilities Commission, by and through its Executive Director, Christopher J. Ayers, and, pursuant to the Commission’s January 26, 2018, *Order Establishing Proceeding to Review Proposed Community Solar Program Plan* in the above captioned dockets, respectfully submits the following reply comments to the initial comments and Duke’s reply comments regarding the Community Solar Program Plan (“Program” or “Program Plan”) and Shared Solar Rider (“SSR”) tariffs filed by Duke Energy Carolinas, LLC (“DEC”), and Duke Energy Progress, LLC (“DEP”) (together “Duke” or “the Companies”) on January 23, 2018 and June 4, 2018, respectively.

The Public Staff, the Sierra Club, the North Carolina Sustainable Energy Association (“NCSEA”), and NC WARN, Inc. (“NC WARN”) submitted initial comments on April 13, 2017. Since initial comments were filed, the Public Staff has had ongoing discussions with the other intervenors and Duke to attempt to resolve several issues. On June 4, 2018, Duke filed reply comments that presented several substantive changes to the initial proposed Program Plan.

The Public Staff requested leave to file additional comments by June 11, 2018 to respond to Duke's reply comments. The Commission granted the Public Staff's motion to allow it and other intervening parties the opportunity to file reply comments by June 11, 2018 and also granted Duke the opportunity to file additional reply comments by June 25, 2018. The Public Staff requested an additional extension of time for itself and other intervening parties to file additional reply comments by June 25, 2018 and for Duke to file additional comments by July 16, 2018. The Commission granted the Public Staff's request by order dated June 11, 2018.

I. Aligning the Program Implementation with the Deployment of Customer Connect software

In its initial comments, the Public Staff recommended that the Commission require that Duke seek to administer the community solar program on-bill to reduce the upfront payment and to allow for monthly charges and credits. The Public Staff believes that on-bill credits and a lower upfront payment would encourage subscriber interest and keep the subscriber committed for the full contract term. (Public Staff Initial Comments, at p 5) The Public Staff also believes on-bill credits will reduce the risk of the sale of the subscription being classified as a security subject to federal securities regulations. (Id.)

Duke has indicated that until Customer Connect is deployed in each service territory, on-bill credits would have to be added to each customer bill manually, which would add significant cost to the Program. In the reply comments, Duke

states that using the current billing system would “render the Program cost-prohibitive from the outset.” (Duke Reply Comments, at p 7) The Companies currently estimate that Customer Connect will be implemented in 2021 by DEP and 2022 by DEC. (Id.)¹

Due to the prohibition on cross subsidization of the Program by non-participating customers in G.S. 62-126.8(e)(7), the use of the existing billing system would raise the cost of the program excessively, leading to higher upfront costs and making the Program less viable. The Companies state that launching the Program with Customer Connect will allow for on-bill credits and charges, lowered upfront subscription fee, and greater program flexibility. The Public Staff believes that the benefits of launching the Program with Customer Connect, which may make the Program more attractive to potential subscribers are, on balance, worth a one to two year delay in Program implementation.

The Public Staff also notes there is no required statutory timeline to implement the Program, unlike other new programs being implemented under House Bill 589, including the Competitive Procurement of Renewable Energy (“CPRE”) and the Green Source Advantage (“GSA”) Programs. Instead of requiring implementation of a community solar program in accordance with identified deadlines, G.S. 62-126.8(e)(4) requires that the Program Plan simply “include a program implementation schedule.” In the Public Staff’s opinion, if the

¹ Duke’s Reply Comments indicate on page 4 that Customer Connect will be implemented by DEP in early 2022 and DEC in early 2023. Duke has indicated in communications with the Public Staff that this was a mistake and that the Program will be implemented by DEP in 2021 and by DEC in 2022. This is also the timeframe set forth on page 7 of Duke’s reply comments.

General Assembly had intended the Program to be implemented within a certain timeframe, it would have included that timeframe in the statute. The timeline for the implementation of the Program is fully within the discretion of the Commission in its authority to approve, disapprove, or modify the Program. See G.S.62-126.8(e).²

The Public Staff understands that Sierra Club and NCSEA oppose the delay in the Program in order to allow for alignment with the Customer Connect software. The Public Staff agrees that the Program should be implemented in a timely manner and further believes that it is not in the public interest for there to be an unnecessary delay in the Program's implementation, but notes that Duke initially estimated the Program would not achieve commercial operation until 2020-2021 even absent the alignment with the Customer Connect deployment. (Duke Program Plan, at p 6) A delay of an additional one or two years, as currently projected for the Customer Connect software, is acceptable to the Public Staff if it results in a Program with lower costs and a better customer experience that cannot otherwise be achieved economically without the Customer Connect software.

