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JUL 27 2017

July 27, 2017

**VIA ELECTRONIC FILING**

Ms. M. Lynn Jarvis, Chief Clerk  
North Carolina Utilities Commission  
Dobbs Building  
430 North Salisbury Street  
Raleigh, North Carolina 27603-5918

**Re: Docket No. E-7, Sub 1148**

Dear Ms. Jarvis:

Enclosed for filing on behalf of Duke Energy Carolinas, LLC in the above-referenced proceeding is Duke Energy Carolinas, LLC's Answer to Complaint of Fresh Air II, LLC.

Please do not hesitate to contact me should you have any questions. Thank you for your assistance with this matter.

Very truly yours,

/s/E. Brett Breitschwerdt

EBB:kjg

Enclosure

**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. E-7, SUB 1148

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of	)	
Fresh Air II, LLC,	)	
	)	
Complainant,	)	DUKE ENERGY CAROLINAS, LLC's
	)	ANSWER TO COMPLAINT OF
v.	)	FRESH AIR II, LLC
	)	
Duke Energy Carolinas, LLC,	)	
	)	
Respondent	)	

NOW COMES Duke Energy Carolinas, LLC ("DEC," "the Company," or "Respondent") pursuant to Rule RI-9 and answers the Complaint filed by Fresh Air II, LLC ("Fresh Air") related to two Interconnection Requests, described as Complainants Younts PVI and Round Hill PVI ("Younts" and "Round Hill," and together with Fresh Air, "Complainants"), on June 15, 2017 (the "Complaint"). Respondent has reviewed the Complaint and replies to the allegations as set forth below. Any allegation not specifically admitted shall be deemed denied.

**SUMMARY OF ANSWER AND DEFENSES**

Contrary to the allegations in the Complaint, DEC has met – and continues to meet – its obligations under the North Carolina Interconnection Procedures ("NCIP") to use reasonable efforts to process and study Complainants' Interconnection Requests as part of DEC's and Duke Energy Progress, LLC's ("DEP" and together with DEC, "the Companies") significant ongoing efforts to manage the approximately 5,700 megawatts ("MW") of proposed generator Interconnection Requests in the Companies' North

Carolina interconnection queues. As further stated in this Answer, the Younts and Round Hill Interconnection Requests each informally received preliminary study results in 2014 and further information in 2015 identifying transmission-related constraints and significant System Upgrade costs to support their proposed distribution interconnections of 4 MW and 5 MW generators, respectively. DEC admits herein that the Company has not formally produced System Impact Study results to the respective Interconnection Customers, but asserts that the Company has made good faith efforts to informally resolve Complainants' alleged disputes related to the ongoing study of the proposed generator Interconnection Requests. Specifically, since formal disputes were alleged on July 15, 2016 (the "Dispute"), DEC has participated in multiple telephone calls with representatives of Ecoplexus, Inc. ("Ecoplexus") and Complainants, as well as developed detailed technical information at Complainants' request regarding the transmission constraints, necessary substation upgrades, and the significant anticipated ballpark costs to interconnect the proposed Younts and Round Hill generators. At this time, however, in recognition of the unresolved Dispute and Complainants' filing of this Complaint, DEC commits to expeditiously complete formal System Impact Studies for these Interconnection Requests in "Queue Priority Order," and, specifically, to produce circuit stiffness review ("CSR") mitigation options results to Younts and line voltage regulator ("LVR") policy mitigation options to Round Hill within 30 Business Days of filing this Answer.

DEC also answers more generally that the Company is making reasonable efforts to process and study Complainants' Interconnection Requests under the NCIP in light of the unique and challenging interconnection landscape that continues to exist in North Carolina. The May 2015 revisions to the NCIP, which were approved by the North

Carolina Utilities Commission (“Commission”) with support from the Companies, a significant number of solar developers, and the Public Staff of the North Carolina Utilities Commission (“Public Staff”), were intended to promote efficiency and clear the clogged interconnection queue by providing an incentive for developers to withdraw projects they do not intend to pursue. However, the volume of proposed new Interconnection Requests have continued to be significant in 2016 and 2017. In response to this ongoing challenge, DEC and DEP have increased project management, study engineering, construction, and technological resources assigned to the complex task of managing the hundreds of proposed utility-scale solar generators in the DEC and DEP North Carolina interconnection queues. Similar to the 2014-2015 period preceding the NCIP revisions, the significant volume of new Interconnection Requests in 2016-2017, as well as the growing complexity of proposed distribution interconnections, continues to challenge DEC’s and DEP’s ability to process and study new Interconnection Requests.

While DEC answers that the Company is making reasonable efforts and otherwise commits to expeditiously complete the System Impact Studies for Younts and Round Hill, as requested by Complainant, DEC does not agree to Complainants’ request that Younts and Round Hill not be required to conform to the Companies’ currently-applicable System Impact Study technical criteria being applied to all other Interconnection Customers. DEC must manage the System Impact Study process in a deliberate and non-discriminatory manner to ensure that system safety, reliability of service, and power quality are maintained for all customers, as increasing levels of variable and intermittent utility-scale solar generators request to interconnect to the system. Consistent with good utility practice, DEP and DEC have developed and are now implementing additional System Impact Study

criteria, including CSR and the distribution LVR policy, as further discussed herein, to meet these objectives. Specific to CSR, the Commission has already held that the Companies are “taking appropriate steps to ensure that electric service to retail customers is not degraded due to the operations of interconnected generating facilities.”<sup>1</sup> Accordingly, the Complainants’ request to be absolved from these now generally-applicable study criteria is not reasonable or appropriate at this time. Simply put, the Companies should not be directed to discard good utility practice that has been developed based upon DEC’s recent experience managing the interconnection study process and is now being applied to assure electric service to retail customers is not degraded in the future based upon the circumstances presented in this Complaint.

As further addressed in this Answer, DEC respectfully requests that the Commission find that the Company is making reasonable efforts to process the Younts and Round Hill Interconnection Requests. In furtherance of that objective, DEC agrees to continue to expeditiously process Complainants’ Interconnection Requests in Queue Priority Order and, specifically, to produce CSR mitigation options results to Younts and LVR policy mitigation options to Round Hill within 30 Business Days of the date of this Answer in conformance with currently-applicable System Impact Study technical standards and study criteria comparable to all other Interconnection Requests.

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<sup>1</sup> *Order Regarding Duke Settlement Agreement with Generation Interconnection Customers*, at 2 Docket No. E-100, Sub 101 Nov. 1, 2016) (“Order on CSR Settlement Agreement”).

## ANSWER

### FIRST DEFENSE: RESPONSE TO COMPLAINANTS' ALLEGATIONS

The Company denies each allegation of the Complaint not hereinafter specifically admitted and responds as follows to the allegations in the Complaint:

#### (Parties)

1. Respondent admits the allegations of Paragraph 1 of the Complaint upon information and belief.
2. Respondent admits the allegations of Paragraph 2 of the Complaint upon information and belief.
3. Respondent admits the allegations of Paragraph 3 of the Complaint upon information and belief.
4. Respondent admits the allegations of Paragraph 4 of the Complaint.
5. The allegations of Paragraph 5 are informational in nature and require no response.

#### (Facts)

6. In response to the allegations of Paragraph 6 of the Complaint, Respondent admits that DEC is a public utility subject to regulation by the Commission under the Public Utilities Act, and – with regard to DEC's business relationships with certain generating facilities, including Complainants – is subject to the Commission's authority to implement Section 210 of the Public Utility Regulatory Policies Act of 1978 ("PURPA"), 16 U.S.C.S. § 824a-3, consistent with regulations established by the Federal Energy Regulatory Commission ("FERC"). 18 C.F.R. § 292.101 *et seq.* Respondent admits that the Commission has authority over the rules and procedures under which DEC manages

interconnection of PURPA Qualifying Facility generators (“QFs”) to the DEC distribution system.

7. Respondent admits that the Commission’s Orders dated March 22, 2005, and July 6, 2005, approved initial procedures and agreements to govern interconnection of small generators requesting to interconnect to Respondent’s distribution system in North Carolina. These Orders of the Commission are in the public record of Docket No. E-100, Sub 101, and speak for themselves.

