

DOCKET NO. E-100, SUB 141

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of
2015 Integrated Resource Plans and) PUBLIC STAFF'S COMMENTS
Related 2015 REPS Compliance Plans) ON REPS COMPLIANCE PLANS

NOW COMES THE PUBLIC STAFF – North Carolina Utilities Commission, by and through its Executive Director, Christopher J. Ayers, pursuant to the Commission's order of September 18, 2015, in this docket, and respectfully submits its comments on the 2015 Renewable Energy and Energy Efficiency Portfolio Standard (REPS) Compliance Plans filed by Duke Energy Progress, LLC (DEP), Duke Energy Carolinas, LLC (DEC), and Dominion North Carolina Power (DNCP) as part of their 2015 updates to their biennial Integrated Resource Plans (IRPs).

G.S. 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). One megawatt-hour (MWh) of renewable energy, or its thermal equivalent, equates to one renewable energy certificate (REC), which is used to demonstrate compliance. 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 buying RECs. Alternatively, a supplier may comply by reducing energy consumption through implementation of EE measures or electricity demand reduction¹ (or through

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

demand-side management (DSM) measures, in the case of electric membership corporations (EMCs) and municipalities). The electric public utilities (DEP, DEC and DNCP) may use EE measures to meet up to 25% of the overall requirements in G.S. 62-133.8(b). One MWh of savings from DSM, EE, or 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 in G.S. 62-133.8(c) without any limits. They may also purchase power from a hydroelectric facility and use allocations from the Southeastern Power Administration (SEPA) to meet up to 30% of the overall requirements. All electric power suppliers may obtain RECs from out-of-state sources to satisfy up to 25% of the requirements of G.S. 62-133.8(b) and (c), with the exception of DNCP, which can use out-of-state RECs to meet 100% of the requirements. The total amount of renewable energy or EECs that must be provided by an electric power supplier for 2015, 2016, and 2017 is equal to 6% of its North Carolina retail sales for the preceding year.

Commission Rule R8-67(b) provides the requirements for REPS Compliance Plans (Plans). Electric public utilities must file their Plans on or before September 1 of each year, as part of their IRPs,² and explain how they will meet the requirements of 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 2015, 2016, and 2017 (the planning period). An electric power supplier may have its REPS requirements met by a utility compliance aggregator as defined in R8-67(a)(5).

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.

Immediately below are the Public Staff's comments on DEP, DEC, and DNCP's plans to comply with G.S. 62-133.8(b), (c), and (d), the general³ and solar energy requirements, followed by consolidated comments on plans to comply with G.S. 62-133.8(e) and (f), the swine and poultry waste set-asides.

DEP

DEP has contracted for and banked sufficient resources to meet the REPS requirements of G.S. 62-133.8(b), (c), and (d) for itself and the electric power suppliers for which it is providing REPS compliance services, the Towns of Waynesville, Sharpsburg, Stantonsburg, Black Creek, Lucama, and Winterville (collectively, DEP's Wholesale Customers).

DEP intends to use EE programs to meet 25% of its REPS requirements. Hydroelectric facilities and energy allocations from SEPA will be used to meet up to 30% of the general requirement of the Town of Waynesville, the only DEP Wholesale Customer that receives energy from SEPA. Hydroelectric renewable energy facilities with a capacity of 10 megawatts (MW) or less will also provide RECs for DEP's retail customers. DEP will continue to pursue wind energy, either through REC-only purchases or through energy delivered to its customers in North Carolina, to meet the general requirement. A portion of the general requirement of DEP and its Wholesale Customers will be met by executed purchased power agreements and REC-only purchases from landfill gas and biomass power providers, some of which are combined heat and power facilities. DEP also plans

³ The overall REPS requirement of G.S. 62-133.8(b), less the requirements of the three set-asides established by G.S. 62-133.8(d)-(f), is frequently referred to as the "general requirement."

to use the increased availability of solar energy to help it meet the general requirement.

To meet the solar set-aside, DEP will obtain RECs from its own solar facilities, its residential solar photovoltaic (PV) program, and other solar PV and solar thermal facilities.⁴

DEP anticipates that its REPS compliance costs will be well below the cost caps in G.S. 62-133.8(h)(3) and (4) for the planning period.

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

DEC

DEC has contracted for or procured sufficient resources to meet the REPS requirements of G.S. 62-133.8(b), (c), and (d) for the planning period, both for itself and for the electric power suppliers for which it is providing REPS compliance services. These suppliers are Rutherford EMC, Blue Ridge EMC, the Town of Dallas, the Town of Forest City, the City of Concord, the Town of Highlands, and the City of Kings Mountain (collectively, DEC's Wholesale Customers).