The Public Staff recommends that the Commission encourage Duke to look for potential avenues to accelerate implementation of the Program where possible; if there is the ability to use the Customer Connect software to implement the

² The Public Staff also notes that the 40 MW of solar energy capacity in the Program does not roll over to a different program if not used in a certain timeframe. In contrast, the GSA Program capacity rolls into the CPRE Program if not used in a certain timeframe, and the CPRE Program capacity rolls into a new competitive procurement to be established by the Commission. See G.S. 62-110.1(b). Thus, the Public Staff interprets the community solar statute to require that the 40 MW of capacity allowed for the Program should remain available for the utility's offering of a community solar program until that capacity has been procured.

Program before full deployment of the Customer Connect system-wide, Duke should seek to do so. The Public Staff further recommends that the Commission require Duke to include in its annual filing, as required by Rule R8-72(c)(2), an update on the deployment of Customer Connect and any progress in the Companies' ability to use the software to issue monthly on-bill credits and charges for the Program.

II. Subscription Block Size and Fees

In the initial Program Plan filing, the Companies proposed to charge an upfront fee of \$500 for a 220 Watt ("W") subscription, with annual bill credits administered off-bill. In the revised Program Plan submitted in reply comments, the Companies propose to reduce the upfront payment, add a monthly payment and a monthly charge on-bill, and increase the size of the subscription block to 1 kilowatt ("kW").

G.S. 62-126.8(b) allows community solar subscriptions to be sized to supply 100% of the maximum annual peak demand of electricity of each subscriber at the subscriber's premises. The average annual peak demand of electricity at a residential premise is 3.5 kW.³ Thus, a typical residential customer could subscribe to a maximum of three blocks. Subscriptions should be sized so that customers may partially or fully offset their expected usage without accruing excess credits; the Public Staff believes the larger subscription size allows the customer to offset more of their consumption and avoid overpaying for the upfront

³ Docket E-2, Sub 1142 E-1 Item 45F. This amount was stated as the average residential amount in DEP's most recent rate case.

costs of administering the program since multiple subscription blocks would be administered on the same bill.

The cost estimates for the upfront fee and monthly fee vary depending on the size of the project and the power purchase agreement (“PPA”) price for the project. (Duke Reply Comments, at p 11) The upfront fee consists of Information Technology (“IT”), Labor, Marketing (costs to acquire), and Call Center costs. The monthly fee consists of the price of solar energy, IT, Labor, Customer Engagement, and Call Center costs.

The upfront fees, especially for 5 megawatt (MW) projects, appear to be more affordable than the upfront fees presented in the initial proposed Program Plan. The costs and fees, however, still appear uncertain and are largely dependent on the power purchase agreement (“PPA”) price and overhead costs. The monthly on bill charge, also has high administrative costs compared to the initial proposed program. Section VIII contains a more detailed analysis and further discussion of comparison of costs between the initial and revised program, including the Public Staff’s further recommendations regarding program costs.

III. Project Size and Selection

In ongoing discussions, Duke has said it will issue a community solar request for proposals (“RFP”) or look for unsuccessful 5 MW project size facilities from among the CPRE program bids. The Public Staff is supportive of efforts by Duke to find a lower PPA price through competitive solicitation methods, including the consideration of bids submitted to the CPRE Tranche 1 that are not selected.

Commission Rule R8-72(c)(1)(xiii) requires the Company to provide “a description of the offering utility’s intended method of procurement of solar energy for the Program, including a cost estimate and justification for each method proposed.” The Public Staff recommends that the Commission require Duke provide more information in accordance with this requirement regarding any alternative methods of procurement to a community solar RFP in order to provide transparency and assurance that the Companies are making reasonable efforts to achieve cost-effective PPA prices for all community solar energy facilities.

IV. Transferability and Portability of the Community Solar Subscription

In its initial Program Plan, Duke proposed to allow subscribers to take their subscriptions with them if they relocate outside the eligible area (i.e., the county/county contiguous or the 75-mile radius if the Commission allows the statutory exemption), regardless of where the subscriber relocates. (Program Plan, at p 13) Duke also proposed limited transferability to a designated beneficiary in the case of an unforeseen event that impacts the subscriber’s ability to receive payments. (Id.)