8. Respondent admits that the Commission’s Order dated June 9, 2008, issued in Docket No. E-100, Sub 101 (“2008 NCIP Order”), approved revised procedures, forms, and agreements to govern interconnection of small generators up to 10 MW requesting to interconnect to Respondent’s electric system in North Carolina (“2008 NCIP”). Respondent further admits that it is a Utility System within the meaning of the 2008 NCIP and that the Company managed generator interconnections pursuant to the 2008 NCIP during the period that interconnection standard was in effect. Respondent denies, however, that the 2008 NCIP is applicable to all Interconnection Requests made after June 9, 2008, and before May 15, 2015, including Complainants’, as discussed further below. The 2008 NCIP Order is in the public record of Docket No. E-100, Sub 101, and speaks for itself. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 8 of the Complaint.

9. Regarding Complainants’ allegations with respect to how the current NCIP were established, Respondent admits that the Commission issued an *Order Requesting Discussion and Comments* on April 11, 2014, in Docket No. E-100, Sub 101, directing the Public Staff to facilitate a stakeholder meeting between the Companies, Dominion North

Carolina Power (“DNCP,” and together with DEC and DEP, the “NC Utilities”), and all other interested parties to evaluate potential revisions to the then-existing NCIP. Respondent further admits that on May 15, 2015, the Commission issued the *Order Approving Revised Interconnection Standard*, in Docket No. E-100, Sub 101 (“*May 2015 NCIP Order*”), approving the revised NCIP. On May 16, 2015, the Commission also issued the *Order Approving Interconnection Agreement* approving the revised Interconnection Agreement (“IA”), and has subsequently issued further Orders in Docket No. E-100, Sub 101 related to the NC Utilities’ implementation of the NCIP. The Orders issued in Docket No E-100, Sub 101 speak for themselves. Respondent denies that the Complaint accurately and completely characterizes the applicability of the NCIP, as presented in NCIP Section 1.1 and 1.1.3, but specifically admits that the current NCIP, as approved by the *May 2015 NCIP Order*, applies to the Complainants’ respective Interconnection Requests that are the subject of this Complaint. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 9 of the Complaint.

10. The allegations in Paragraph 10 are informational in nature and require no response.

11. Section 1.3 of the 2008 NCIP speaks for itself. Respondent specifically admits that Section 1.3 of the 2008 NCIP required that an Interconnection Customer submit its Interconnection Request with a non-refundable processing fee or deposit. Respondent notes that, as to Complainants, Section 1.3 of the 2008 NCIP was superseded by the deposit requirements set forth in Section 1.1.3 and Section 1.4 of the NCIP. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 11 of the Complaint.



12. Section 1.6 of the 2008 NCIP speaks for itself. Respondent admits that Section 1.9 of the NCIP, which is now applicable to Complainants, provides that Interconnection Requests submitted prior to the effective date of the 2015 NCIP revisions shall maintain their queue number, upon meeting certain requirements identified therein. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 12 of the Complaint.

13. Section 4.2 of the 2008 NCIP, relating to Scoping Meetings, speaks for itself.

14. Section 4.2 of the 2008 NCIP, relating to Scoping Meetings, speaks for itself.

15. Section 4.2 of the 2008 NCIP, relating to Scoping Meetings, speaks for itself.

16. Section 4.4 of the 2008 NCIP, relating to System Impact Studies, speaks for itself. Respondent specifically admits that the System Impact Study is meant to evaluate the impacts of the proposed generator interconnection on the reliability of the electric system, including a preliminary analysis of the cost and length of time necessary to correct any adverse impacts to the electric system identified during the System Impact Study in order to implement the interconnection. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 16 of the Complaint.

17. Section 4.4 of the 2008 NCIP, relating to System Impact Studies, speaks for itself.

18. Section 4.5 of the 2008 NCIP, relating to Facilities Studies, speaks for itself.

19. Section 4.5 of the 2008 NCIP, relating to Facilities Studies, speaks for itself.

20. Section 4.4 of the 2008 NCIP, relating to System Impact Studies, speaks for itself. Respondent denies that the 2008 NCIP provided Interconnection Customers the option to request an Interim Interconnection Agreement upon completion of System Impact Study, as now provided for in NCIP Section 4.3.8. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 20 of the Complaint.

21. Section 4.5 of the 2008 NCIP, relating to Facilities Studies, speaks for itself. Respondent denies that the prior 2008 NCIP provided Interconnection Customers the option in to request an Interim Interconnection Agreement, and further denies that the NCIP or 2008 NCIP provides for an Interim Interconnection Agreement upon completion of the Facilities Study. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 21 of the Complaint.

22. Section 5.8 of the 2008 NCIP, relating to Interconnection Agreements, speaks for itself.

23. Respondent denies that Section 1.3 of the 2008 NCIP relates to the allegations contained in Paragraph 23 of the Complaint. Respondent admits that under Section 1.1.3 of the NCIP, as approved in the *May 2015 NCIP Order*, Interconnection Customers that had not executed an Interconnection Agreement with the utility prior to May 15, 2015, must demonstrate site control and post the interconnection study deposit required under the revised NCIP within thirty (30) calendar days after either the effective date of the May 2015 revisions or the posted date of written notice from Respondent, whichever is later. *See* Section 1.1.3, 2015 NCIP. Respondent further states that Section 1.1 of the NCIP, relating to Applicability of the interconnection procedures approved in

the *May 2015 NCIP Order*, speaks for itself. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 23 of the Complaint.

24. Respondent denies that Section 1.9 of the 2008 NCIP relates to the allegations contained in Paragraph 24 of the Complaint. Respondent admits that under Section 1.9 of the NCIP, if an Interconnection Customer fails to demonstrate site control or post the required interconnection study deposit after receiving written notice of its failure to comply and the expiration of a ten (10) business-day opportunity to cure, the Interconnection Customer loses its queue position and the Interconnection Request will be deemed withdrawn. *See* Section 1.9, 2015 NCIP. Respondent states that Section 1.9 of the NCIP speaks for itself. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 24 of the Complaint.

25. The allegations of Paragraph 25 are informational in nature and require no response.

26. NCIP Section 1.4 speaks for itself. Respondent admits that the Companies and other stakeholders that participated in the 2014 stakeholder process agreed to an updated study deposit for NCIP Section 4 “full study” Interconnection Requests of \$20,000, plus \$1.00 per kWac of capacity, as specified in the Interconnection Customer’s Interconnection Request. Respondent admits that the Companies and renewable energy stakeholders supported the increased up-front deposit as a mechanism to reduce the backlog of Interconnection Requests in the queue, and the *May 2015 NCIP Order* determined that “stakeholder agreement resulting in the . . . [increased] deposit . . . is a reasonable method of addressing the clogged queue issue in North Carolina and . . . will promote efficiency and clear the clogged queue by providing an incentive for developers

to withdraw projects that they do not intend to pursue.”<sup>2</sup> Since the time the May 2015 revisions to the NCIP became effective, however, the Companies actually experienced an increase in new utility-scale solar Interconnection Requests during 2016 before declining in 2017. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 26 of the Complaint.

27. Respondent admits that the increasing complexity of the System Impact Study process associated with implementation of CSR advanced study and the LVR policy has resulted in the processing of new Interconnection Requests taking more time in 2016-2017 than in 2015. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 27 of the Complaint.

28. NCIP Section 1.7, relating to Queue Number, and NCIP Section 1.8, relating to Interdependent Projects, speak for themselves. The Company specifically admits that the NCIP provides that each Interconnection Customer’s Queue Number determines cost responsibility for Upgrades to accommodate the interconnection and also determines the “Queue Priority Order” in which each Interconnection Request is studied. Respondent further notes that NCIP Section 1.9 preserved the Queue Numbers for Interconnection Requests, such as Complainants’, that were submitted prior to May 15, 2015, contingent upon certain requirements being met. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 28 of the Complaint.

29. NCIP Section 4.2, relating to Scoping Meetings, speaks for itself. Respondent admits that Scoping Meetings should be held within ten (10) business days after the Interconnection Request is deemed complete for non-interdependent Projects

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<sup>2</sup> *Order Approving Revised Interconnection Standard* at 11, Docket No. E-100, Sub 101 (May 15, 2015) (“May 2015 NCIP Order”).

proceeding directly into System Impact Study, or as otherwise mutually agreed by the Parties. Respondent specifically denies that Section 4.2 of the current NCIP provides for Feasibility Studies as an option for the parties during the Scoping Meeting. *See* Section 4.2.2, 2015 NCIP. Respondent further denies that the determination regarding which study to perform or whether to proceed directly to an Interconnection Agreement is based solely on “the complexity of the proposed interconnection for the customer.” Except as specifically admitted herein, Respondent denies the allegations in Paragraph 29 of the Complaint.