DEC intends to use EE programs to meet 25% of its REPS requirements. Hydroelectric facilities and energy allocations from SEPA will be used to meet up

⁴ The Public Staff notes that DEP now also has acquired certificates of public convenience and necessity for 140.7 MW of distributed solar PV facilities for use to meet a portion of its REPS compliance obligations. See *Order Transferring Certificate of Public Convenience and Necessity* issued December 16, 2014, Docket No. E-2, Subs 1054, 1055, and 1056, and *Order Issuing Certificate of Public Convenience and Necessity* April 14, 2015, Docket No. E-2, Sub 1063.

to 30% of the general requirement of DEC's Wholesale Customers. Hydroelectric qualifying facilities of 10 MW or less, together with the increased capacity of DEC's Bridgewater hydroelectric facility following its modification in 2012, will provide RECs for DEC's retail customers. DEC will continue to pursue wind energy, either through REC-only purchases or energy delivered to its customers in North Carolina, to meet the general requirement. A portion of the general requirement for DEC and its Wholesale Customers will be met by executed purchased power agreements and REC-only purchases from landfill gas and biomass power providers, some of which are combined heat and power facilities. DEC also expects to make some use of solar resources to satisfy the general requirement.

To meet the solar set-aside, DEC will obtain RECs from its self-owned distributed solar PV facilities and from other solar PV and solar thermal facilities.

DEC anticipates that its REPS compliance costs will be well below the cost caps in 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 docket.

DNCP

DNCP has contracted for and banked sufficient resources to meet the REPS requirements of G.S. 62-133.8(b), (c), and (d) for the planning period for itself and the Town of Windsor (Windsor), for which it is providing REPS compliance services. DNCP plans to use EE and purchased out-of-state wind

RECs to meet the general REPS requirements of G.S. 62-133.8(b) and (c) for itself. For Windsor's general REPS requirement, DNCP will use out-of-state wind RECs, in-state biomass and solar RECs, and Windsor's SEPA allocation. For the solar set-aside, DNCP plans to purchase in-state and out-of-state solar RECs for itself and Windsor. DNCP will rely on out-of-state RECs to meet most of its compliance requirements, as allowed by G.S. 62-133.8(b)(2)(e), but will obtain in-state RECs to meet Windsor's 75% in-state requirement. Its total costs are the same as its incremental costs because, unlike DEC and DEP, it currently plans to purchase only unbundled RECs to meet its REPS requirements and not RECs that are bundled with renewable electric energy.

DNCP anticipates that it will incur research costs in 2015 for the continued development of its Microgrid Project. The Microgrid Project consists of wind, solar and fuel cell energy generation and battery storage at DNCP's Kitty Hawk District Office. The cost in 2015 is due to addition of the fuel cell electric generation system. DNCP anticipates that the REPS compliance costs for itself and Windsor will be well below the cost caps in G.S. 62-133.8(h)(3) and (4) for the planning period.

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

REPS Compliance Summary Tables

The tables in this section are drawn from data submitted in the DEP, DEC, and DNCP 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 in the 2015 column are MWh sales for calendar year 2014. The totals are presented in this manner because each utility'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 utility 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.⁵

TABLE 1: MWh Sales for preceding year

| Electric Power Supplier | Compliance Year | | |
|-------------------------|-----------------|-------------|-------------|
| | 2015 | 2016 | 2017 |
| DEP | 37,703,084 | 37,205,535 | 37,621,879 |
| DEC | 60,600,225 | 60,402,445 | 61,193,255 |
| DNCP | 4,497,062 | 4,308,937 | 4,416,805 |
| TOTAL | 102,800,371 | 101,916,917 | 103,231,939 |

⁵ The cost cap figures for DEC and DEP in Table 2 are different from those shown on page 94 of DEC's Plan and page 87 of DEC's Plan because DEC and DEP used \$12 as the annual per-customer cap for residential customers, while the Public Staff used \$34. (The amounts shown in the table are based on the Public Staff's calculations.) Pursuant to G.S. 62-133.8(h)(4), the residential cap increased from \$12 in 2014 to \$34 in 2015 and subsequent years.

TABLE 2: Comparison of Incremental Costs to the Cost Cap

| | | DEP | DEC | DNCP |
|------|-------------------|--------------|---------------|-------------|
| 2015 | Incremental Costs | \$25,370,140 | \$21,793,357 | \$1,488,652 |
| | Cost Cap | \$73,163,462 | \$107,491,818 | \$6,293,476 |
| | Percent of Cap | 35% | 20% | 24% |
| 2016 | Incremental Costs | \$32,859,684 | \$32,199,268 | \$1,170,683 |
| | Cost Cap | \$74,002,944 | \$108,672,820 | \$6,256,224 |
| | Percent of Cap | 44% | 30% | 19% |
| 2017 | Incremental Costs | \$37,534,751 | \$36,828,354 | \$1,660,543 |
| | Cost Cap | \$74,670,196 | \$109,863,556 | \$6,277,302 |
| | Percent of Cap | 50% | 34% | 26% |

Swine Waste and Poultry Waste Set-Asides in G.S. 62-133.8(e) and (f)

Beginning in 2012, the electric power suppliers were required to meet 0.07% of their retail sales with energy derived from swine waste, pursuant to G.S. 62-133.8(e), and a combined total of 170,000 MWh or equivalent energy derived from poultry waste, pursuant to G.S. 62-133.8(f). These requirements, or set-asides, increase in later years. However, for 2012 and 2013, the electric power suppliers filed joint motions, pursuant to G.S. 62-133.8(i)(2), seeking to delay the swine and poultry waste energy requirements. The Commission granted these requests and required most of the electric power suppliers to file tri-annual reports describing the state of their compliance with the set-asides and reporting on their

negotiations with the developers of swine and poultry waste-to-energy projects. The Commission further required them to provide internet-available information to assist the developers of swine and poultry waste-to-energy projects in getting contract approval and interconnecting facilities. Additionally, the Commission requested that the Public Staff hold stakeholder meetings in 2014 and 2015 to facilitate compliance with the swine and poultry waste set-asides.

