

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-2, SUB 1159
DOCKET NO. E-7, SUB 1156

In the Matter of)
Solar Integration Service)
Charge and its Application)
to Competitive Procurement)
for Renewable Energy Facilities)

REPLY COMMENTS OF
FIRST SOLAR, INC.

NOW COMES First Solar, Inc. (“First Solar”), which provides these reply comments pursuant to the Order Requesting Comments concerning Duke Energy’s proposed application of its Solar Integration Services Charge (“SISC”) to Competitive Procurement for Renewable Energy (“CPRE”) Program facilities.

I. The Commission should distinguish the controllability and the inherent operational flexibility available to Duke through CPRE Program facilities from traditional uncontrolled, must-take renewable energy facilities.

Applying Duke’s proposed SISC indiscriminately, to account for intermittency from solar facilities developed under two different programs, fails to distinguish the advanced operational requirements and contractual obligations of CPRE Program facilities from those of legacy qualifying facility (“QF”) projects not participating in the CPRE Program. While the General Assembly required CPRE Program facilities to stand ready to provide Duke greater dispatchability and operational flexibility, developers of legacy QF projects are not statutorily required to include advanced operational controllability in their power plants.

By revising N.C.G.S. § 62-156 and enacting N.C.G.S. § 62-110.8, the General Assembly shifted to the CPRE Program and away from the legacy QF energy-only power

purchase agreement (“PPA”) model, involving contracting by right at avoided cost. Unlike the situation with legacy QFs, the statute creating the CPRE Program requires that projects be designed and constructed to give Duke greater flexibility to control the dispatch of those projects. Legacy QFs and new CPRE Program facilities have different contracting structures and different design requirements. CPRE projects are required to be controllable; that means they must be designed and built such that they can be operated to manage intermittency.

Despite the differences in required operational controllability between CPRE Program facilities and legacy QFs, Duke points to existing QFs as evidence why it should impose a SISC on all solar facilities, including CPRE Program facilities. Specifically, Duke cites the continued and ongoing operational challenges presented by legacy QFs on its system, explaining that it had “put forward extensive evidence in the 2018 Sub 158 proceeding explaining that the continued integration of non-dispatchable, intermittent, solar generating resources is imposing increased ancillary services costs on the DEC and DEP systems.”¹ Duke’s stated experience with legacy QF facilities does not and cannot validate the imposition of the SISC on facilities participating in the separate CPRE Program which, by definition, must allow the utility to “dispatch, operate, and control” them.

Without regard to the inherent differences between these two types of solar energy facilities, Duke attempts to characterize the operational limitations of legacy QFs and the statutorily-mandated flexibility of CPRE Program facilities as one in the same. Specifically, Duke argues that “[t]oday, the integration of uncontrolled solar generators are imposing now quantified integration costs...and these costs should similarly be recognized

¹ Duke Comments, Oct. 18, 2019, at 3-4.

in assessing the cost effectiveness of solar resources bidding into the CPRE Program relative to other types of CPRE-eligible renewable energy resources that do not impose these increased integration costs.”²

While First Solar neither supports nor rejects Duke’s assertion that legacy QFs are causing operational challenges for Duke today,³ First Solar believes it is inappropriate for Duke to conflate the current challenges of integrating legacy QF projects with CPRE Program facilities over which Duke has additional, statutorily-mandated tools at its disposal. As stated above, although the General Assembly explicitly required dispatchability and controllability from CPRE Program facilities, Duke attempts to justify imposition of the SISC in the CPRE Program with challenges integrating other “non-dispatchable” and “uncontrolled” solar. Duke’s unwillingness to pursue and utilize the direct dispatch and control capabilities of CPRE Program facilities does not justify the application of the SISC.

As First Solar pointed out in its Comments earlier in this docket, solar resources have the technical capabilities to mitigate these integration challenges and respond more quickly to grid operator signals than a traditional fossil unit.⁴ Consistent with the mandate of the General Assembly, Duke must take advantage of the capabilities inherent in

² Duke Comments, Oct. 18, 2019, at 4.

