

STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH

DOCKET NO. E-100, SUB 101  
DOCKET NO. E-100, SUB 158

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-100, SUB 101	)	
	)	
In the Matter of	)	<b>COMMENTS OF THE PUBLIC</b>
Petition for Approval of Revision to	)	<b>STAFF ON DUKE'S ESS</b>
Generator Interconnection Standards	)	<b>RETROFIT COMPLIANCE FILING</b>
	)	
DOCKET NO. E-100, SUB 158	)	
	)	
In the Matter of Biennial Determination of	)	
Avoided Cost Rates for Electric Utility	)	
Purchases from Qualifying Facilities – 2018	)	

NOW COMES THE PUBLIC STAFF – North Carolina Utilities Commission, by and through its Executive Director, Christopher J. Ayers, and respectfully submits the following comments in response to the Commission's Order Approving SISC Avoidance Requirements and Addressing Solar-Plus-Storage Qualifying Facility Installations (2021 Sub 158 Avoided Cost Order), issued in Docket No. E-100, Sub 158 on August 17, 2021, allowing the parties to file initial comments on the Energy Storage System (ESS) Retrofit Compliance Filing (Compliance Filing) filed on September 29, 2021 by Duke Energy Progress, LLC (DEP) and Duke Energy Carolinas, LLC (DEC) (DEP and DEC, collectively, Duke).

## Background

The history of developing the Study Process to retrofit existing generating facilities involves many different filings and Orders in both the Interconnection Docket, Docket No. E-100, Sub 101, and the 2018 Avoided Cost Docket, Docket No. E-100 Sub 158. The Commission's consideration of the process for adding an energy storage system (ESS) to an existing facility began in the Interconnection Docket in the 2018-2019 proceeding considering revisions to the North Carolina Interconnection Procedures (NCIP). One of the contested issues in that proceeding was the definition of "Material Modification" and particularly how the definition applied with respect to adding energy storage to a facility before and after the system impact study has been completed.<sup>1</sup>

In its Order Approving Revised Interconnection Standard and Requiring Reports and Testimony dated June 14, 2019 (2019 NCIP Order), the Commission required Duke to file a report setting forth: (1) a streamlined process for efficiently studying the addition of storage at existing generation sites and that builds upon the grouping study approach that is already under development as required by the Stipulation<sup>2</sup> and (2) details of how the addition of storage to the direct current side of

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<sup>1</sup> Section 1.6 of the NCIP defines the term "Material Modification."

<sup>2</sup> This is in reference to the stipulation filed in the 2019 Interconnection proceeding that required Duke to undertake a stakeholder process to fully implement grouping studies, known as the queue reform stakeholder process. See Agreement of Partial Settlement and Stipulation, Docket No. E-100, Sub 101, filed on Jan. 25, 2019, at 2.

an existing generator would impact the facility's original System Impact Study results. The Commission also directed Duke to host stakeholder meetings on those issues. Duke hosted two separate stakeholder meetings on August 7, 2019 and September 9, 2019.

On September 30, 2019, in compliance with the 2019 NCIP Order, Duke filed its Study Process Report for the Addition of Storage at Existing Generation Sites in the Interconnection Docket proposing a process for studying the addition of storage to existing generating facilities (2019 ESS Retrofit Study Process). At this time, the process detailed an approach consistent with the NCIP as a serial study process but Duke indicated in its report that it viewed the proposed approach as a first step and would continue to explore ways to include the process in the ongoing queue reform stakeholder process.

On October 15, 2019, the Commission requested comments on the 2019 ESS Retrofit Study Process. The Public Staff filed comments and the North Carolina Clean Energy Business Alliance (NCCEBA, now known as the Carolinas Clean Energy Business Alliance or CCEBA) and the North Carolina Sustainable Energy Association (NCSEA) filed comments jointly on November 8, 2021. On December 6, 2021, Duke filed reply comments indicating that the Companies continued engaging with stakeholders and identified a handful of clarifications to the process including: “if the Commission has not approved Duke’s queue reform proposal by the end of 2020, Duke will facilitate an additional Energy Storage Retrofit Enrollment Window to

commence approximately one year following the close of the first Energy Storage Retrofit Enrollment Window”; and “projects that do not change the export from the previously studied window (9 am to 5 pm), and do not change their overall AC capacity, are not limited to the one-time enrollment window but may apply for an expedited interconnection study process to add storage generation at any time.”<sup>3</sup>

