

**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. E-100, SUB 147

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of	
2017 Integrated Resource Plan Update	) ORDER ACCEPTING FILING OF
Reports and Related 2017 REPS	) 2017 UPDATE REPORTS AND
Compliance Plans	) ACCEPTING 2017 REPS
	) COMPLIANCE PLANS

HEARD: Monday, February 5, 2018, at 7:00 p.m. in Commission Hearing Room  
2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina

BEFORE: Chairman Edward S. Finley, Jr., Presiding; Commissioners ToNola D.  
Brown-Bland, Jerry C. Dockham, James G. Patterson, Lyons Gray, and  
Daniel G. Clodfelter

APPEARANCES:

For Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina:

E. Brett Breitschwerdt, McGuireWoods LLP, 434 S. Fayetteville Street, Suite 2600,  
Raleigh, North Carolina 27603

For Duke Energy Progress, LLC, and Duke Energy Carolinas, LLC:

Lawrence B. Somers, Deputy General Counsel, Duke Energy Corporation, 410  
South Wilmington Street, NCRH 20, Raleigh, North Carolina 27602

For the Using and Consuming Public:

Lucy E. Edmondson, Staff Attorney; Heather D. Fennell, Staff Attorney; and Robert  
B. Josey, Staff Attorney; Public Staff-North Carolina Utilities Commission, 4326  
Mail Service Center, Raleigh, North Carolina 27699-4300

BY THE COMMISSION: Integrated Resource Planning (IRP) is intended to  
identify those electric resource options that can be obtained at least cost to the utility and  
its ratepayers consistent with the provision of adequate, reliable electric service. IRP  
considers demand-side alternatives, including conservation, efficiency, and load  
management, as well as supply-side alternatives in the selection of resource options.  
Commission Rule R8-60 defines an overall framework within which the IRP process takes

place in North Carolina. Analysis of the long-range need for future electric generating capacity pursuant to G.S. 62-110.1 is included in the Rule as a part of the IRP process.

General Statute (G.S.) 62-110.1(c) requires the Commission to “develop, publicize, and keep current an analysis of the long-range needs” for electricity in this State. The Commission’s analysis should include: (1) its estimate of the probable future growth of the use of electricity; (2) the probable needed generating reserves; (3) the extent, size, mix, and general location of generating plants; and (4) arrangements for pooling power to the extent not regulated by the Federal Energy Regulatory Commission (FERC). Further, G.S. 62-110.1 requires the Commission to consider this analysis in acting upon any petition for the issuance of a certificate for public convenience and necessity for construction of a generating facility. In addition, G.S. 62-110.1 requires the Commission to submit annually to the Governor and to the appropriate committees of the General Assembly a report of its: 1) analysis and plan; (2) progress to date in carrying out such plan; and (3) program for the ensuing year in connection with such plan. G.S. 62-15(d) requires the Public Staff to assist the Commission in making its analysis and plan pursuant to G.S. 62-110.1.

G.S. 62-2(a)(3a) declares it a policy of the State to:

assure that resources necessary to meet future growth through the provision of adequate, reliable utility service include use of the entire spectrum of demand-side options, including but not limited to conservation, load management and efficiency programs, as additional sources of energy supply and/or energy demand reductions. To that end, to require energy planning and fixing of rates in a manner to result in the least cost mix of generation and demand-reduction measures which is achievable, including consideration of appropriate rewards to utilities for efficiency and conservation which decrease utility bills....

Session Law (S.L.) 2007-397 (Senate Bill 3), signed into law on August 20, 2007, amended G.S. 62-2(a) to add subsection (a)(10) that provides that it is the policy of North Carolina “to promote the development of renewable energy and energy efficiency through the implementation of a Renewable Energy and Energy Efficiency Portfolio Standard (REPS)” that will: (1) diversify the resources used to reliably meet the energy needs of North Carolina’s consumers, (2) provide greater energy security through the use of indigenous energy resources available in North Carolina, (3) encourage private investment in renewable energy and energy efficiency, and (4) provide improved air quality and other benefits to the citizens of North Carolina. To that end, Senate Bill 3 further provides that “[e]ach electric power supplier to which G.S. 62-110.1 applies shall include an assessment of demand-side management and energy efficiency in its resource plans submitted to the Commission and shall submit cost-effective demand-side management and energy efficiency options that require incentives to the Commission for approval.”<sup>1</sup>

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<sup>1</sup> G.S. 62-133.9(c).

