STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-100, SUB 165

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of 2021 Biennial Integrated Resource Plan Updates and Related 2021 REPS Compliance Plans	)))	PUBLIC STAFF'S COMMENTS ON REPS COMPLIANCE PLANS

NOW COMES THE PUBLIC STAFF – North Carolina Utilities Commission (Public Staff), by and through its Executive Director, Christopher J. Ayers, respectfully submits its comments on the 2021 Renewable Energy and Energy Efficiency Portfolio Standard (REPS) Compliance Plans filed by Duke Energy Progress, LLC (DEP), Duke Energy Carolinas, LLC (DEC), and Dominion Energy North Carolina (Dominion) (collectively, "the Utilities") as part of their 2021 biennial Integrated Resource Plan (IRP) updates.

N.C. Gen. Stat. § 62-133.8 requires all electric power suppliers in North Carolina to meet specified percentages of their retail sales using renewable energy and energy efficiency (EE) measures. An electric power supplier may comply with the REPS by generating renewable energy at its own facilities, by purchasing bundled renewable energy from a renewable energy facility, or by purchasing renewable energy certificates (RECs).

Alternatively, a supplier may comply by reducing energy consumption through implementation of EE measures or electricity demand reduction[1] (or through demand-side management (DSM) measures, in the case of electric membership corporations (EMCs) and municipalities). Electric public utilities may use EE measures to meet up to 40% of their overall requirements contained in N.C.G.S. § 62-133.8(b). One megawatt-hour (MWh) of savings from DSM, EE, or electricity demand reduction is equivalent to one energy efficiency certificate (EEC), which is a type of REC. EMCs and municipalities may use DSM and EE to meet the requirements of N.C.G.S. § 62-133.8(c) without any limit on the maximum amount allowed.

All electric power suppliers may obtain RECs from out-of-state sources to satisfy up to 25% of their total requirements, with the exception of Dominion, which may use out-of-state RECs to meet its entire requirement. The total amount of RECs that must be provided by the Utilities is equal to 12.5% of their North Carolina retail sales for the preceding year. For EMCs and municipalities, the total amount of RECs provided must be equivalent to 10% of prior-year North Carolina retail sales. These are the highest amounts set by N.C.G.S. § 62-133.8(b) for electric public utilities and by N.C.G.S. § 62-133.8(c) for EMCs and municipalities.

Commission Rule R8-67(b) provides the requirements for REPS compliance plans (Plans). The Utilities must file their Plans on or before September

[1] "Electricity demand reduction," as used herein, is defined in N.C.G.S. § 62-133.8(a)(3a).

1 of each year, as part of their IRPs,[2] and explain how they will meet the requirements of N.C.G.S. § 62-133.8(b), (c), (d), (e), and (f). The Plans must cover the current year and the next two calendar years, or in this case 2021, 2022, and 2023 (the Planning Period). An electric power supplier may have its REPS compliance requirements met by a utility compliance aggregator as defined in Commission Rule R8-67(a)(5).

Below are the Public Staff's individual comments on the Plans filed by DEC, DEP, and Dominion to comply with N.C.G.S. § 62-133.8(b), (c), and (d), the general requirement,[3] and the solar energy set-aside. These are followed by consolidated comments on the Utilities' plans to comply with N.C.G.S. § 62-133.8(e) and (f), the swine and poultry waste set-asides.

DEC

DEC serves as the REPS compliance aggregator for Rutherford EMC, Blue Ridge EMC, the Town of Dallas, the Town of Forest City, and the Town of Highlands (collectively, DEC's Wholesale Customers). DEC has contracted for or procured sufficient resources to meet the general requirement and solar energy set-aside for the Planning Period, both for itself and for DEC's Wholesale Customers.

DEC intends to use EE programs to meet up to 40% of its REPS requirements. Hydroelectric facilities and energy allocations from the Southeastern

[2] Although municipalities and EMCs do not file IRPs, they are required to file REPS Compliance Plans on or before September 1 of each year.