On January 17, 2020, Duke filed a Petition for Waiver to implement an updated ESS Retrofit Study Process (2020 ESS Retrofit Study Process), which included modifications agreed to by Duke in its previously filed reply comments and additional process details, including a form enrollment application and commissioning and inspection details. In the same filing, Duke petitioned the Commission to approve waivers to the NCIP to implement the process stating “[g]iven the one-time nature of the ESS Retrofit Study Process (subject to the potential for an additional enrollment window in the event of a delay in queue reform), the Companies believe that the ESS Retrofit Study Process should be implemented through a waiver of the NC Procedures rather than modifications.”<sup>4</sup>

Duke’s petition noted that the Commission has had under consideration in the 2018 Avoided Cost Proceeding what power purchase agreement (PPA) modifications and rates would apply to a currently operating facility that elects to add energy storage before the expiration of its existing PPA. Duke stated that the opening of the

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<sup>3</sup> Duke Reply Comments Concerning Energy Storage System Retrofit Study Process, Docket No. E-100, Sub 100, filed Dec. 6, 2021.

<sup>4</sup> Duke Petition, Docket No. E-100, Sub 101, filed January 17, 2020, at 3.

enrollment window is tied to the issuance of the final order in the 2018 Avoided Cost Proceeding at which time generating facility owners will have sufficient clarity to determine whether to retrofit their existing facilities.<sup>5</sup>

On April 15, 2020, the Commission issued an Order Establishing Standard Rates and Contract Terms for Qualifying Facilities in the Sub 158 Avoided Cost Docket (2020 Sub 158 Avoided Cost Order). The Commission concluded that it would be “inappropriate to compensate QFs for new capacity and energy at prior avoided cost rates under contracts that do not reflect current avoided costs and do not align price signals with the highest needed capacity windows.”<sup>6</sup> The Commission went on to consider the proposal for bifurcated rates made by the Public Staff. The Commission recognized the multitude of challenging administrative and regulatory issues that allowing qualified facilities (QFs) to add storage at bifurcated avoided cost rates raises and directed the parties to engage in a stakeholder process. (Sub 158 Avoided Cost Energy Storage Retrofit Stakeholder Process). The Commission established a deadline of September 1, 2020 for the utilities to report on the results of the stakeholder process.

On April 28, 2020, the Commission issued an Order Granting Waiver and Requiring Report in the Interconnection Docket (2020 NCIP Order). The 2020 NCIP

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<sup>5</sup> *Id.* at 1, fn. 1.

<sup>6</sup> 2020 Sub 158 Avoided Cost Order, at 120.

Order approved the 2020 ESS Retrofit Study Process and ordered Duke to open an enrollment window by May 28, 2020.

On May 15, 2020, Duke and NCCEBA filed a joint motion for extension of time to open the enrollment window, stating:

Because there are important policy issues that remain unresolved related to the addition of energy storage to existing facilities, including crucially the appropriate avoided cost rates and terms that will be applied to energy storage additions, it is premature to open the ESS Retrofit Study Process because Qualifying Facilities (“QFs”) are not yet able to fully assess the economics of such a decision.

The motion requested the enrollment window for the 2020 ESS Retrofit Study Process be delayed until a date that is 30 days after the Commission’s order in the response to the reports filed on the Sub 158 Avoided Cost Energy Storage Retrofit Stakeholder Process. On May 27, 2021, the Commission granted the request.

On September 16, 2020, in Docket No. E-100, Sub 158, Duke and Dominion Energy North Carolina (DENC) filed a joint report (Storage Retrofit Report) on the Sub 158 Avoided Cost Energy Storage Retrofit Stakeholder Process. On November 5, 2020, the Commission issued an Order Allowing Comments on Storage Retrofit Stakeholder Meetings Report, allowing initial comments by November 20, 2020, and reply comments by December 8, 2020. CCEBA, NCSEA, and the Southern Alliance for Clean Energy filed joint comments on November 20, 2020. Duke and DENC filed joint reply comments on December 16, 2020, as did the Public Staff.