³ First Solar notes that many operating legacy QFs may have the same operational capabilities as CPRE Program facilities, allowing them to be flexibly controlled by the grid operator. First Solar has designed its plants with advanced plant control systems since 2012. However, modifying both the statutory obligations and contractual requirements applicable to those facilities is outside the scope of these dockets.

⁴ Included with First Solar’s March 22, 2019, Comments in these dockets was the National Renewable Energy Laboratory’s 2017 Report “Demonstration of Essential Reliability Services by a 300-MW Solar Photovoltaic Power Plant.” Those Comments highlighted the testing at a First Solar 300 MW solar plant, which “demonstrated, in a real-world test, that a utility-scale solar plant equipped with advanced control technology, can provide essential reliability services such as frequency control, voltage control, and ramping capability or flexible capacity. That demonstration also showed that digitally-controlled inverters were able to respond more accurately than the most accurately dispatched thermal resources, outperforming the accuracy of fast-gas turbines by an average of 42%.” First Solar Comments, March 22, 2019, at 6.

controllable solar and contractually require this type of operational flexibility of CPRE Program facilities. Reliance on a more expensive SISC solution is counter to what the legislature has asked of Duke, and ignores the capabilities that N.C.G.S. § 62-110.8(b) requires CPRE Program facilities to provide to Duke. Failure to take advantage of controllable solar will unnecessarily increase ratepayer costs through the imposition of an unnecessary and unfair charge on CPRE solar resources which, by statute, must be designed to allow the utility to “dispatch, operate, and control the solicited renewable energy facilities in the same manner as the utility's own generating resources.”

II. By suggesting that CPRE Program facilities are “uncontrollable,” Duke ignores the value provided by CPRE Program facilities that would otherwise benefit ratepayers.

Duke ratepayers will ultimately pay for the SISC, whether the SISC is imposed on a CPRE Program facility or facility owners take steps to mitigate the charge. As Public Staff noted in its Comments, “[c]ustomers will ultimately be responsible for paying the additional ancillary service costs for all uncontrolled solar projects selected, whether through the SISC assigned to bids or through additional fuel and energy costs recovered by the utilities.”⁵ Customers will also pay additionally for those projects that incorporate strategies to mitigate the proposed SISC through higher bid prices for those projects. The result is the same in both scenarios: customers are being asked to pay a premium for CPRE Program facilities to self-control renewable energy variability, while Duke proposes to ignore the full capabilities and value of these plants for 20 years.

⁵ Public Staff Comments, Oct. 18, 2019, at 8. First Solar disagrees with both Public Staff and Duke’s characterization of both legacy solar QFs and CPRE Program facilities as “uncontrolled” generators. First Solar submits that the Commission should recognize CPRE Program facilities as “controlled solar generators.”

By requiring CPRE Program facilities to solve only for energy production variability, Duke is disregarding the full capabilities statutorily required to be incorporated in the design of CPRE Program facilities. As noted above, inverter-based resources like utility-scale solar can provide a wealth of essential grid services, including ancillary services.⁶ Instead of utilizing the capability of such facilities to be dispatched and controlled by the utility, Duke proposes to simultaneously charge CPRE Program facilities the SISC and then run its thermal plants at suboptimal levels. This defies common sense.

Flexibly incorporating renewable resources can allow a system operator like Duke to more efficiently and cost-effectively run its fossil fleet.⁷ Duke's insistence that its fossil fleet provide ancillary and integration services to address all intermittency issues is counter-intuitive, as CPRE Program facilities are legally and contractually required to be capable of providing these services, with no incremental fuel cost.

The Commission's recent Supplemental Notice of Decision in Docket No. E-100 Sub 158, established that for purposes of determining avoided costs, Duke is not allowed to impose the SISC on a QF facility that meets the Commission's criteria for a "controlled solar generator."⁸ That decision reflects the Commission's determination that a SISC is not appropriately charged on a facility that "is capable of operating, and contractually agrees to operate, in a manner that materially reduces or eliminates the need for additional ancillary service requirements incurred by the utility." The N.C.G.S. § 62-110.8(b) requirement that CPRE Program facilities allow a utility to "dispatch, operate, and control

⁶ See FN 3, citing First Solar March 22, 2019, Comments at 4.