30. NCIP Section 4.2, relating to Scoping Meetings, speaks for itself. Respondent specifically denies that the May 2015 revisions to the NCIP provide for Feasibility Studies within the Section 4 study process now applicable to Complainants. The remaining allegations in Paragraph 30 are also denied.

31. NCIP Section 4.3 and Attachment 7, System Impact Study Agreement, speak for themselves.

32. NCIP Section 4.3 and Attachment 7, System Impact Study Agreement, speak for themselves. Respondent admits that the *May 2015 NCIP Order* approved extended timeframes from the prior 2008 NCIP for the Utility to complete the System Impact Study, including fifty (50) business days if only distribution system impacts are studied and sixty-five (65) business days if transmission system impacts are to be studied. Answering further, DEC and DEP agreed to these timeframes as part of the 2014-2015 stakeholder process preceding approval of the NCIP in the *May 2015 NCIP Order* as reflective of an adequate amount of time to complete the System Impact Study work for a single utility-scale generator Interconnection Request, in part, recognizing elimination of

the feasibility study from the 2008 NCIP. Respondent denies, however, that these timeframes are adequate in light of the continued surging volume of proposed utility-scale generators requesting to interconnect in North Carolina as well as the growing complexity of the System Impact Study process. Accordingly, DEC and DEP have continued to make reasonable efforts, as contemplated in NCIP Section 6.1, to study generator Interconnection Requests in Queue Priority Order. Except as expressly admitted herein, Respondent denies the allegations in Paragraph 32 of the Complaint.

33. NCIP Section 4.3, relating to System Impact Studies, speaks for itself.

34. NCIP Section 5.1, relating to the Construction Planning Meeting, and Section 5.2, relating to the Final Interconnection Agreement, speak for themselves.

35. 2008 NCIP Section 5.1, NCIP Section 6.1, and the *May 2015 NCIP Order* speak for themselves. Respondent admits that it has previously been obligated to comply with Section 5.1 of the 2008 NCIP, and is currently obligated to comply with the requirements of NCIP Section 6.1 to make “reasonable efforts” to meet the time frames provided in the NCIP. Except as expressly admitted herein, Respondent denies the allegations in Paragraph 35 of the Complaint.

36. The *May 2015 NCIP Order* speaks for itself. Respondent admits that DEC is a Utility subject to the NCIP and has worked in good faith under the revised NCIP approved in 2015 to provide for increased transparency and communication desired by Interconnection Customers. Since September 1, 2015, the Companies have submitted quarterly reports in Docket No. E-100, Sub 101A to the Commission on the status of the queue, and describing the Companies’ progress in processing Interconnection Requests under the NCIP. The Companies have also implemented and maintain a monthly queue

report on the Duke Energy website. DEC also continues to add resources to directly support solar project development, and has also added resources that are focused on process improvement initiatives including the build-out of two IT solutions, namely Power Clerk and Sales Force. Respondent also facilitates bi-weekly meetings with many utility-scale solar developers, including Ecoplexus since February 2017, to ensure timely project status communications occur. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 36 of the Complaint.

37. Respondent admits that CSR is a proxy technical screen applied by the Company during the System Impact Study process that is designed to ensure the electric distribution system has sufficient capability or “stiffness” to support a proposed generating facility interconnection at a requested point of interconnection. Respondent specifically denies that DEC halted processing interconnection requests on or before June 24, 2016. Respondent also denies Complainants’ allegations that CSR is not based upon “accepted industry practices” for studying generator interconnection requests, and further denies Complainants’ allegations that there are “other utilities that have significantly higher QF penetration than [DEC and DEP].” Regarding Complainants’ allegation that CSR is not based on accepted industry practices, the CSR has been designed consistent with good utility practice, published industry guidance,<sup>3</sup> and has a valid technical basis under generally-accepted Institute of Electrical and Electronics Engineers (“IEEE”) standards applicable to interconnecting distributed energy resources to the electric power system.<sup>4</sup>

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<sup>3</sup> Michael Coddington et al., National Renewable Energy Laboratory, *Evaluating Future Standards and Codes with a Focus on High Penetration Photovoltaic (HPPV) System Deployment*, presented at the 4th International Conference on the Integration of Renewable and Distributed Energy Resources, 6-10 December 2010, Albuquerque, New Mexico.

<sup>4</sup> IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems, IEEE Std 1547.2-2008, (April 15, 2009) at 4, 64, 117, 129 (identifying stiffness ratio as proper for analyzing voltage and other

Further, DEC responds to Complainants' allegation that "the proposal of CSR did not change the obligations of Respondent" by admitting that DEC's obligation under the NCIP is to use reasonable efforts to study Interconnection Requests in Queue Priority Order, in a manner that assures continued system safety, reliability of service, and power quality for all customers. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 37 of the Complaint.

38. Respondent admits that Complainant Younts fully complied with the additional NCIP interconnection study deposit and site control documentation requirements, on August 28, 2015, after Complainant Younts cured its site control documentation deficiency in accordance with Respondent's Notice of Right to Cure delivered to Complainant Younts on August 14, 2015. Upon information and belief, Respondent specifically denies that Complainant Younts has engaged the Public Staff to assist in informally resolving the alleged dispute, as provided for in NCIP Section 6.2.3, prior to filing a formal complaint with the Commission. Except as specifically admitted herein, Respondent generally denies the allegations in Paragraph 38 of the Complaint.

39. Respondent specifically denies that the NCIP effective at the time of Complainant Younts' Interconnection Request required evidence of site control at the time of the Interconnection Request submission. *See* Section 1.5, 2008 NCIP ("Documentation of site control is not required to be submitted with the Interconnection Request. However, the Utility may request a demonstration of site control if two or more proposed Generating Facilities are competing for capacity on the same circuit."). Respondent further denies that

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impacts to electric power system associated with distributed resources); IEEE Guide for Conducting Distribution Impact Studies for Distributed Resource Interconnection, IEEE Std 1547.7-2013 (Dec. 11, 2013) at 12, 29, 36, 51-52, 94, 123 (addressing electric power system stiffness and specifically the stiffness ratio as appropriate technical considerations in distributed resource system impact studies).



Complainant Younts' Interconnection Request was for "5 MW," as the Interconnection Request identified the nameplate capacity of the proposed generator as 4,000 kW or "4 MW." Upon information and belief, the Younts Interconnection Request is for a proposed 4 MW generator. Respondent denies the remaining allegations in Paragraph 39 of the Complaint.

40. Respondent admits that under the 2008 NCIP, an Interconnection Request is deemed complete upon submission of all requisite information to Respondent. Respondent admits that the Company deemed the Younts Interconnection Request complete and assigned the Interconnection Customer a queue number on July 17, 2013. Answering further, the Younts project is located in unassigned service territory and indicated interconnection at a point currently served by Energy United. DEC assumed Complainant Younts would build to and interconnect to the adjacent DEC distribution circuit approximately 0.20 miles from the proposed point of interconnection. DEC concluded an initial study of the Younts Interconnection Request in 2014 and provided preliminary study results to the Interconnection Customer via email on October 21, 2014. This preliminary study analysis determined that the proposed generator was in a "transmission constrained" area and identified that further transmission study and extensive System Upgrades would be required to DEC's transmission system, approximating \$10 million, in order to support the interconnection. DEC project account managers also met with Ecoplexus at DEC's offices on June 24, 2015, to discuss Ecoplexus' various Interconnection Requests, and, at that time, DEC and Ecoplexus discussed the transmission constraints impacting the proposed Younts interconnection.

Except as specifically admitted herein, Respondent denies the allegations in Paragraph 40 of the Complaint.

41. Respondent admits that its records indicate that on August 3, 2015, Respondent received Complainant Younts' interconnection study deposit check dated July 30, 2015, pursuant to NCIP Section 1.1.3. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 41 of the Complaint.

42. Respondent admits that on November 2, 2015, Complainant Younts provided written notice to Respondent alleging that the Company was 65 business days late completing the System Impact Study. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 42 of the Complaint.