On August 17, 2021, the Commission issued an Order Approving SISC Avoidance Requirements and Addressing Solar-Plus-Storage Qualifying Facility

Installations (2021 Sub 158 Avoided Cost Order). The Commission concluded that the addition of energy storage to an existing generating facility requires the amendment to the existing PPA and does not require execution of a new PPA<sup>7</sup>; and the term of the retrofit energy storage shall be the term that remains on the existing PPA.<sup>8</sup> The Commission stated that it intended to address all remaining barriers; however, the parties have not addressed the procedure for how and the point in time at which a facility secures eligibility for a specific avoided cost rate or methodology when adding energy storage and directed the parties to address the issue.<sup>9</sup>

The Commission further directed Duke to make a compliance filing in Docket Nos. E-100, Sub 101, and E-100, 158 by September 15, 2021, addressing both (1) a comprehensive waiver request reflecting all waivers that are needed from the NCIP, in order to comply with the Commission's directive to move ahead with an enrollment window for the ESS Retrofit Study Process; and (2) the procedure for how a QF establishes eligibility for the avoided cost rate or methodology applicable to the output of the energy storage addition. The Order also provided other parties the opportunity to comment on Duke's filings by September 30, 2021, and for Duke to file reply comments by October 14, 2021.

On September 13, 2021, Duke filed a Motion for Extension of Time to file the Compliance Filing. The Commission granted that request on September 15, 2021

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<sup>7</sup> 2021 Sub 158 Avoided Cost Order, at 7.

<sup>8</sup> *Id.* at 9.

<sup>9</sup> *Id.* at 10.

directing Duke to file its Compliance Filing by September 29, 2021 and allowing interested parties to comment by October 14, 2021, and Duke to file reply comments by October 21, 2021.

On September 29, 2021, Duke filed in Docket Nos. E-100, Sub 101 and E-100, Sub 158 its Compliance Filing. On October 14, 2021, CCEBA filed a motion for extension of time to file initial comments to October 21, 2021 and reply comments to November 5, 2021. The request was granted.

#### Comments on the ESS Retrofit Compliance Filing

The Public Staff appreciates the effort undertaken by Duke to develop an ESS Retrofit process that both addresses the Commission's directives and considers and incorporates stakeholder interests and concerns raised in the stakeholder process. With regard to the Commission's Directives in the 2021 Sub 158 Avoided Cost Order, the Public Staff finds that the Duke has met both directives, specifically Duke's Compliance includes to (1) a comprehensive waiver request that reflects all the waivers that are needed from the NCIP to establish an open enrollment window,<sup>10</sup> and (2) a sufficient procedure, including the submission of a Notice of Commitment (NOC) form to establish a legally enforceable obligation prior to November 1, 2023,<sup>11</sup> to allow a QF to establish eligibility for the published avoided cost rate or, if submitted after

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<sup>10</sup> While the Public Staff agrees with the specific waivers requested, we request that Duke clarify that a signed NOC form meets the readiness milestones in section 4.4.10 of the NCIP.

<sup>11</sup> Compliance Filing, at 5.



November 1, 2023, a negotiated rate based upon the Commission approved avoided cost methodology, applicable to the output of the energy storage addition.

In addition, the ESS Retrofit procedure proposed in the Compliance Filing reflects the August 19, 2021 approval of queue reform, which will significantly change the process to study ESS Retrofit applications since the Commission's approval of the 2020 ESS Retrofit Process in Docket No. E-100, Sub 101. The Public Staff generally supports the process outlined in the Compliance Filing, but requests additional information and clarification from Duke on issues discussed below in their reply comments.

#### 1. The Open Enrollment Window

The Public Staff first notes that there are significant differences in the study process proposed in the Compliance Filing compared to the 2020 ESS Retrofit Study Process. The previous process included a one-time enrollment window<sup>12</sup> opening to facilities wishing to add Direct Current (DC)-coupled storage only with a fully executed North Carolina Interconnection Agreement (IA) prior to the date by which the enrollment window opened.<sup>13</sup> Those facilities requesting to export outside of the hours

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<sup>12</sup> The Commission authorized an additional enrollment window if queue reform was not approved by the end of 2020.

<sup>13</sup> The enrollment window was directed opened by the Commission on May 28, 2020 in its April 28, 2020 Order Granting Waiver and Requiring Report. The enrollment window was later suspended until 30 days after the Commission's order regarding the energy storage stakeholder process being conducted in E-100, Sub 158 in the Commission's May 27, 2020 Order Suspending Enrollment Window of ESS Retrofit Study Process.

of 9 am to 5 pm would be studied in a separate ESS Retrofit Grouping Study and would not be limited to the one-time enrollment window.