In its reply comments, Duke eliminates the option to transfer subscriptions to a beneficiary and also limits portability to those customers that move within either DEC’s or DEP’s service territory. (Duke Reply Comments, at p 13) The Public Staff supports these changes because they comply with the statutory language and Commission Rule R8-72, which require the community solar subscriber to be a customer of the offering utility, and they limit the risk the

subscription will be determined to be a security subject to federal securities regulation.

In its initial comments, in recognition of the portability and transferability of subscriptions issues and challenges, the Public Staff recommended that the Program include an option to cancel the subscription and for the subscriber to be refunded a pro rata share of the upfront fee. In its reply comments, Duke modifies its Program Plan to allow the right to cancel the subscription if the subscriber moves outside of the utility's service territory or "for any reason"; however, they do not respond to the Public Staff's recommendation to refund a pro rata share of the upfront fee to a departing subscriber. (Id. at 16) The Public Staff supports the ability to cancel and Duke's proposal to provide for a waitlist for the next customer to subscribe. Furthermore, the Public Staff recommends that the Commission require the Companies either (i) refund a pro rata share of the upfront fee to the departing customer as originally suggested, or (ii) similarly discount a replacement subscriber's upfront fee. This will ensure that the Companies are not collecting double the upfront fee for the same subscription block.

V. Customer Option to Retain RECs

In its initial Program Plan, Duke proposed to retire all renewable energy certificates ("RECs") produced by community solar energy facilities on behalf of the subscribers. In its initial comments, the Public Staff noted that this approach does not fully comply with G.S. 62-126.8(e)(8) or Commission Rule R8-72(c)(1)(ix), which require that the subscriber have the option to own the RECs. In response to the Public Staff's comments, in its reply comments, Duke proposes to allow the

subscriber a path to own the RECs associated with its subscription block if the subscriber pays all fees and applies with NC-RETS to create a REC tracking account. (Id. at 18) The Companies also plan to provide clear information regarding fees and administrative obligations to customers who elect this option (Id. at 19). The Public Staff is satisfied that Duke's revised approach meets the requirements of the statute and the Commission's rules.

VI. Locational Exemption

In its reply comments, the Companies renew their request for an exemption from the same/contiguous county requirement of G.S. 62-126.8(c), as allowed for in Commission Rule R8-72(e)(4). The Companies "believe the Program has the best chance of success if it is marketed in or near urban areas, where more potential subscribers are located, while having the flexibility to site projects within a large enough area nearby to those urban locations to permit lower development costs." (Program Plan, at p 6 and Duke Reply Comments, at pp 33-35)

The Public Staff continues to support the Companies' proposed exemption, finding persuasive the argument that it will help lower costs and increase subscription interest. In addition, the Public Staff believes that it is in the public interest to grant this exemption for the initial community solar offering, as the Program Plan as a whole has the highest chance of success if the initial offering is successful. Therefore, the Public Staff continues to recommend that the exemption request be granted for Tranche 1 and that future exemption requests be evaluated on an individual basis.

VII. Project Scalability

The initial Program Plan proposed 1 MW projects in each service territory (one in DEP and one in DEC). In the initial comments, the Public Staff stated that it may be the public interest to scale the projects to the appropriate sizes to meet demand, either by increasing or decreasing the capacity, after the initial marketing period. In its reply comments, Duke has agreed to revise the Program Plan to accept bids for projects up to 5 MW. (Duke Reply Comments, at pp 5, 16) The Public Staff supports this change in hopes that it will attract projects that are least cost.

The Public Staff also noted in its initial comments that there was no identified threshold at which a project would be considered to have enough subscribers to continue, and that it would be appropriate to move forward with the project once the reserved capacity reaches a certain point. The Companies state in their reply comments that they cannot set a specific threshold for subscriptions without knowing certain information, including the amount of the RFP bids and interconnection costs of potential projects. (Id. at 32) The Public Staff recommends that the Commission require the Companies provide a summary in its annual reports of the subscription thresholds reached in the South Carolina community solar program and a description of the project sizes and PPA prices achieved in that program and whether North Carolina can expect to achieve similar prices and interest in participation.