[3] The overall REPS requirements of N.C.G.S. § 62-133.8(b) and (c), net of the requirements of the three set-asides established by N.C.G.S. § 62-133.8(d), (e) and (f), are frequently referred to as the "general requirement."

Power Administration (SEPA) will be used to meet up to 30% of the REPS requirements of DEC's Wholesale Customers. Hydroelectric facilities of 10 MW or less, together with incremental capacity from the 2012 modifications to its Bridgewater hydroelectric plant, will provide RECs for DEC's retail customers. DEC will continue to evaluate the use of in-state and out-of-state wind energy resources for future REPS compliance. A portion of the general requirements for DEC's retail and wholesale customers will be met through various biomass resources, including landfill gas to energy, combined heat and power, and direct combustion of biomass fuels. DEC also expects to use solar resources to satisfy the general requirement, including RECs acquired from its net-metered customers.

DEC plans to evaluate additional projects through the competitive procurement process established in North Carolina S.L. 2017-192 (referred to herein as "HB 589"). HB 589 allows for competitive procurement of 2,660 MW of additional renewable energy capacity in the Carolinas, with proposals issued over a 45-month period. DEC may develop up to 30% of its required competitive procurement capacity using self-owned facilities.

To meet the solar energy set-aside, DEC will obtain RECs from its self-owned solar photovoltaic (PV) facilities and from other solar PV and solar thermal facilities. DEC's solar resources include 170 MW of capacity at the Monroe, Mocksville, Woodleaf, Maiden Creek and Gaston solar facilities, and approximately 10 MW_{DC} from the small distributed solar facilities approved in Docket No. E-7, Sub 856.

DEC anticipates that its REPS compliance costs will increase, but will remain below the cost caps contained in N.C.G.S. § 62-133.8(h)(3) and (4), for the Planning Period.

DEC files evaluation, measurement, and verification (EM&V) plans for each EE program in the respective program approval dockets.

DEP

DEP has contracted for and banked sufficient resources to meet the general requirement and solar energy set-aside. DEP no longer provides REPS compliance services for other electric power suppliers.

DEP intends to use EE programs to meet up to 40% of its REPS requirements. It plans to meet a significant portion of the general requirement using RECs from solar facilities, including RECs acquired from its net-metered customers. A portion of the general requirement will be met through various biomass resources, including landfill gas to energy, combined heat and power, and direct combustion of biomass fuels. Hydroelectric facilities will also provide RECs for DEP's retail customers. DEP will continue to evaluate the use of in-state and out-of-state wind energy resources for future REPS compliance.

DEP plans to evaluate additional projects through the competitive procurement process established in HB 589. HB 589 allows for competitive procurement of 2,660 MW of additional renewable energy capacity in the

Carolinas, with proposals issued over a 45-month period. DEP may develop up to 30% of its required competitive procurement capacity using self-owned facilities.

To meet the solar energy set-aside, DEP will obtain RECs from its self-owned solar PV facilities and from other solar PV and solar thermal facilities. DEP owns four solar facilities, totaling 140.7 MW of capacity.

DEP anticipates that its incremental REPS compliance costs will remain below the cost caps set forth in N.C.G.S. § 62-133.8(h)(3) and (4), but it expects them to reach approximately 73% of the cost cap in 2023.

DEP files EM&V plans for each EE program in the respective program approval dockets.

DOMINION

Dominion has contracted for and banked sufficient resources to meet the general requirement and solar energy set-aside through the Planning Period for itself and for the Town of Windsor (Windsor). Dominion plans to use EE, purchased in-state and out-of-state RECs, and Company-generated RECs to meet the general requirement for its retail customers. For Windsor, Dominion will use biomass RECs and Windsor's SEPA allocation. Dominion has purchased or plans to purchase solar RECs to meet the solar energy set-aside and has executed contracts with in-state solar facilities to satisfy Windsor's portion of the in-state solar energy set-aside. Dominion's total costs are the same as its incremental costs because, unlike DEC and DEP, Dominion currently plans to purchase only unbundled RECs to meet its REPS requirements, rather than RECs that are bundled with renewable electric energy.

