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December 12, 2019

Ms. Kimberley A. Campbell, Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street
Raleigh, NC 27603

RE: *Application for Certificate of Public Convenience and Necessity for Friesian Holdings, LLC to construct a 70-MW Solar Facility in Scotland County, North Carolina NCUC Docket No. EMP-105, Sub 0*

Dear Ms. Campbell:

On behalf of Friesian Holdings, LLC, we herewith submit the Rebuttal Testimony of Brian Bednar with Exhibit A in the above-referenced EMP docket.

Pursuant to Commission Rule R1-28(e), the Company plans to deliver 16 copies of its testimony and exhibits on December 13, 2019.

Should you have any questions concerning this testimony or exhibits attached thereto, please do not hesitate to contact me.

Sincerely,

/s/ Karen M. Kemerait

Karen M. Kemerait

skb

CC: All Parties of Record
Enclosures

A Pennsylvania Limited Liability Partnership

California Colorado Delaware District of Columbia Florida Georgia Illinois Minnesota
Nevada New Jersey New York North Carolina Pennsylvania South Carolina Texas Washington

**BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION
FRIESIAN HOLDINGS, LLC
DOCKET NO. EMP-105, SUB 0**

**PRE-FILED REBUTTAL TESTIMONY
OF
BRIAN C. BEDNAR**

December 12, 2019

1 **Q. Please state your name, title, and business address.**

2 .A. My name is Brian C. Bednar. I am the President and Founder of Birdseye
3 Renewable Energy, LLC (“Birdseye”), an affiliate of the Applicant, Friesian
4 Holdings, LLC (“Friesian” or “Applicant”), and I am the Manager and Authorized
5 Agent of Friesian. My business address is 1125 E. Morehead Street, Suite 202,
6 Charlotte, North Carolina 28204.

7 **Q. Have you previously testified before this Commission?**

8 A. Yes. I filed Direct Testimony on May 15, 2019 and Supplemental Testimony on
9 November 26, 2019.

10 **Q. What is the purpose of your rebuttal testimony?**

11 A. The purpose of my rebuttal testimony is to respond to the testimony of Public Staff
12 Witnesses Evan D. Lawrence and Dustin R. Metz and the letters by Duke Energy
13 Progress, LLC (“DEP”) filed in this docket on December 6, 2019.

14 **Q. Do you contend that Friesian’s PPA with NCEMC is sufficient to
15 demonstrate the need for the proposed facility?**

16 A. Yes, I do. While I agree with the Public Staff that an executed PPA is not
17 necessary to demonstrate the need for a proposed merchant generation facility,
18 Friesian does have an executed PPA with NCEMC. NCEMC has determined a
19 need to contract for both the power and renewable energy credits (RECs)
20 produced by the facility. In NCEMC's initial comments filed in this docket on
21 July 18, 2019, the NCEMC indicated support for the Friesian project and
22 specifically stated:

1 As a G&T cooperative, NCEMC continuously strives to supply power to
2 its members that is affordable, reliable, and safe More recently,
3 NCEMC developed and began to pursue strategic business objectives
4 under an initiative it christened "*A Brighter Energy Future*" ("BEF"),
5 which entails supplying power that is not only affordable, reliable, and
6 safe, but also increasingly low carbon. . . . Once constructed, the Project –
7 specifically, the parties' execution of the Project PPA – will
8 simultaneously advance NCEMC's pursuit of BEF and further its ability to
9 achieve REPS compliant. *See* NCEMC's Initial Comments, pp 1-2 (filed
10 on July 18, 2019).

11 **Q. Is Friesian relying on DEP's capacity needs identified in its integrated**
12 **resource plan ("IRP") to support its claim that the Friesian generation**
13 **facility is needed?**

14 A. No. DEP's capacity needs have nothing to do with the need for the Friesian
15 facility, which will sell all of its output to NCEMC. However, we do contend that
16 the network upgrades associated with the Friesian generation facility serve the
17 public interest in part because they will facilitate the development of future
18 generation facilities planned by DEP. DEP's capacity constraint is obstructing the
19 interconnection of additional renewable generation in the southeastern region of
20 North Carolina. The fact that the construction of the Friesian upgrades would
21 alleviate the constraints in this region of the state and enable the interconnection
22 of additional renewable and low-carbon generation resources means that there is

1 an important benefit to these upgrades that is much greater than the
2 interconnection of the Friesian project. As I will discuss in more detail in my
3 responses to subsequent questions, this is important when considering other points
4 raised by the Public Staff, including the magnitude of the upgrades, the timing of
5 the upgrades, and the location of the upgrades. Altogether, these benefits
6 associated with the Friesian upgrades are why it is in alignment with the public
7 interest and the public convenience.