VIII. Program Costs

As discussed in Section II herein, many of the program costs are unknown at this time due to the uncertainty regarding the size of the project and the cost of the PPA. The Public Staff does not expect Duke to be able to resolve all of those uncertainties at this time, but does note that the overall program costs are still high, especially for 1 MW community solar energy facilities. See chart, Duke Reply Comments, at p 11. The upfront fees decline as the size of the project increases, ranging from \$295 for a 1 MW/jurisdiction project to \$137 for a 5 MW/jurisdiction project. The upfront fee consists of the following components and are charged on a per-customer basis: IT, Labor, costs to acquire (previously referred to as marketing), and Call Center. The monthly fee ranges from \$15.19 for the 1 MW project to \$12.58 for the 5 MW project. The monthly fee consists of the following components, and is charged on a per-subscription basis: energy (based on a \$65/MWh estimated PPA price), IT, Labor, customer engagement, and Call Center. The monthly credit at avoided cost is \$7.95 for each subscription, which results in a net monthly fee which ranges from \$7.24 for the 1 MW project to \$4.63 for the 5 MW project.

The Public Staff understands that there is no guarantee that the subscription model will result a financial savings to subscribers and the Program may remain a premium program. The legislation requires a bill credit at avoided cost and prohibits cross-subsidization of Program costs by non-subscribing customers. Notwithstanding those limitations, the estimates for the cost to customers provided by Duke are based on a relatively high PPA cost of \$65 per MWh and an avoided cost of \$50 per MWh. The Public Staff believes that this is a very conservative

estimate, and that Duke will most likely be able to obtain a PPA price much closer, or perhaps even below, the avoided cost. In its reply comments, Duke states that it continued to use the \$65 per MWh assumption for a PPA price to facilitate comparison with the price estimates provided in its initial Program Plan filing, and it anticipates that a 5 MW project may result in a lower PPA price. (Duke Reply Comments, at p 25)

The Public Staff has performed an analysis of the initial and revised program administrative costs to determine if the revised Program has resulted in reduced costs for subscribers. In shifting to a Customer Connect enabled Program, the Companies appear to have also significantly increased administrative costs instead of reducing them. For example, in the Program as initially filed, the Companies estimated Enrollment and IT costs would be \$167k (\$167/kW). In the revised program, the Companies estimate Enrollment and IT costs ranging from \$400k for the 1 MW project (\$400/kW) to \$1.6 million for the 5 MW project (\$320/kW). Labor costs also significantly increased in the revised Program: in the original Program, the Companies estimated one Full Time Engineer managing the program for 6 years, at a cost of \$172k. The revised Program estimates labor costs at \$784k, a 368% increase. The Companies state that this is due to the need to market the program throughout the life of the project to keep it fully subscribed.

The cost estimates as proposed do not appear to spread fixed costs for the Program, such as program management and IT, over the entire 40 MW of community solar that is statutorily authorized. Indeed, costs such as the program

manager's time and the IT costs associated with and the Program and the Clean Energy Collective should be spread out to cover 40 MW of subscribed community solar facilities. The Tranche 1 offering should reflect only a fraction of the total costs of setting up and managing the Program. The Companies' proposal appears to assign the entire 40 MW of fixed costs to subscribers of the first 2-10 MW of the program. This can only have the effect of depressing interest in the Program due to the high costs of participation, which in turn will drive up marketing costs and reduce the likelihood that a larger, more cost effective project can be selected – a negative feedback loop that may result in the Program's failure. Table 1 provides a net present value (NPV) summary of this analysis, and indicates that as filed, the revised Program remains a premium.⁴

Table 1: Summary of NPV to a subscriber over 20 years, 6.8% Discount Rate

	Initial Program (1 MW)	Revised Program (1 MW)	Revised Program (3 MW)	Revised Program (5 MW)
NPV	(\$279)	(\$1,208)	(\$793)	(\$709)
NPV per MWh (\$/MWh)	(\$63.12)	(\$60.17)	(\$39.48)	(\$35.30)
NPV per W (\$/W)	(\$1.27)	(\$1.21)	(\$0.79)	(\$0.71)

In order to make the Programs more economically attractive to potential subscribers, the Public Staff recommends that the Commission encourage the Companies to pursue the larger 3 or 5 MW programs and allocate fixed costs beyond Tranche 1 of the Program.