On August 28, 2014, many of the electric power suppliers filed a joint request to delay the swine waste set-aside for 2014, which was granted by the Commission on November 13, 2014. The electric power suppliers did not request to delay the poultry waste set-aside, and 2014 was the first year that the electric power suppliers were able to comply with this set-aside as modified by the Commission. However, compliance with this set-side for 2014 has not been finalized as of this date. The Public Staff expects DEC and DEP to resolve the compliance issue in the near future pursuant to the Commission's order dated October 19, 2015, in Docket No. E-100, Sub 145. One reason that the electric power suppliers did not request a delay in the poultry waste set-aside was the relatively low requirement of 170,000 MWh or equivalent energy in 2014 and the utilities' ability to bank RECs from earlier years. In addition, the availability of poultry waste RECs in the marketplace has been increased due to advances in the technology of power generation from poultry waste, the use of thermal energy to meet the set-aside as authorized by S.L. 2011-309, and the availability of poultry waste RECs from "cleanfields renewable energy demonstration parks" as authorized by S.L. 2010-195.

However, on August 12, 2015, the electric power suppliers filed a joint motion seeking again to delay the swine and poultry waste set-asides. They indicate that meeting the swine waste requirement and the increased poultry waste requirement from 170,000 RECs in 2014 to 700,000 RECs in 2015 are too difficult to achieve.

The swine waste-to-energy industry has a few facilities operating in North Carolina, but its generation is very small relative to the need for approximately 70,000 MWh of in-state swine waste energy per year to meet the initial year's requirement under G.S. 62-133.8(e) (which has been delayed to 2015 by the Commission pursuant to G.S. 62-133.8(i)(2)). Unlike poultry facilities, swine waste-to-energy facilities cannot earn RECs from thermal energy; however, they would probably be limited in thermal capacity even if thermal energy were allowed to earn RECs for several reasons, including differences in the energy content of each fuel on a volumetric basis and technological differences between the waste-to-energy facilities utilizing each fuel type.

While the poultry waste-to-energy industry is in a better compliance position than swine waste-to-energy, it still suffers from a lack of generating facilities. In addition, poultry waste has a market value as fertilizer, which creates competition for the resource. The anticipated opening of an additional large facility in late 2015 should improve the outlook for earning poultry waste RECs in 2016 and beyond.

As requested by the Commission, the Public Staff held stakeholder meetings on June 23, 2014; December 3, 2014; and June 9, 2015, and has

scheduled one for December 2, 2015. 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 Public Staff believes that the meetings were made more productive by allowing the stakeholders to network and voice their concerns to the other parties.

The Public Staff believes the electric power suppliers will likely continue to have difficulty meeting the swine and poultry waste set-asides for at least the next two years. The only exception is DNCP, which can obtain all of its RECs from out-of-state as allowed in G. S. 62-133.8(b)(2)e. DNCP has secured enough out-of-state poultry waste RECs for itself and Windsor for 2015 and 2016, and it is confident it will meet the 2017 out-of-state poultry waste requirement as well. DNCP expects to meet Windsor's in-state poultry waste requirements in 2016 and 2017, but not in 2015. Most likely, DNCP will not meet its own swine waste set-aside requirements for the planning period, but it should have sufficient RECs to meet Windsor's requirements.

Conclusions on REPS Compliance Plans

In summary, the Public Staff's conclusions regarding the REPS compliance plans of DEP, DEC, and DNCP are as follows:

1. DEP, DEC, and DNCP should be able to meet their REPS obligations during the planning period, with the exception of the swine and poultry waste set-asides, without nearing or exceeding their cost caps.

2. DEP and DEC do not expect to meet the swine and poultry waste requirements in 2015 and are uncertain about meeting the requirements in 2016 and 2017. DNCP will have difficulty meeting the swine waste requirements for itself during the reporting period, and the poultry waste requirements for Windsor in 2015; but it expects to meet the poultry waste requirements for itself throughout the reporting period, the swine waste requirements for Windsor throughout the period, and the poultry waste requirements for Windsor in 2016 and 2017. DEP, DEC, and DNCP are actively seeking energy and RECs to meet the set-aside requirements for the years in which they expect to fall short of compliance.

3. The Commission should approve the 2015 REPS Compliance Plans filed by DEP, DEC, and DNCP.

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 22nd day of October, 2015.

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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 22nd day of October, 2015.

Electronically submitted
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