8 **Q. Do you agree with the Public Staff that later queued solar projects in the**
9 **region have not been fully studied and may require additional upgrades, over**
10 **and beyond the Friesian upgrades that may render them economically**
11 **unviable?**

12 A. I agree that some later queued projects may trigger additional upgrades that could
13 render them economically unviable, but it is impossible to quantify that
14 impact. Based on our experience developing solar in North Carolina since 2009,
15 a material proportion of attrition is routine due to a host of development risks and
16 factors including interconnection costs. While we do not know exactly which
17 projects following Friesian will succeed, I would expect that the Friesian upgrades
18 will be utilized by a minimum of 1,000 MW of later queued generation in the
19 constrained area which have the mix of development, financing and off-take
20 attributes required to make them viable.

21 Also, given the broad interdependency of much of the DEP transmission
22 queue on the Friesian upgrades, Duke's ability to complete studies in a timely

1 manner has been limited by the uncertainty and complexity surrounding the
2 needed Friesian network upgrades. Duke highlights this fact in their letters dated
3 December 6, 2019 filed in this docket when discussing a potential queue reform
4 transition. Duke states: “If the Friesian Network Upgrades are not constructed at
5 this time, the transition process will be much more complex and the transition
6 process may be delayed.”

7 **Q. Do you believe that construction of the network upgrades associated with the**
8 **Friesian generation facility should be deferred until further comprehensive**
9 **system planning (including IRP, ISOP, NCTPC, CPRE, distributed system**
10 **planning, and short-term market solicitations) has been conducted?**

11 A. No. While I generally recognize the benefits of comprehensive system planning, I
12 believe that deferral of approval of the Friesian network upgrades is ill-advised
13 for two reasons. First, given the certainty that significant amounts of new
14 generation will be needed in eastern North Carolina in the coming decade and the
15 importance of these upgrades to the development of such additional generation (as
16 discussed in Duke’s comment letters filed in this docket on December 6, 2019), I
17 believe it is inevitable that these upgrades will be required, and that they will be
18 paid for by ratepayers. Also, delaying the inevitable accomplishes nothing except
19 to delay DEP’s ability to add new generation and to increase the cost of the
20 upgrades to ratepayers.

1 In particular, the timing of the IRP and the Integrated Systems Operations
2 Planning (ISOP) create risk of delays in bringing new generation online, will
3 result in additional costs for restudy, and will increase the costs for the upgrades
4 constructed at a later date. The transmission system planning to support Governor
5 Cooper’s Clean Energy Plan, may not begin until 2021. Similarly, the ISOP will
6 not be approved until the 2021 IRP process and will not go into effect until the
7 start of 2022. As Duke describes in their December 6, 2019 letters, it is evident to
8 Duke and Friesian that the “need for the Friesian Network Upgrades will not go
9 away” and “if the Friesian Network Upgrades are not constructed at this time,
10 there will be a further substantial delay in the interconnection of any additional
11 generating facilities in this area of DEP.”

12 An additional concern with comprehensive system planning is whether it
13 is capable of evaluating hundreds of queued solar generators. Adding 5100 MW
14 of solar by 2030 will, at an absolute minimum, require sixty-eight 75MW solar
15 projects ($68 \times 75\text{MW} = 5,100 \text{ MW}$) placed in service. The number of projects
16 evaluated by comprehensive system planning will be many times greater than the
17 target given attrition and projects smaller than 75MW. Exhibit A shows where
18 experienced developers have successfully sited solar generators to date in North
19 Carolina. We believe this pattern has been driven by the many attributes for solar
20 present in the constrained area and is a strong indication of its importance for
21 meeting future development targets.

1 **Q. Do you agree with the Public Staff that it is speculative that the Friesian**
2 **network upgrades are necessary to support significant addition of solar**
3 **generation resources in North Carolina?**

4 A. No, I do not. In addition, to my prior testimony concerning the importance of the
5 constrained area to further solar development, Exhibit A shows where developers
6 have sited solar generators in North Carolina. If it were easy and cost-effective to
7 develop large quantities of solar generation in other parts of the state, it would
8 have already happened.