In contrast, the new process outlined in the Compliance Filing provides several paths forward for solar facilities seeking to retrofit with storage. First, DC-coupled facilities and Alternating Current (AC)-coupled distribution facilities requesting export only between 9 am and 5 pm can follow the Attachment A process, and may submit an ESS Retrofit Application at any time, presumably as long as the facility has sufficient time remaining on its PPA. This is consistent with the 2020 ESS Retrofit Study Process.

For those projects not eligible for the ESS Retrofit Process,<sup>14</sup> the process outlined in Attachment B suggests recurring enrollment windows that align with each annual Definitive Interconnection System Impact Study (DISIS) cluster, in accordance with the recently approved revisions to the NCIP to adopt queue reform. There is no end date specified in the waiver request and Duke states that Interconnection Customers submitting a Notice of Commitment Form after November 1, 2023 will be eligible to receive a negotiated rate consistent with the Commission-approved methodology at the time the QF commits to the ESS retrofit and obligates itself to sell the ESS' output. If Duke is proposing ongoing enrollment windows aligned with the

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<sup>14</sup> Projects not eligible for the ESS Retrofit Process include (i) transmission and distribution AC- and DC-coupled projects wishing to export outside the hours of 9am to 5pm, and (ii) transmission AC-coupled projects exporting between the hours of 9am and 5pm.

annual DISIS clusters, this is a deviation from the 2020 ESS Retrofit Study Process, which proposed a one-time enrollment window.

In its November 8, 2019 Initial Comments on Duke's 2019 ESS Retrofit Study Process, the Public Staff supported the one-time enrollment window as "appropriate to limit concerns regarding discrimination between existing facilities and later queued projects that may be adversely impacted by the addition of storage to those facilities."<sup>15</sup> However, as the 2021 ESS Study Retrofit process only applies to the DISIS, which is not a serial process, the Public Staff believes that allowing ESS Retrofit applications during any future DISIS is appropriate and could provide benefits to ratepayers, particularly as energy storage costs are projected to continue falling over the next 10 years.

This is consistent with 2020 NCIP Order that states regarding the open enrollment window:

The Commission recognizes that the grouping study/queue reform proposal under development should more easily accommodate the addition of storage at existing Generating Facilities, such that future enrollment windows should not be necessary if those reforms are implemented in a timely fashion. These elements of the ESS Retrofit Study Process will work to protect the interests of other pending interconnection requests.<sup>16</sup>

The Public Staff requests that Duke clarify whether it intends to allow for the study of retrofit storage additions in the first DISIS or for subsequent DSIS windows. If this is

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<sup>15</sup> Docket E-100, Sub 101, Public Staff's Comments on Duke's Proposed Expedited Study Process for Addition of Storage at Existing Generation Sites, (Nov. 8, 2019) at 3.

<sup>16</sup> 2020 NCIP Order, at 7.

an ongoing process, it may be appropriate to consider revisions to the NCIP rather than waivers.

## 2. Eligibility for the New ESS Retrofit Rate

In the requirements establishing eligibility for a New ESS retrofit avoided cost rate, Duke's Attachment C to the Compliance Filing states that:

Eligibility for a New ESS retrofit avoided cost rate shall be limited to existing QFs that established either a legally enforceable obligation ("LEO") or entered into a PPA with the Companies under rates and terms approved by the Commission on or before November 15, 2016, and shall extend only for the term of the QF's PPA, whether currently existing or executed pursuant to an existing LEO established prior to November 15, 2016.<sup>17</sup>

The Public Staff understands that Duke has chosen the November 15, 2016 date (Rate Eligibility Date) to exclude from the New ESS Retrofit avoided cost rate projects that have established a LEO under Docket No. E-100, Sub 148 (Sub 148) and subsequent avoided cost rates.<sup>18</sup>

The Public Staff notes, as discussed above, that the need for a streamlined study process for existing solar facilities that wish to add storage was first raised by the Commission in the 2019 NCIP Order. The Commission again addressed this issue as it related to contractual terms and applicable avoided cost rates in the 2020 Sub 158 Avoided Cost Order. In directing the formation of the Energy Storage Retrofit Stakeholder Process, the Order states "[t]he stakeholder process should be

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<sup>17</sup> See Compliance Filing, Attachment C, at 1.