Dominion anticipates that during the Planning Period it will not incur any research costs for its microgrid project at its Kitty Hawk District Office.

Dominion expects that the REPS compliance costs for itself and Windsor will be well below the cost caps set forth in N.C.G.S. § 62-133.8(h)(3) and (4) for the Planning Period.

Dominion files EM&V plans for each EE program in the respective program approval dockets.

REPS COMPLIANCE SUMMARY TABLES

The following tables are compiled from data submitted in the DEC, DEP, and Dominion Plans. Table 1 shows the projected annual MWh sales on which the Utilities' REPS obligations are based. It is important to note that the figures shown for each year are the Utilities' MWh sales for the preceding year; for instance, the sales for 2021 are MWh sales for calendar year 2020. The totals are presented in this manner because each supplier's REPS obligation is determined as a percentage of its MWh sales for the preceding year. The sales amounts include retail sales of wholesale customers for which the supplier is providing REPS compliance reporting and services. Table 2 presents a comparison of the projected annual incremental REPS compliance costs with the Utilities' annual cost caps.

Table 1: MWh Sales for Preceding Year

Compliance Year	DEC	DEP	Dominion	Total
2021	58,035,231	36,168,687	4,214,665	98,418,583
2022	60,443,366	38,302,092	4,263,800	103,009,258
2023	61,125,360	38,307,069	4,273,100	103,705,529

Table 2: Comparison of Incremental Costs to the Cost Cap

		DEC	DEP	Dominion
2021	Incremental Costs	$41,771,179	$43,699,639	$1,254,121
	Cost Cap	$98,068,408	$70,030,617	$5,749,752
	Percent of Cap	43%	62%	22%
2022	Incremental Costs	$43,311,251	$46,037,054	$1,622,004
	Cost Cap	$99,013,066	$70,734,430	$5,407,305
	Percent of Cap	44%	65%	30%
2023	Incremental Costs	$60,200,499	$52,482,427	$2,583,651
	Cost Cap	$100,115,697	$71,543,815	$5,415,075
	Percent of Cap	60%	73%	48%

SWINE WASTE AND POULTRY WASTE SET-ASIDES

The state's electric power suppliers have encountered continuing difficulties in their efforts to comply with the swine and poultry waste requirements. N.C.G.S. § 62-133.8(e) provides that in 2012 at least 0.07% of the electric power sold to customers should be produced from swine waste, and this percentage increased to 0.14% by 2015, and to 0.20% by 2018. Subsection (f) provides that in 2012 at least 170,000 MWh of power sold to retail customers should be generated from poultry waste, and that this requirement will increase to 700,000 MWh in 2013, and to 900,000 MWh in 2014.

In each year from 2012 through 2017, the electric power suppliers moved the Commission to delay the swine waste requirement until the following year, and the Commission granted each request. For all electric power suppliers, the Commission's current requirement is 0.07% for 2021 and 0.14% for 2022 through 2024. With respect to poultry waste, the electric power suppliers have moved in each year, from 2012 through 2019, that the requirement be delayed and modified. The Commission granted these motions. The requirement was set for 2013 through 2017 at 170,000 MWh, for 2018 at 300,000 MWh, for 2019 at 500,000 MWh, and for 2020 at 700,000 MWh. The Commission's current requirement is 900,000 MWh for 2021, 2022, and 2023.

On September 30, 2021, the EMCs and municipalities filed a motion in Docket No. E-100, Sub 113, requesting that the Commission (1) delay all swine waste obligations by one year, and (2) set the poultry waste requirement to 300,000 MWh for 2021.