9 **Q. Does Friesian have the ability, as suggested by the Public Staff on page 35 of**
10 **its testimony, to continue working with DEP to evaluate the possibility of**
11 **lower cost interconnection options, such as changes to the capacity, design, or**
12 **operational characteristics of the facility to allow it to interconnect without**
13 **triggering the upgrades?**

14 A. Under the Interconnection Standards of the Duke Energy Progress OATT, a
15 proposed generator's ability to downsize the project, add storage, or materially
16 change the generator's operational characteristics are limited without being re-
17 queued. Based on the joint queue published on OASIS, re-queuing in October
18 2017 would have resulted in losing a minimum of fifty-six queue
19 positions. Further, in a December 2017 meeting with Duke's interconnection
20 team in Raleigh regarding the Q380 Interconnection Facility Study, Duke
21 highlighted that any utility-scale project in the constrained area following

1 Friesian's immediate predecessor Q377, would trigger significant 230Kv and
2 115kV transmission upgrades. As a result, there were no alterations to the Q380
3 application that complied with the OATT, preserved the economic viability of
4 Q380, and offered a means to mitigate or minimize the Network Upgrades.

5 **Q. Are you in agreement with the information that Duke provided in its**
6 **December 6, 2019 letters filed in this docket?**

7 A. Yes. On December 6, 2019, Duke filed letters from Stephen De May, North
8 Carolina President of Duke Energy, and from Duke's attorney, and I agree with
9 the information that Mr. De May and Duke's attorney provided. First, I agree
10 with Mr. De May's assessment that the Friesian CPCN application involves
11 "unique circumstances". See North Carolina President Letter Regarding Friesian
12 CPCN Application, pp. 1, 1. I believe that Friesian's CPCN application involves
13 very unique circumstances, as the construction of the Friesian network upgrades
14 will provide substantial and important benefits to DEP's transmission system and
15 to the state. I also concur with Mr. De May's recommendation that the
16 Commission "should consider the benefits of the Network Upgrades in rendering
17 its decision in this proceeding" in light of "this pivotal time of transition in North
18 Carolina's energy policy". See North Carolina President Letter Regarding
19 Friesian CPCN Application, p. 1. Mr. De May provided a summary of the
20 benefits of the Friesian upgrades that include: (1) allowing for the
21 interconnection of a substantial amount of renewable resources in the southeast
22 portion of DEP's service territory, (2) avoiding queue paralysis and substantial

1 delays in interconnection for certain projects, and (3) minimizing certain short-
2 term challenges associated with Duke Utilities' queue reform plans. In sum, I
3 agree with Mr. De May's assessment that "[c]onstruction of the Network
4 Upgrades in question at this time will result in benefits that will, in turn, smooth
5 the road on the journey in the future." See North Carolina President Letter
6 Regarding Friesian CPCN Application, p. 2.

7 Additionally, I am in complete agreement with Duke's attorney's further
8 detail of the benefits of the Friesian upgrades. In particular, Duke's attorney
9 stated:

10 As the Commission is aware, the comprehensive planning process
11 for the DEP and Duke Energy Carolinas, LLC ("DEC" and
12 together with DEP, the "Duke Utilities") 2018 IRP and 2019 IRP
13 Updates demonstrates that a combination of renewable resources,
14 demand-side management and energy efficiency programs, and
15 additional base load, intermediate and peaking generation are
16 required over the next fifteen years to reliably meet customer
17 demand. Additionally, in mid-September 2019, Duke Energy
18 Corporation announced its new, enterprise-wide climate strategy . .
19 . . In a similar vein, the recently released North Carolina Clean
20 Energy Plan from the North Carolina Department of
21 Environmental Quality establishes a goal of 70% greenhouse gas

1 emissions (“GHG”) reductions by 2030 and carbon neutrality by
2 2050.

3 Regardless of the precise GHG emissions target, substantial
4 new renewable resources will be needed. For instance, the base
5 case from the 2019 IRP Update – which achieves a 51% CO₂
6 reduction by 2030 – requires 3,000+ MW of additional solar
7 resources over current amounts. Substantial Network Upgrades
8 will undoubtedly be needed to accommodate the addition of a
9 substantial amount of new grid resources. While the Company’s
10 analysis to date has not attempted to identify what specific
11 Network Upgrades will be needed, the Friesian Network Upgrades
12 are representative of the types of Network Upgrades that may be
13 required in the future to achieve CO₂ reduction targets.

14 . . . [T]he additional solar resources accommodated by the
15 Friesian Network Upgrades will move the Duke Utilities close to
16 the various targets.