<sup>18</sup> Subsequent avoided cost rates include E-100, Sub 158; E-100, Sub 167; and E-100, Sub 175.

comprehensive in its consideration of all use cases for adding an energy storage component to a *committed* QF's electric generating facility"<sup>19</sup> and defined a "committed" solar generator as one that has "(i) established a legally enforceable obligation (LEO); (ii) executed a PPA; or (iii) commenced operation and sale of the electric output of the facility."<sup>20</sup>

The 2020 NCIP Order approving the 2020 ESS Retrofit Study Process notes that to be eligible for the initial ESS Retrofit Process, solar facilities must meet the following requirements:<sup>21</sup>

- (1) have received a North Carolina Interconnection Agreement from Duke prior to the date on which the window opens for enrollment;
- (2) seek to add storage to an existing site and have no change of point of interconnection;
- (3) not exceed the Maximum Physical Export Capability of the applicable Interconnection Agreement;
- (4) pass engineering review of transformer, inverter, and site configuration;
- (5) be DC-coupled or have a hybrid inverter, subject to review;
- (6) for transmission-connected sites, for protection and stability purposes, retain the inverters that were originally studied;
- (7) propose to charge only from the existing generating facility specified in the Interconnection Agreement and not from the Utility system; and
- (8) be certified to applicable IEEE, UL, and OSHA codes and standards.

Based upon prior Commission orders, the Public Staff finds Duke's cutoff date to be inconsistent with the prior eligibility requirements for generating facilities seeking to add retrofit storage. The Public Staff recommends that Duke clarify the rationale for this cutoff and explain why all existing generators with Sub 148 rates or later with an

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<sup>19</sup> 2020 Sub 158 Avoided Cost Order, at 131.

<sup>20</sup> *Id.* at 13.

<sup>21</sup> 2020 NCIP Order, at 2.

interconnection agreement and otherwise meeting the eligibility requirements would not now be eligible for the new rate.

Furthermore, Duke has imposed a 100-MW cap on the amount of incremental ESS retrofit additions that can submit a NOC form under the new rates.<sup>22</sup> Duke has informed the Public Staff that if the 100-MW cap is reached, Duke would either update the published rates or offer calculated rates under a negotiated rate process.

To the Public Staff's knowledge, this cap was not included in any prior ESS Retrofit Study Process nor discussed during any of the stakeholder meetings. After discussions, Duke did notify the Public Staff that they are agreeable to removing the cap. The Public Staff recommends that the cap be removed from the Compliance Filing.

The Public Staff also notes that several projects have recently come online or are in the process of coming online that were selected through the Competitive Procurement of Renewable Energy (CPRE) program. Given the fact that many of these facilities are either already operating or have an executed IA, they may be eligible for the ESS Retrofit process but not for Rate Eligibility Date established in the Compliance Filing. In its reply comments, Duke should clarify whether those projects will be eligible for the ESS Retrofit Study Process and elaborate on the basis and mechanism for excluding or including them. The Public Staff notes that these projects were selected through a rigorous evaluation process, and the addition of energy

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<sup>22</sup> Compliance Filing, at 5.

storage to these facilities would invalidate the evaluation results and might distort the value these facilities bring to ratepayers.

### 3. Reporting

Duke notes in its filing that it is committed to filing “a report” on the ESS Retrofit process. The Public Staff appreciates this willingness but also notes that there may be multiple rolling enrollment windows (in alignment with annual DISIS clusters), and as such, these reports should be submitted annually in Docket No. E-100, Sub 101. The information Duke proposes to include in the report is sufficient at this time.

### 4. House Bill 951

House Bill 951, S.L. 2021-165, was enacted on October 13, 2021. Section 6.(a) of the statute provides certain existing QFs a one-time option to modify their PPAs to receive a longer term at updated avoided cost rates. The Public Staff notes that the Commission found in the 2021 Sub 158 Avoided Cost Order regarding the term of the output of the energy storage “that offering storage the term that remains on the PPA is reasonable at this time.”<sup>23</sup> Whether facilities that opt into longer contracts should also be able to retrofit their facilities with storage for the extended term under this section of the legislation should be considered in the new docket opened pursuant to Section 6.(a) of the legislation.

WHEREFORE, the Public Staff prays that the Commission take

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<sup>23</sup> 2021 Sub 158 Avoided Cost Order, at 10.

these comments into consideration in reaching its decision in this proceeding.

This the 21<sup>st</sup> day of October, 2021.

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**CERTIFICATE OF SERVICE**

I certify that a copy of these 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 21<sup>st</sup> day of October, 2021.

Electronically submitted  
/s/ Layla Cummings