43. Respondent admits that on July 15, 2016, Complainant Younts provided written Notice of Dispute to Respondent and that said Notice is attached to the Complaint as Exhibit A. Respondent further admits that as of July 15, 2016, the Company had not completed a System Impact Study or Facilities Study for Complainant Younts. Respondent specifically denies that the Company has failed to make reasonable efforts to process the Younts Interconnection Request in Queue Priority Order. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 43 of the Complaint.

44. Respondent denies the allegations in Paragraph 44 of the Complaint. Answering further, DEC notified Ecoplexus in August (by phone) and October (by email) 2014 of its preliminary analysis that transmission study and extensive System Upgrades would be required at a significant cost and has continued to informally communicate information to Ecoplexus related to the transmission constraints since that time.

45. Respondent denies the allegations in Paragraph 45 of the Complaint, as the Company has continued to make reasonable efforts to process the Younts Interconnection Request in Queue Priority Order.

46. Respondent admits that DEC has not completed a System Impact Study or Facilities Study within the timeframes contemplated by the 2008 NCIP or NCIP. Answering further, however, Respondent otherwise denies the allegations in Paragraph 46 of the Complaint, as the Company has continued to make reasonable efforts to process the Younts Interconnection Request in Queue Priority Order as discussed in this Answer.

47. Respondent admits that Complainant Younts' Notice of Dispute requested that the System Impact Study be completed. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 47 of the Complaint.

48. Respondent is without knowledge or information sufficient to form a belief as to the allegation in Paragraph 48 that Complainant Younts has been materially prejudiced by the alleged delays in being able to execute an Interconnection Agreement. Respondent otherwise denies the allegations in Paragraph 48 of the Complaint.

49. Respondent admits that, to date, it has not completed the System Impact Study on the Younts project. Respondent has, however, engaged in ongoing discussions with Complainant since the July 15, 2016 Notice of Dispute was submitted, and has informally provided Complainant Younts increasingly detailed information at Complainant Younts' request regarding the nature of the transmission constraints impacting the proposed interconnection. Most recently, on March 2, 2017, DEC provided detailed information regarding the light load conditions in the region and potential adverse impacts to power flows from DEC's Dan River Combined Cycle Station on the 100 kV

transmission lines in the area. DEC identified potential risks to compliance with North American Electric Reliability Corporation Transmission System Planning Performance Requirements, and explained that adding additional distributed generation at the proposed point of interconnection would further reduce local loads on the Mayo 100 kV line. Interconnecting the Younts generator would effectively require additional transmission capacity in the region, either in the form of rebuilding the existing Reidsville and Wolf Creek 100 kV lines or construction of a new 100 kV circuit. DEC identified an updated rough order of magnitude of \$25 million in transmission System Upgrades to interconnect the proposed 4 MW generator. Answering further, beginning in February 2017, DEC has also engaged in bi-weekly Interconnection Request coordination calls with Ecoplexus in a good faith effort to provide more routine updates on the ongoing study process for Younts and other Ecoplexus Interconnection Requests. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 49 of the Complaint.

50. Respondent admits that Complainant Round Hill fully complied with the additional interconnection study deposit and site control documentation, as required under Section 1.1.3 of the NCIP, on August 28, 2015, after Complainant Round Hill cured its site control documentation deficiency in accordance with Respondent's Notice of Right to Cure delivered to Complainant Round Hill on August 14, 2015. Upon information and belief, Respondent specifically denies that Complainant Round Hill has engaged the Public Staff to assist in informally resolving the alleged dispute, as provided for in NCIP Section 6.2.3, prior to filing a formal complaint with the Commission. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 50 of the Complaint.

51. Respondent admits that under the 2008 NCIP, an Interconnection Request is deemed complete upon submission of all requisite information to Respondent. Respondent also admits that the Company deemed the Round Hill Interconnection Request complete and assigned the Interconnection Customer a queue number on February 27, 2014. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 51 of the Complaint.

52. Respondent admits that on July 1, 2015, the Company provided notice to Complainant Round Hill, that an additional interconnection study deposit and site control documentation were required by July 31, 2015, pursuant to NCIP Section 1.1.3. Respondent further admits that Complainant Round Hill provided site control documentation on August 28, 2015, after DEC notified the Interconnection Customer of its failure to timely provide site control and an opportunity to cure. Respondent further admits that its records indicate that on August 3, 2015, Respondent received Complainant Round Hill's interconnection study deposit check dated July 30, 2015. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 52 of the Complaint.

53. Respondent admits that on July 15, 2016, Complainant Round Hill provided written Notice of Dispute to Respondent and that said Notice is attached to the Complaint as Exhibit A. Respondent further admits that as of July 15, 2016, DEC had not completed a System Impact Study for Complainant Round Hill. Answering further, the proposed Round Hill project is located in the Surry-Yadkin Electric Membership Corporation's assigned service area and has requested to interconnect to the adjacent DEC distribution circuit. DEC concluded an initial preliminary study of the Round Hill Interconnection

Request in August 2014, and advised the Interconnection Customer that the circuit and substation capacity had been exhausted by a prior solar generator interconnection and did not have capability to connect the proposed Round Hill project and maintain acceptable voltage regulation for other customers. DEC advised that proceeding with interconnection would require further transmission level study and significant System Upgrades to the substation transformer and the Booneville transmission line. DEC project account managers met with Ecoplexus at DEC's offices on June 24, 2015, to discuss Ecoplexus' various Interconnection Requests, and, at that time, DEC and Ecoplexus discussed the preliminary assessment that circuit and substation capacity had been exhausted, thereby impacting the proposed Round Hill interconnection. Respondent specifically denies that the Company has failed to make reasonable efforts to process the Round Hill Interconnection Request in Queue Priority Order. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 53 of the Complaint.

54. Respondent admits that DEC has not completed a full System Impact Study or Facilities Study within the timeframes contemplated by the 2008 NCIP or NCIP. Answering further, however, Respondent otherwise denies the allegations in Paragraph 54 of the Complaint, as the Company has continued to make reasonable efforts to process Complainant Round Hill's Interconnection Request in Queue Priority Order.

55. Respondent denies the allegations in Paragraph 55 of the Complaint, as the Company has continued to make reasonable efforts to process Complainant Round Hill's Interconnection Request in Queue Priority Order.

56. Respondent denies the allegations in Paragraph 56 of the Complaint, which are more fully addressed in DEC's response to Paragraph 53.

57. Respondent is without knowledge or information sufficient to form a belief as to the allegation in Paragraph 57 that Complainant Round Hill has been materially prejudiced by the alleged delays in being able to execute an Interconnection Agreement. Respondent otherwise denies the allegations in Paragraph 57 of the Complaint.

58. Respondent admits that, to date, it has not formally completed the System Impact Study on the Round Hill project, as the proposed Project is now also impacted by the distribution LVR policy and remains in study. Respondent has, however, engaged in ongoing discussions with Complainant Round Hill since the July 15, 2016 Notice of Dispute was submitted, and, on November 30, 2016, informally provided Complainant Round Hill more detailed information on the System Upgrades required to interconnect the proposed generator, including providing ballpark costs of \$1.7 to \$4 million in estimated System Upgrades. Answering further, beginning in February 2017, DEC has also engaged in bi-weekly Interconnection Request coordination calls with Ecoplexus in a good faith effort to provide more routine updates on the ongoing study process for Round Hill and other Ecoplexus Interconnection Requests. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 58 of the Complaint.

59. The responses contained in the above Paragraphs 1 through 58 of this Answer are realleged and incorporated herein.

60. Respondent admits that on July 15, 2016, Complainants submitted the Dispute to Respondent. Respondent specifically denies that it failed to make reasonable efforts to comply with the NCIP and to study Complainants' Interconnection Requests in Queue Priority Order. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 60 of the Complaint.

(Response to Allegations of Failure to Comply with NCIP)

61. The responses contained in the above Paragraphs 1 through 60 of this Answer are realleged and incorporated herein.

62. Respondent denies the allegations of Paragraph 62 of the Complaint. Answering further, DEC denies that the System Impact Study Agreement provides that the System Impact Study results should have been produced “within 50 Business Days” as NCIP Section 6.1 and Section 19.0 of the System Impact Study Agreement provide that the utility shall use reasonable efforts to complete a System Impact Study within 65 Business Days where transmission impacts are studied. Transmission system constraints and the significant associated System Upgrades have been a contributing factor to the unique delays and ongoing discussions between DEC and Ecoplexus regarding completing the study process for Younts and Round Hill Interconnection Requests.