In its annual orders granting delays and/or reductions in the swine and poultry waste requirements, the Commission has required the suppliers to file reports describing the state of their compliance with the set-asides and their negotiations with the developers of swine and poultry waste-to-energy projects on a semiannual basis. These reports are filed confidentially in Docket No. E-100, Sub 113A. The Commission has further required the suppliers to provide internet-available information to assist the developers of swine and poultry waste-to-energy projects in obtaining contract approval and interconnecting facilities. Additionally, the Commission has directed the Public Staff to hold annual stakeholder meetings to facilitate compliance with the swine and poultry waste set-asides. In response, the Public Staff has held the stakeholder meetings as requested. The attendees have included farmers, the North Carolina Pork Council, the North Carolina Poultry Federation, waste-to-energy developers, bankers, state environmental regulators, and the electric power suppliers. The meetings allow the stakeholders to network and voice their concerns to the other parties. The state's electric power suppliers have been able to comply only to a limited extent with the poultry waste set-aside, and to an even lesser extent with the swine waste set-aside. Nevertheless, the REPS statute has served as a stimulus for several important advances in waste-to-energy technology.

First, several hog farms have installed anaerobic digesters at their swine waste lagoons and have produced biogas that has been used as fuel to operate small electric generators at these farms. Electric power suppliers have purchased the electricity produced by these generators – or, alternatively, have purchased the RECs when the electricity was used on the farm where it was generated – and this represented the initial step toward compliance with the swine waste set-aside.

Second, poultry waste has been transported by truck to existing and new generation facilities, where it has been co-fired with wood or other fuels.

Third, there has been progress in the development of large centralized anaerobic digestion plants in areas where numerous hog farms are located. These plants receive swine waste from numerous sources, produce biogas from the waste through the digestion process, and eliminate impurities from the biogas so that it meets the quality standards of the natural gas pipeline system. This biogas, which is referred to as "directed biogas" or "renewable natural gas," is injected into a natural gas pipeline, and used by a gas-fired generating plant that earns the RECs generated. These directed biogas facilities were first built in midwestern states with extensive hog farming activity.

In March of 2018, Optima KV completed its interconnection to the Piedmont Natural Gas system and began delivering renewable natural gas to DEP's Smith Energy Complex in Hamlet, North Carolina. The Optima KV facility thus became the first operational directed biogas facility in North Carolina.

The Public Staff believes the electric power suppliers will likely continue to have difficulty meeting the swine and poultry waste set-asides. However, they have made substantial progress toward complying with these difficult obligations. The Plans for DEC and DEP indicate their ability to meet the swine and poultry requirements in 2021 without further reduction to the requirements. However, their plans state that meeting the swine waste requirements in 2022 and 2023 will be difficult as the obligation increases. In addition, Dominion's compliance plan indicates that both Dominion and Windsor have sufficient RECs in NC-RETS to meet the 2021 and 2022 requirements for swine waste and the 2021-2023 requirements for poultry waste.

CONCLUSIONS ON REPS COMPLIANCE PLANS

The Public Staff's conclusions regarding the REPS compliance plans of DEC, DEP, and Dominion are as follows:

- DEC and DEP should be able to meet their general and solar energy set-aside requirements in the Planning Period, and their poultry and swine waste set-aside requirements in 2021, without exceeding their cost caps. DEC and DEP indicate in their REPS compliance plans that their ability to comply with the swine and poultry waste set-aside requirements in 2022 and 2023 is dependent on the performance of waste-to-energy developers under current contracts.

- Dominion should be able to meet its REPS obligations during the Planning Period without exceeding its cost caps.

- The Commission should approve the 2021 REPS Compliance Plans.

WHEREFORE, the Public Staff prays that the Commission take these comments and recommendations into consideration in reaching its decision in this proceeding.

Respectfully submitted this the 1st day of November, 2021.

PUBLIC STAFF
Christopher J. Ayers
Executive Director

Dianna W. Downey
Chief Counsel

Electronically submitted
/s/ Lucy E. Edmondson
Staff Attorney
lucy.edmondson@psncuc.nc.gov

4326 Mail Service Center
Raleigh, NC 27699-4300
Telephone: (919) 733-

CERTIFICATE OF SERVICE

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

This the 1st day of November, 2021.

Electronically submitted
/s/ Lucy E. Edmondson