17 **Q. What do you request that the Commission do in regard to the information**
18 **provided by Duke in its letters?**

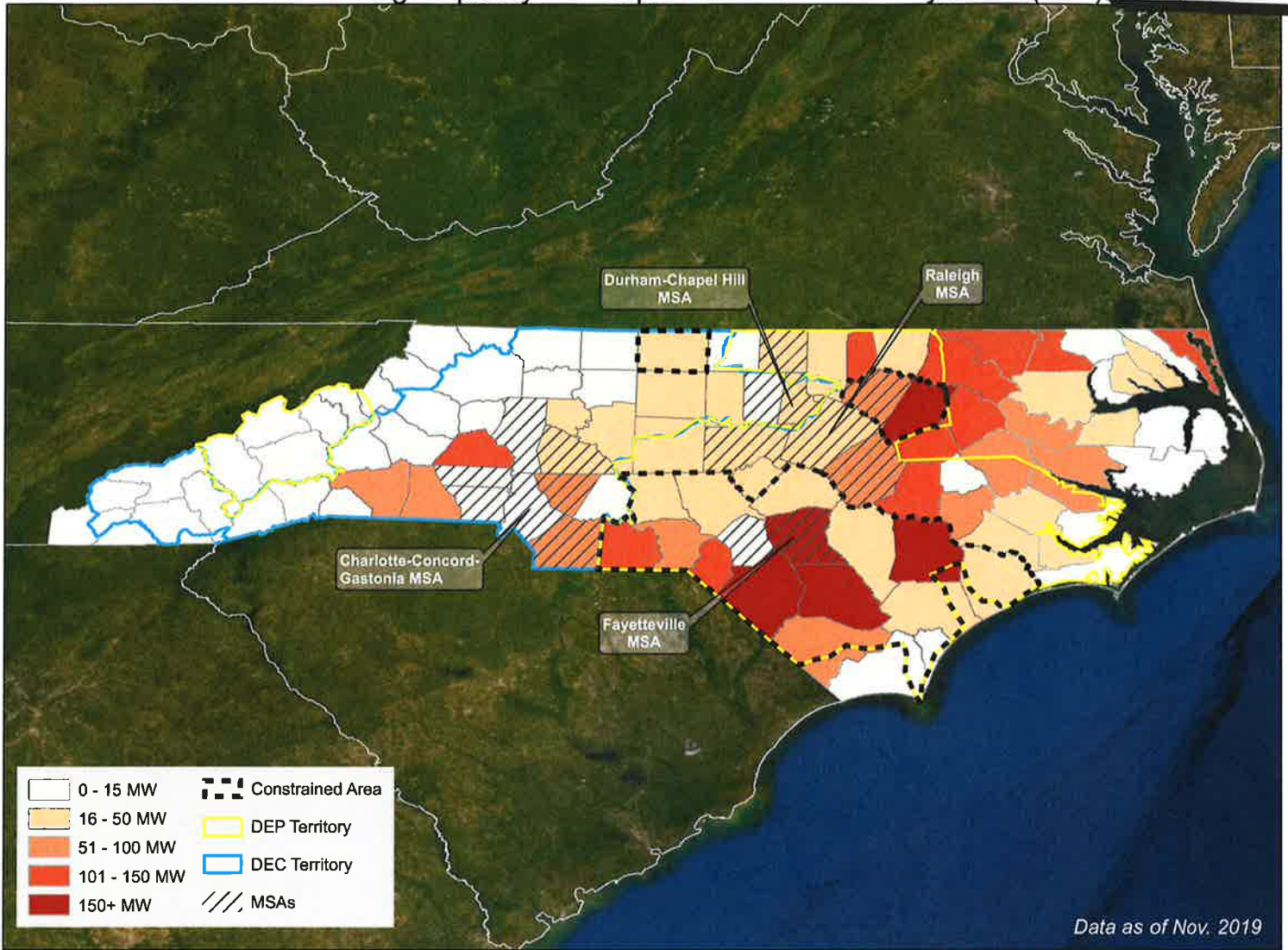
19 A. I ask that the Commission carefully consider the information provided by Duke as
20 to the importance of the Friesian upgrades and the benefits that the upgrades will
21 provide to Duke’s system and to meeting Duke’s various targets.

22 **Q. Does this conclude your rebuttal testimony?**

1 A. Yes.

2

Total Generating Capacity from Operational Solar PV Systems (MW)



Data as of Nov. 2019