⁷ In connection with prior comments in these dockets, First Solar submitted its report on the economic benefits of integrating dispatchable solar, highlighting that "integrating utility-scale solar at higher penetration levels into a grid operator's dispatch stack would allow the operator to both commit fewer thermal power units and operate the remaining thermal power units more efficiently." First Solar its March 22, 2019 Comments at 6-7.

⁸ Supplemental Notice of Decision, Oct. 17, 2019, Docket No. E-100 Sub 158, ¶ 8, p. 2.

the solicited renewable energy facilities in the same manner as the utility's own generating resources,” will meet or exceed the requirements for a facility to be designated as a “controlled solar generator.”

In seeking to impose the SISC on CPRE Program facilities, Duke has chosen to ignore the value of the ancillary service benefits which those facilities are required to deliver. Instead, Duke is asking the Commission to look only at the ancillary services costs it presents, which are based on its overly limited operational assumptions. Ideally, solar and other renewables would be flexibly dispatched to allow thermal assets to be run more efficiently. Instead, the SISC proposes the inverse result, charging for inefficiently-run fossil plants to accommodate otherwise highly flexible renewable energy resources, thus creating an inequitable bench mark cost to evaluate solar’s benefit and ability to lower system costs.

III. Conclusion.

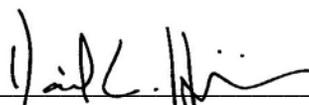
The General Assembly contemplated that CPRE Program projects were to be more flexibly operated, dispatched and integrated into Duke’s system than must-take renewable resources. The SISC approach proposed by Duke is inconsistent with N.C.G.S. § 62-110.8(b) because it uses more expensive existing resources to mitigate intermittency and fails to take advantage of the capabilities of facilities participating in the CPRE Program.

As noted in its prior comments, First Solar continues to believe that transitioning to a capacity payment or tolling agreement PPA structure would effectively solve for a number of operational challenges, including those Duke seeks to address by imposing the SISC. First Solar urges the Commission to implement a capacity payment PPA structure for Tranche 3, as it would be in the best interest of ratepayers, utilities and developers.

However, until such a PPA structure is developed for the CPRE Program, First Solar encourages the Commission to incorporate incremental changes to the current Tranche 2 solicitation. Tranche 2 CPRE Program facilities can solve for intermittency challenges more cost-effectively and efficiently than Duke's proposed SISC by using the operational capabilities that such facilities must provide. Doing so would be more consistent with the legislative intent that CPRE Program facilities be operated flexibly, and would be fully consistent with the Commission's recent decision that Duke cannot "impose the SISC on a solar QF that is a 'controlled solar generator,' meaning, generally, any solar QF that demonstrates that its facility is capable of operating, and contractually agrees to operate, in a manner that materially reduces or eliminates the need for additional ancillary service requirements incurred by the utility."⁹ Making productive use of the inherent value and capabilities of controllable and dispatchable CPRE Program facilities will benefit ratepayers through lower costs and more closely align with direction from the General Assembly than the proposed SISC.

Respectfully submitted, this the 29th day of October, 2019.

BURNS, DAY & PRESNELL, P.A.

By: 
Daniel C. Higgins
P.O. Box 10867
Raleigh, North Carolina 27605
Telephone: (919) 782-1441
E-mail: dhiggins@bdppa.com
Attorneys for First Solar, Inc.

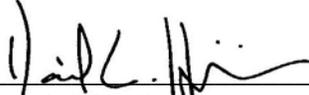
⁹ Supplemental Notice of Decision, Oct. 17, 2019, Docket No. E-100 Sub 158, ¶ 8, p. 2.

CERTIFICATE OF SERVICE

I hereby certify that a true and exact copy of the foregoing has been served on all counsel of record in this docket, by either depositing same in a depository of the United States Postal Service, first-class postage prepaid and mailed by the means specified below, or by electronic delivery.

This the 29th day of October, 2019.

BURNS, DAY & PRESNELL, P.A.



Daniel C. Higgins
Post Office Box 10867
Raleigh, NC 27605