63. Respondent admits that DEC did not notify the Interconnection Customer of the status of the System Impact Study process within 50 business days of the date that Complainant provided the System Impact Study Agreement to DEC; however, Respondent denies that this was required under the NCIP and further denies the allegation that DEC has “provided no explanation” for the additional time required to complete the System Impact Study. Except as specifically admitted herein, Respondent denies the allegations in Paragraph 63 are denied.

64. Respondent has specifically addressed these allegations in response to Paragraphs 47 and 58 of the Complaint. Respondent otherwise denies the allegations in Paragraph 64 of the Complaint.



65. Paragraph 65 of the Complaint contains legal conclusions to which no response is required; however, to the extent that a response is required, Respondent denies that DEC has violated the NCIP or that its actions entitle Complainants to the relief they have requested from the Commission. Contrary to the allegations of the Complaint, DEC has made reasonable efforts to process the Younts Interconnection Request and the Round Hill Interconnection Request under the NCIP and has worked in good faith with Ecoplexus to resolve the Younts Dispute and the Round Hill Dispute.

66. Paragraph 66 of the Complaint contains legal conclusions to which no response is required; however, to the extent that a response is required, Respondent specifically denies the allegation that it has “require[d] additional studies” that deviate from the Section 4 study process in the NCIP. Respondent specifically admits that it has developed and required additional non-discriminatory System Impact Study standards and technical requirements, including CSR and the Company’s distribution LVR policy, that are applicable to all distribution Interconnection Requests proceeding through the NCIP Section 4 study process. These technical screens and study standards have been designed consistent with good utility practice, industry guidance, North Carolina Utilities Commission Rules and Regulations, and have a valid technical basis under generally-accepted IEEE standards applicable to interconnecting distributed energy resources to the electric power system.

(Response to Alleged Violations of PURPA)

67. The responses contained in the above Paragraphs 1 through 66 of this Answer are realleged and incorporated herein.

68. Paragraph 68 of the Complaint contains legal conclusions to which no response is required; however, to the extent that a response is required, Respondent denies that DEC has violated PURPA, as implemented by the Commission, and denies that DEC's actions entitle Complainants to the relief they have requested from the Commission. Under PURPA, the Commission has the authority to determine the reasonable interconnection standards to govern interconnection of QFs.<sup>5</sup> Answering further, Respondent specifically denies the System Impact Study technical screens and standards implemented by DEC are "discriminatory against QFs and have no reasonable basis" under the NCIP. Respondent further denies Complainants' allegations that DEC is "[p]rocessing Interconnection Requests for QF customers through a single statewide queue" nor does the Complaint allege that DEC's queuing process is non-compliant with the NCIP. Respondent further denies Complainants' allegations of discrimination between QFs and "new retail or industrial customers." Except as specifically admitted herein, Respondent denies the allegations of Paragraph 68 of the Complaint.

69. Respondent denies the allegations in Paragraph 69 of the Complaint.

#### SECOND DEFENSE: REASONABLENESS OF EFFORTS

Complainants request that the Commission find and conclude that DEC has "failed to use reasonable efforts to comply with" the June 2008 NCIP and the NCIP approved in 2015. (Compl. Prayer for Relief ¶ 1.) In support of this request, Complainants repeatedly cite the passage of time during which DEC is required to complete the Section 4.3 System

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<sup>5</sup> FERC's Regulations implementing PURPA delegate to the Commission the responsibility for establishing reasonable standards for interconnecting QFs. *See, e.g., Standardization of Small Generator Interconnection Agreements and Procedures*, Order No. 2006, 111 FERC ¶ 61,220 at P 516 (2005) ("When an electric utility is required to interconnect under section 292.303 of [FERC's] regulations, that is, when it purchases the QF's total output, the state has authority over the interconnection and the allocation of interconnection costs.").

Impact Study process, *see* Compl. ¶¶ 42–43, 46, 53, 56, 62, 64–65, and thereon alleges, in wholly conclusory fashion, that this passage of time must mean that Respondent’s efforts were unreasonable. (Compl. ¶¶ 60, 62.) However, Complainants fail to substantively allege, as they must, that DEC’s actions were unreasonable in light of DEC’s specific efforts to process the Younts and Round Hill Interconnection Requests and ongoing efforts to work with Complainants to resolve the Younts and Round Hill Disputes, as well as DEC’s continuing efforts to manage the significant volume of utility-scale solar QF Interconnection Requests in its North Carolina interconnection queue.

*A. DEC HAS MADE REASONABLE EFFORTS TO PROCESS THE YOUNTS AND ROUND HILL INTERCONNECTION REQUESTS AND GOOD FAITH EFFORTS TO RESOLVE THE DISPUTES*

As part of DEC’s ongoing efforts to manage the hundreds of utility-scale solar interconnection requests that have been deemed complete and are now being processed in Queue Priority Order under the NCIP, the Company has made reasonable efforts to process the Younts and Round Hill Interconnection Requests, specifically including DEC’s continuing efforts to complete the System Impact Studies for these Interconnection Customers.

Respondent admits that the Younts and Round Hill formal System Impact Studies are ongoing and have not been completed within the timeframes contemplated in the NCIP; however, this does not, as Complainants suggest, show that DEC has failed to make reasonable efforts to process and study these requests to interconnect proposed generators to the DEC system. Indeed, the NCIP recognizes that compliance with the NCIP timeframes may not be achievable, and, to that end, provides that the utility shall make “reasonable efforts” to meet the timeframes of the NCIP. Further, in the case of both Younts and Round Hill, these generator Interconnection Requests have been affected by

unique circumstances related to transmission constraints, and DEC has made good faith efforts to preliminarily inform the Interconnection Customers regarding these transmission system impacts and then to informally provide the respective Interconnection Customers with increasingly detailed information regarding the feasibility, cost, and timing of proceeding with the respective Interconnection Requests.

Subsequent to receiving the July 15 Notice of Dispute, DEC has also worked in good faith to resolve Complainants' concerns by participating in teleconferences with Complainants' representatives on numerous occasions to discuss the Younts and Round Hill Interconnection Requests, as well as numerous other Ecoplexus projects. Upon information and belief, DEC management and engineering staff have participated in teleconference meetings to discuss these projects on August 18, 2016; September 14, 2016; October 25, 2016; November 10, 2016; and November 30, 2016. As of February 2, 2017, DEC interconnection team personnel have also begun bi-weekly calls with Ecoplexus to discuss DEC's and DEP's ongoing processing of Ecoplexus' Interconnection Requests in the Companies' respective interconnection queues. Through these interactions, DEC has provided Complainants significant additional technical information regarding the proposed Younts and Round Hill project locations, transmission interconnection constraints, and ballpark costs to interconnect the proposed generators.

Accordingly, in recognition of the unresolved Dispute and Ecoplexus' filing of this Complaint, DEC commits to expeditiously complete formal System Impact Studies for these Interconnection Requests in "Queue Priority Order," and, specifically, to produce CSR mitigation options results to Younts and LVR policy mitigation options to Round Hill within 30 Business Days of filing this Answer.

*B. DEC'S ONGOING EFFORTS TO MANAGE THE NORTH CAROLINA INTERCONNECTION QUEUE SHOULD BE CONSIDERED IN ASSESSING THE REASONABLENESS OF DEC'S EFFORTS TO PROCESS COMPLAINANTS' INTERCONNECTION REQUESTS*

- a. The Commission's determination of "reasonable efforts" should take into account the overall volume of Interconnection Requests since the May 2015 NCIP Order

Determining whether DEC has made reasonable efforts to process the Younts and Round Hill Interconnection Requests without taking into account the overall volume of Interconnection Requests and North Carolina's current interconnection landscape would be unjust and unreasonable. Making such a determination in a vacuum focused only on these Interconnection Requests would also be inconsistent with the Commission's prior findings in the *May 2015 NCIP Order* that the Companies were making reasonable efforts to manage their interconnection queues even as the significant volume of new requests was causing DEP and DEC to not meet the then-existing timeframes in the NCIP.<sup>6</sup>

As background, in November 2014, the NC Utilities submitted joint comments to the Commission highlighting the "dramatic increase in the number of solar QF projects . . . [and] a significant shift in the size of the projects requesting to interconnect."<sup>7</sup> The NC Utilities advised the Commission of the evolving "interconnection customer profile," describing how the recent proliferation of "project originators . . . have had a negative impact on the interconnection process and queue."<sup>8</sup> The NC Utilities also highlighted that proposed project locations on the utilities' systems presented "another

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<sup>6</sup> *May 2015 NCIP Order*, *supra* note 2 at 24.