⁴ The Net Total Benefits assume a discount rate of 6.8%, an annual panel output degradation rate of 0.5%, a \$65/MWh PPA price, a \$50/MWh avoided cost, and 20 years term. Figures in (parenthesis) are negative.

Commission Rule R8-72(c)(1)(xiv) requires that the Program Plan include “an implementation schedule for installing 20 MW of solar energy, including a cost estimate and justification for the proposed schedule[.]” The Public Staff recommends that the Commission require the Companies to provide further details on the implementation schedule for the full 20 MW in each service territory and how costs will be allocated among tranches of the Program.

The Public Staff understands that many of these figures are estimates, and that the Companies intend to learn lessons from the South Carolina Shared Solar program being deployed this year. The Companies should be required to incorporate revised overhead costs in future Program annual reports as those cost estimates become more accurate, per Commission Rule R8-72(c)(2).

IX. LMI Option

All of the other intervening parties recommended in their initial comments that Duke should implement a low to moderate income (LMI) option in its Program Plan. In its initial Program Plan and reply comments, Duke stated its intention is to evaluate the potential for LMI customers to access the Program through lowered costs due to learning, scale, and cooperation with outside organizations after Tranche 1. (Program Plan, at 11-12 and Duke Reply Comments, at 26)

The Public Staff notes that Duke is limited by the statute’s requirements to hold non-participating customers harmless. Other states and utilities that have an LMI option as part of their community solar program have usually done so through state incentives or a specific set-aside for those customers, neither of which is

authorized by in this State. An LMI option may result in cost shifting, which is in direct conflict with the requirements of the statute and Commission Rule R8-72 to avoid cross-subsidization among non-participating customers.

The Public Staff recommends that the Commission require Duke to provide in its annual reports a description of any LMI options it has considered and the feasibility of those options in the structure of the Program and in compliance with the requirements to hold non-participating customers harmless.

X. Program Cancellation

The Companies indicate that “if subscriptions are insufficient to cover the costs of the Program in either or both service territories, DEC and/or DEP may petition the Commission to discontinue the Program.” (Program Plan, at p 12) The Public Staff continues to believe that any such request may be contrary to G.S. 62-126.8(a), which mandates that each offering utility shall make its Program Plan available until the total nameplate generating capacity equals 20 MW. Because the community solar statute does not include an express provision allowing the offering utility to cancel the program due to low subscriber interest, the Public Staff believes that it is the responsibility of the utility to create and market a program that is fundamentally designed to succeed.

In its reply comments, the Companies note that G.S. 62-126.8 requires the Companies to “file a plan to offer” a community solar program and that the statute does not prohibit its cancellation or at least delay. (Duke Reply Comments, at p 31) The Public Staff continues to support Duke’s option to seek a delay in the

implementation of the Program if a specific and reasonable target for subscriber interest is not met in Tranche 1. If there is not sufficient subscriber interest at the outset, the option to modify the Program Plan at some point in the future, as PPA prices potentially come down or new technology provides more affordable options, should remain available.

XI. Recovery of Costs

The Program Plan states, on page 12, “[i]f the program is canceled by the Commission, and there are no subscribers to pay these costs, the Companies plan to seek recovery of administrative costs incurred in promoting and developing the Program in its next general base rate case.” The Public Staff continues to believe that it is premature to consider cost recovery for the Program in this proceeding. In its reply comments, Duke states that it also believes that it cost recovery “would be subject to intervenor input and Commission determination and need not be decided at this juncture” and the suggestion for cost recovery was an effort to be transparent about the Companies’ intentions should the Program not succeed. (Id.)

Summary

In conclusion, the Public Staff respectfully requests that the Commission consider the issues and other considerations raised in these reply comments.

Respectfully submitted this the 25th day of June, 2018.

PUBLIC STAFF
Christopher J. Ayers
Executive Director

David T. Drooz
Chief Counsel

Electronically submitted
/s/ Layla Cummings
Staff Attorney

4326 Mail Service Center
Raleigh, North Carolina 27699-4300
Telephone: (919) 733-0976
layla.cummings@psncuc.nc.gov

CERTIFICATE OF SERVICE

I certify that a copy of these Reply Comments have been served on all parties of record or their attorneys, or both, by United States mail, first class or better; by hand delivery; or by means of facsimile or electronic delivery upon agreement of the receiving party.

This the 25th day of June, 2018.

Electronically submitted
/s/ Layla Cummings