<sup>7</sup> *In the Matter of Petition for Approval of Revisions to Generator Interconnection Standards*, Joint Initial Comments of Duke Energy Carolinas, Duke Energy Progress, and Dominion North Carolina Power at 7, Docket No. E-100, Sub 101 (filed Nov. 21, 2014) ("Joint Utilities November 2014 Sub 101 Comments").

<sup>8</sup> *Id.* at 7.

significant shift in the interconnection landscape,” as utility-scale solar developers sought “low-cost, cleared rural land . . . [on] rural North Carolina distribution circuits . . . requir[ing] engineering studies and fairly significant distribution upgrade costs as part of their interconnection costs.”<sup>9</sup> Finally, the NC Utilities’ comments emphasized for the Commission that “the Utilities see no short-term change in the trends that have led to the explosion of solar QF development in North Carolina . . .” suggesting that “current levels of solar development and associated [Interconnection Requests] could even increase in the future.”<sup>10</sup>

Consistent with the NC Utilities’ comments, the Commission’s *May 2015 NCIP Order* found that the “volume of interconnection requests as well as the solar landscape in North Carolina has evolved and changed” since the Commission’s prior review of the North Carolina interconnection standard in 2008.<sup>11</sup> The May 2015 revisions to the NCIP were designed to assist in managing “North Carolina’s current unique interconnection landscape . . .” including the challenges of addressing the NC Utilities’ backlogged or “clogged” interconnection queues.<sup>12</sup> Specifically, the *May 2015 NCIP Order* contemplated that process improvements approved in that Order, such as the increased up-front interconnection study deposit (NCIP § 1.4.1.2) and verification of site control (NCIP §§ 1.4.1.3, 1.6), would “promote efficiency and clear the clogged queue by

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

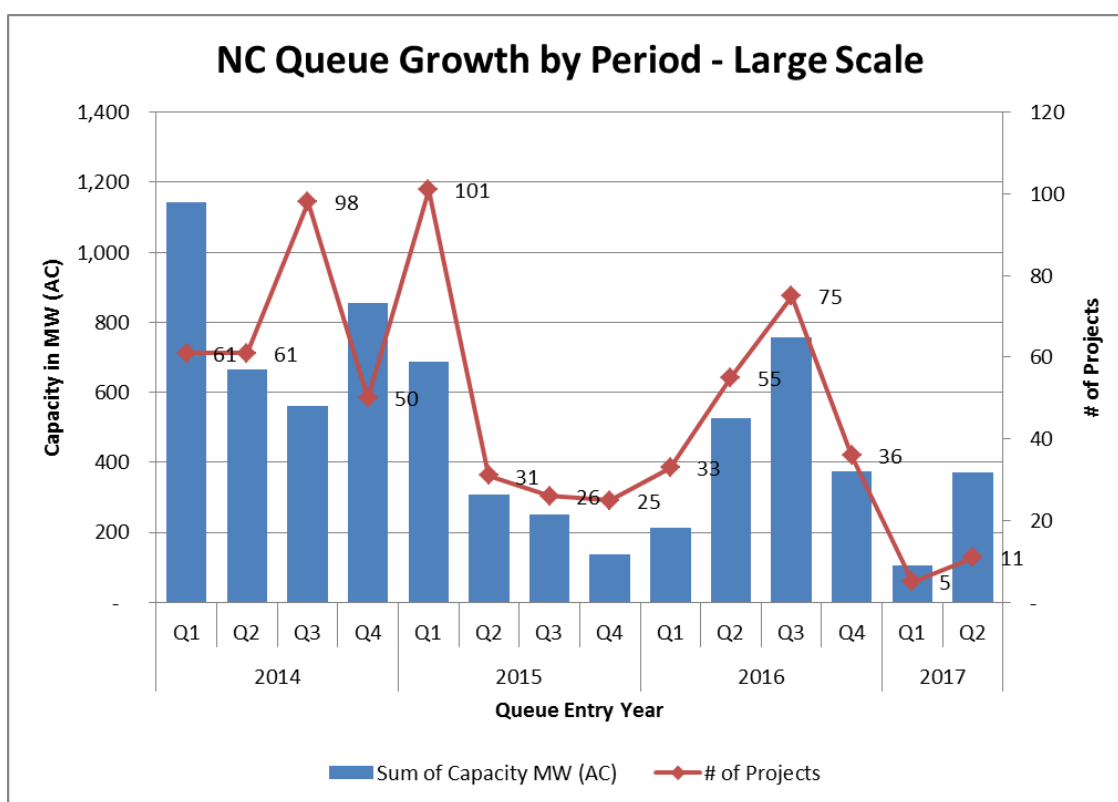
<sup>10</sup> *Id.* at 6.

<sup>11</sup> *May 2015 NCIP Order supra* note 2 at 11.

<sup>12</sup> *Id.* at 10 (consensus-supported revisions to the NCIP “provides the most workable means to achieve some amount of consistency with the FERC Standard while retaining and adopting policies that will serve North Carolina’s current unique interconnection landscape, especially clearing the queues over the next two years”).

providing an incentive for developers to withdraw projects that they do not intend to pursue.”<sup>13</sup>

The May 2015 revisions to the NCIP have been largely beneficial to the Companies’ ongoing efforts to manage the interconnection process; however, both DEC and DEP continue to be challenged by the significant volumes of Interconnection Requests. Indeed, the recent trend of surging utility solar interconnection requests has only begun to decline materially in 2017.



Pursuant to the *May 2015 NCIP Order*, the Companies have filed eight quarterly queue status and performance reports in Docket No. E-100, Sub 101A, presenting the Commission, the Public Staff, and other interested parties with detailed information on the continuing surging volume of utility-scale solar interconnection requests seeking to

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

interconnect to the DEC and DEP systems.<sup>14</sup> DEP's most recent queue status and performance report for the period ending March 31, 2017, showed that approximately 2,800 MW of utility-scale interconnection requests are currently proposed in the DEP North Carolina study queue, including approximately 1,200 MW of new projects that have entered the study queue since January 2016. Similarly, DEC's most recent queue status and performance report for the period ending March 31, 2017, showed that approximately 750 MW of utility-scale interconnection requests are currently in the DEC queue, including approximately 545 MW of projects that have entered the queue since January 2016.<sup>15</sup>

In sum, the significant volume of Interconnection Requests fostered by the Commission's PURPA policies continues to challenge the Companies' ability to manage the NCIP study process under the timeframes set forth in the System Impact Study Agreement; however, both DEC and DEP have made reasonable and good faith efforts under the NCIP to process Interconnection Requests as efficiently as possible, while ensuring that system safety, reliability of service, and power quality are maintained.

- b. The Commission's determination of "reasonable efforts" should take into account DEC's ongoing efforts to maintain system safety, reliability of service, and power quality for all customers while continuing to process interconnection requests under the NCIP

The Commission has recently found that "Duke is taking appropriate steps to ensure that electric service to retail customers is not degraded due to the operations of

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<sup>14</sup> Specifically, DEC filed Interconnection Queue Quarterly Reports in Docket No. E-100 Sub 101A on September 1, 2015; October 29, 2015; February 1, 2016; April 29, 2016; July 28, 2016; October 31, 2016; January 31, 2017; and April 27, 2017.

<sup>15</sup> *In the Matter of Annual Reports for Interconnection and Net Metering Pursuant to Dockets E-100, Sub 83 and E-100, Sub 101*, DEC's 1st Qtr. 2017 Interconnection Queue Performance and Status Report Docket No. E-100, Sub 101A (April 27, 2017).



interconnected generating facilities.”<sup>16</sup> Maintaining safe and adequate system operations, reliability of service, and power quality on the grid are at the core of DEC’s and DEP’s operations as regulated public utilities in North Carolina generally, as well as integral to their management of the North Carolina interconnection process under the NCIP. Under the Public Utilities Act, the Commission has established extensive regulations of DEC’s public utility operations to provide all customers with safe, adequate, and reliable electric utility service.<sup>17</sup> Similarly, the NCIP provides that system safety, reliability, and power quality must be evaluated and maintained by the utility in studying generator interconnection requests and interconnecting generators to the utility system.<sup>18</sup> Once a generator is interconnected, the Commission-approved IA continues to provide that system safety, reliability, and power quality shall be maintained by the generator and that interconnection service is subject to potential temporary disconnection or isolation if an adverse power quality impact arises.<sup>19</sup>

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<sup>16</sup> *Order on CSR Settlement Agreement*, *supra* note 1 at 2.

<sup>17</sup> See e.g., NCUC Rules R8-5 (“each utility shall maintain its plant, distribution system and facilities at all times in proper condition for use in rendering safe and adequate service.”); R8-16 (establishing standard frequency to assure reliable service); R8-17 (establishing standard service voltages to assure reliable service); R8-23 (“Each electric utility . . . shall operate and maintain in safe, efficient and proper condition, all the facilities and instrumentalities used in connection with the regulation, measurement and delivery of electric current to any consumer up to and including the point of delivery”).

<sup>18</sup> See e.g., NCIP §§ 2.2.1 (Requiring utility to ensure small generators less than 20 kW can be interconnected consistent with safety, reliability, and power quality standards); 3.2.2.4 (Requiring utility to assure Fast Track small generators that fail Fast Track screens be studied to determine whether they may be interconnected consistent with safety, reliability, and power quality standards); 3.4.1 (Providing for Fast Track Supplemental Review process to evaluate modifications to the utility’s system that would allow a Fast Track small generator to interconnect consistent with safety, reliability, and power quality standards); Attachment 7, System Impact Study Agreement, (requiring utility to analyze and identify “any potential adverse system impacts that would result from the interconnection of the Generating Facility” including impacts of the proposed generating facility on electric system operations and the distribution and transmission system impacts).

<sup>19</sup> See NCIP § 6.12.3 (authorizing utility to isolate or disconnect Generating Facility where continued operation “may endanger either (1) the Utility’s personnel or other persons or property or (2) the integrity or safety of the Utility’s System, or otherwise cause unacceptable power quality problems for other electric consumers; NC IA § 3.4 (providing for temporary disconnection of the Generating Facility, in a number of

As increasing numbers of utility-scale solar generators have progressed from the NCIP study process to an executed IA and have now become energized, DEC and DEP are in a “living laboratory” of utility-scale solar deployment operating in parallel with their utility systems in North Carolina. As of June 30, 2017, DEC and DEP have interconnected approximately 2,200 MW of utility-scale solar generators in North Carolina, largely to rural distribution circuits in the DEP eastern North Carolina service area. As the Companies have begun to operate in parallel with these significant utility-scale additions of variable and intermittent solar energy generators on rural distribution circuits, DEC and especially DEP have gained growing experience and identified potential concerns regarding previously-unforeseen impacts to system safety and reliability of service, as well as potential detrimental power quality impacts and impacts to the operation of existing equipment on the distribution system. These growing concerns have necessitated more thorough evaluation of potential impacts of proposed utility scale solar generators on the Companies’ system as well as ensuring a proposed generator interconnection will not cause adverse impacts to retail service customers.

DEP and DEC applied significant engineering resources in 2016 to evaluate whether traditional System Impact Study technical standards properly and sufficiently evaluate the impact of a proposed intermittent and variable utility-scale solar generator interconnection on the electric system, or whether good utility practice requires additional study criteria be applied during System Impact Study to evaluate the impact of utility-scale solar generators on electric system safety, reliability, and power quality.<sup>20</sup> In furtherance

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circumstances, including emergency conditions and where Generating Facility causes adverse operating effects to the electric system or disruption or deterioration of service to other customers).

<sup>20</sup> *In the Matter of Generator Interconnection Standard, Tariffs and Contract Forms*, Duke Energy Carolinas, LLC and Duke Energy Progress, LLC’s Response to September 8, 2016 Order Requiring Response and

of the Companies' responsibility under the Public Utilities Act and the NCIP to maintain system reliability and power quality and to ensure that electric service to existing or future retail customers is not degraded due to the operations of new interconnected generating facilities, the Companies developed and implemented the following new technical study criteria in 2016 as part of the System Impact Study process:

Circuit Stiffness Review: As the Commission is aware and recently addressed in its *Order on CSR Settlement Agreement*, the Companies began applying a new System Impact Study "circuit stiffness review" or "CSR" technical criteria for all utility-scale generator Interconnection Requests requesting to interconnect to DEC's or DEP's distribution system in July 2016. As described in the August 29, 2016 informational filing with the Commission in Docket No. E-100, Sub 101, the CSR is a proxy technical screen applied during the System Impact Study process that is designed to ensure the electric distribution system has sufficient capability or "stiffness" to support a proposed generating facility interconnection at a requested point of interconnection.<sup>21</sup> The CSR has been designed consistent with good utility practice, published industry guidance, and has a valid technical basis under generally-accepted IEEE standards applicable to interconnecting distributed energy resources to the electric power system.<sup>22</sup>

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Requesting Comments at 3, Docket No. E-100, Sub 101 (explaining the Companies' concerns that "historically valid 'steady state' engineering studies are inadequate to properly predict power quality issues associated with utility-scale solar projects connected to the distribution system" requiring "development of . . . more robust and dynamic models" that "simulate the dynamic nature of loads and distributed generation.").

<sup>21</sup> *In the Matter of Petition for Approval of Revisions to Generator Interconnection Standards*, Duke Energy Carolinas, LLC and Duke Energy Progress, LLC's Notice of Settlement Agreement to Commission, Cover Letter at 1, Docket No. E-100, Sub 101 (Filed Aug. 29, 2016) ("CSR Settlement Agreement Informational Filing").

<sup>22</sup> See notes 3 and 4 *supra*.

Implementation of the new CSR technical standard was disputed by certain Interconnection Customers, specifically including a number of customers that had proceeded through System Impact Study and Facilities Study and were in advanced stages of development at the time CSR was first applied.<sup>23</sup> As part of a settlement agreement entered into by the Companies on August 24, 2016, to resolve alleged disputes over CSR, the Companies agreed to initiate a series of informal technical discussions beginning in September 2016 to discuss the Companies' power quality concerns and to develop additional study criteria to be applied during the System Impact Study in conjunction with CSR.<sup>24</sup> Through these technical discussions, the Companies have maintained the CSR, as designed, but have worked with industry stakeholders to develop more refined "advanced study" criteria that are now being evaluated, at the Interconnection Customer's option and expense, for generators that fail the CSR. As an interim step, all generating facility interconnection requests that fail CSR are also being provided alternative "mitigation options" within System Impact Study that allow the Interconnection Customer to elect modifications to the size of its proposed generating facility or to request alternative distribution-to-transmission system point of interconnection options be evaluated as alternatives to CSR advanced study.

Reverse Power Flow Beyond First Distribution LVR Adversely Impacting Existing Operations and Power Quality: The Companies have also recently determined that power quality and system operations have been unreasonably and adversely impacted by accommodating proposed generators at points of interconnection beyond the first

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<sup>23</sup> *CSR Settlement Agreement Informational Filing*, *supra* note 21 at 1.

<sup>24</sup> *Id.* at 2-3.

distribution line voltage regulator or “LVR” on a circuit. Specifically, the Companies have determined that “backfeed” or reverse power flow from distributed generators, flowing in reverse from an area beyond the first zone of voltage regulation (*i.e.*, beyond the first distribution line voltage regulator) will detrimentally impact the Companies’ existing distribution system operations, including degrading the Companies’ investments in distribution management systems, such as the DEP Distribution System Demand Response (“DSDR”) system. Degradation of the integrated volt/VAR capabilities of DSDR would unreasonably and adversely impact power quality, degrade DEP’s preexisting investment in distribution system operations for the benefit of customers, and would be inconsistent with good utility practice. Further, allowing extensive dedicated QF distribution facilities in existing utility rights-of-way beyond the first distribution line voltage regulator, a practice commonly known as “partial double-circuiting” to electrically connect ahead of the line regulator, would limit future use of existing right-of-ways beyond the regulator and would be inconsistent with the Companies’ policies for serving other retail customers.

The CSR and distribution LVR policies are now being applied consistently and comparably to all Interconnection Requests. Round Hill, which is proposing to interconnect beyond an existing LVR, is not being treated any differently than any other generator Interconnection Request proposing to interconnect to the DEC distribution system. Implementing these policies, while necessary to assure system safety, reliability, and power quality for each Interconnection Request, have further challenged DEC’s ability to manage the interconnection process in conformance with the timeframes identified in the NCIP, and have also caused ripple effects for interdependent projects as well as projects in the Companies’ queues awaiting study. Applying these new policies has required – and

will continue to require – additional time within the System Impact Study process to educate and address Interconnection Customers’ concerns, as well as work with Interconnection Customers to evaluate reasonable and appropriate mitigation options, including processing requests for CSR advanced study.

- c. The Commission’s determination of “reasonable efforts” should take into account the Companies’ recent increases in interconnection process-related resources to better manage the volume and growing complexity of the interconnection process

The Companies have continued to make significant efforts to better manage the challenging volumes and growing complexity of the interconnection process by adding additional resources. The *May 2015 NCIP Order* highlighted comments at the February 2015 Technical Conference that the Companies “are not meeting the current timelines and will not meet them for a while until the clogged queue is corrected.”<sup>25</sup> However, the Commission still found that “the additional resources DEC and DEP have added to address the current clogged queue are reasonable at the present time.”<sup>26</sup> In 2016 and 2017, DEC and DEP have continued to allocate increased project management, study engineering, construction, and technological resources to the complex task of managing the North Carolina interconnection queue. Since January 1, 2015, DEC and DEP have added 16 full-time employees assigned to interconnection processing and contract management, as well as approximately 25 additional employees and/or contract engineers to manage the increased volume and complexity of the Interconnection Request study process in North

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<sup>25</sup> *May 2015 NCIP Order*, *supra* note 2 at 24.

<sup>26</sup> *Joint Utilities November 2014 Sub 101 Comments*, *supra* note 7 at 24 (highlighting that DEC and DEP “have gone from two engineers to ten engineers to perform studies” and that the Companies “predicted that this increased workforce is reasonable to accommodate the current work flow and to catch up on bottlenecked studies.”).

Carolina and South Carolina. The Companies have also added approximately 400 new construction crew members in the past few years to support the growing level of utility system upgrades required to interconnect new generators to the Companies' distribution and transmission systems in addition to new retail customer connections. The Companies have also invested in new IT platforms, namely Power Clerk and Sales Force, to better manage and support the task of processing Interconnection Requests under the NCIP.

- d. The Commission's determination of "reasonable efforts" should take into account the ongoing dialogue the Companies have maintained with Interconnection Customers through industry-wide stakeholder meetings as well as other activities exceeding the express requirements of the NCIP

DEC and DEP have also held numerous renewable energy industry-wide stakeholder meetings to address ongoing challenges associated with managing the unprecedented volume as well as the growing complexity of utility-scale solar Interconnection Requests seeking to interconnect to the Companies' distribution and transmission systems. These informational meetings have facilitated ongoing dialogue between the Companies, renewable energy developers/Interconnection Customers, engineering and technical consultants and trade associations that support the renewable energy industry, solar equipment vendors, as well as the Public Staff. Upon information and belief, representatives of Ecoplexus have participated in recent stakeholder meetings where the CSR and the LVR policies have been discussed.

The Companies have also assigned project specific account managers to improve coordination with renewable energy developers/Interconnection Customers that have proposed a significant number of projects, even committing to standing (*i.e.*, bi-weekly) calls with certain developers, including Ecoplexus, to discuss project updates across their portfolios of proposed projects.

Further, as part of the Companies' ongoing efforts to better understand the technical and engineering issues associated with interconnecting higher levels of utility-scale solar and other distributed resources, DEC and DEP are engaged in multiple solar-related R&D projects and also committed starting in 2016 to increased involvement in the IEEE 1547 working group process in order to work with other utility industry stakeholders to improve understanding and build consensus around these issues.

Finally, beginning in June 2017, the Companies have also begun significant work to review the current NCIP and to work with the Public Staff and other interested stakeholders to evaluate potential revision to the NCIP as directed in the *May 2015 NCIP Order*.

In sum, the Commission's determination of "reasonable efforts" should take into account the ongoing challenges faced by the Companies in managing the current interconnection process under the NCIP, as well as DEC's and DEP's significant efforts to better manage the North Carolina interconnection process in the face of these challenges.

#### THIRD DEFENSE: REQUESTED RELIEF WOULD VIOLATE NCIP

If DEC were required to comply with Complainants' demand to "expeditiously complete the System Impact Study . . . without subjecting Complainant[s] Younts [and Round Hill] to Respondent's recently implemented study criteria" (Compl. Prayer for Relief ¶ 2), DEC necessarily would violate two fundamentally important concepts under the May 2015 NCIP – Queue Priority Order and Comparability.

First, the NCIP provides that DEC shall study all requests for interconnection on a non-discriminatory basis in Queue Priority Order. NCIP Section 1.7 provides that the Interconnection Customer's Queue Number "shall be used to determine . . . cost



responsibility” and “shall also determine the order in which each Interconnection Request is studied.” The NCIP specifically defines “Queue Number” as establishing “a Customer’s Interconnection Request’s position in the study queue relative to all other valid Interconnection Requests,” such that a “lower Queue Number will be studied prior to a higher Queue Number, except in the case of Interdependent Projects . . .”<sup>27</sup> Studying Complainants’ Interconnection Requests (or any other higher-queued Interconnection Request) in a manner that deviates from Queue Priority Order would force DEC to take actions that are inconsistent with the NCIP, and would disadvantage other Interconnection Customers progressing through the NCIP study process.

More significantly here, NCIP Section 6.7 requires DEC to “use the same reasonable efforts in processing and analyzing Interconnect Requests from all Interconnection Customers . . .” By definition, if the Commission were to order the Company to study the Younts or Round Hill Interconnection Requests without requiring these customers to meet currently-applicable minimum study requirements of CSR and/or conform to the distribution LVR policies, the Complainants would not be treated the same as other Interconnection Customers.

(Prayer for Relief)

Respondent denies any factual assertions contained in the Prayer for Relief and further denies that Complainants are specifically entitled to any relief in this action.

WHEREFORE, the Company respectfully prays as follows:

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<sup>27</sup> May 2015 NCIP Order, Attachment 1, Glossary of Terms at 6.

1. That the Commission order DEC to continue to expeditiously process Complainants' Interconnection Requests in Queue Priority Order and, specifically, to produce CSR mitigation options results to Complainant Younts and LVR policy mitigation options to Complainant Round Hill within 30 Business Days of the date of this Answer.

2. That the Commission deny Complainants' request for waiver of DEC's generally applicable System Impact Study technical standards and study criteria, including CSR and the distribution LVR policy, and order DEC to continue to study Complainants' Interconnection Requests in a non-discriminatory manner comparable to all other generators requesting to interconnect to DEC's distribution system.

3. That the Commission grant such other relief as the Commissions deems just, equitable, and proper.

Respectfully submitted, this the 27<sup>th</sup> day of July, 2017.

DUKE ENERGY CAROLINAS, LLC

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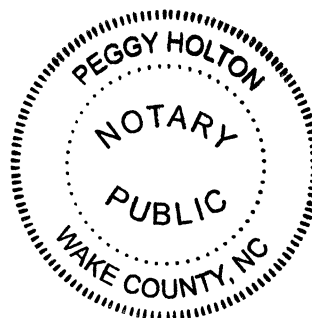
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VERIFICATIONE-7, Sub 1148


I, Gary R. Freeman, General Manager, DER Compliance & Origination, for Duke Energy Corporation, do solemnly swear that the facts stated in the foregoing *Duke Energy Carolinas, LLC's Answer to Complaint of Fresh Air II, LLC*, insofar as they relate to Duke Energy Carolinas, LLC and Duke Energy Progress, LLC, are true and correct to the best of my knowledge and belief.

  
Gary R. Freeman



STATE OF NORTH CAROLINA    )  
  )  
COUNTY OF WAKE                    )

The foregoing instrument was sworn to and acknowledged before me this 26<sup>th</sup>  
day of July, 2017.

  
Notary Public Peggy Holton

My Commission Expires: 12/22/2021

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing Duke Energy Carolinas, LLC's Answer to Complaint of Fresh Air II, LLC, as filed in Docket No. E-7, Sub 1148, was served via electronic delivery or mailed, first-class, postage prepaid, to the parties of record as follow:

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This, the 27<sup>th</sup> day of July, 2017.

/s/E. Brett Breitschwerdt  
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