Senate Bill 3 also defines demand-side management (DSM) as “activities, programs, or initiatives undertaken by an electric power supplier or its customers to shift the timing of electric use from peak to nonpeak demand periods” and defines an energy efficiency (EE) measure as “an equipment, physical or program change implemented after 1 January 2007 that results in less energy being used to perform the same function.”<sup>2</sup> Energy Efficiency measures do not include DSM.

To meet the requirements of G.S. 62-110.1 and G.S. 62-2(a)(3a), the Commission conducts an annual investigation into the electric utilities’ IRPs. Commission Rule R8-60 requires that each utility, to the extent that it is responsible for procurement of any or all of its individual power supply resources,<sup>3</sup> furnish the Commission with a biennial report in even-numbered years that contains the specific information set out in Rule R8-60. In odd-numbered years, each of the electric utilities must file an annual report updating its most recently filed biennial report.

Further, Commission Rule R8-67(b) requires any electric power supplier subject to Rule R8-60 to file a REPS compliance plan as part of each biennial and annual report. In addition, each biennial and annual report should (1) be accompanied by a short-term action plan that discusses those specific actions currently being taken by the utility to implement the activities chosen as appropriate per the applicable biennial and annual reports, and (2) incorporate information concerning the construction of transmission lines pursuant to Commission Rule R8-62(p).

Within 150 days after the filing of each utility’s biennial report and within 60 days after the filing of each utility’s annual report, the Public Staff or any other intervenor may file its own plan or an evaluation of, or comments on, the utilities’ biennial and annual reports. Furthermore, the Public Staff or any other intervenor may identify any issue that it believes should be the subject of an evidentiary hearing. The Commission must schedule one or more hearings to receive public testimony.

### 2017 Update Reports

This Order addresses the 2017 Update Reports (2017 IRPs) filed in Docket No. E-100, Sub 147, by Duke Energy Progress, LLC (DEP); Duke Energy Carolinas, LLC (DEC); and Dominion Energy North Carolina (DENC) (collectively, the investor-owned utilities, utilities or IOUs). In addition, this Order also addresses the REPS compliance plans filed by the IOUs.

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<sup>2</sup> G.S. 62-133.8(a)(2) and (4).

<sup>3</sup> During the 2013 Session, the General Assembly enacted S.L. 2013-187 (House Bill 223), which exempted the EMCs from the requirements of G.S. 62-110.1(c) and G.S. 62-42, effective July 1, 2013. As a result, EMCs are no longer subject to the requirements of Rule R8-60 and are no longer required to submit IRPs to the Commission for review.

The following parties have been allowed to intervene in this docket: Alevo USA, Inc. (Alevo); Carolina Industrial Group for Fair Utility Rates I, II, and III (CIGFUR); Carolina Utility Customers Association, Inc. (CUCA); Environmental Defense Fund (EDF); Grant Millin; Mid-Atlantic Renewable Energy Coalition (MAREC); North Carolina Sustainable Energy Association (NCSEA); North Carolina Waste Awareness and Reduction Network (NC WARN); Nucor Steel-Hertford (Nucor); and jointly, Southern Alliance for Clean Energy, Sierra Club, and the Natural Resources Defense Council (SACE, NRDC, and the Sierra Club). The Public Staff's intervention is recognized pursuant to G.S. 62-15(d) and Commission Rule R1-19(e). The Attorney General's intervention is recognized pursuant to G.S. 62-20.

### Procedural History

On May 1, 2017, DENC filed its 2017 IRP Update Report and 2017 REPS compliance plan. On July 10, 2017, DENC filed an Errata to page 20 of its Update Report.

On August 10, 2017, the Public Staff filed a motion requesting that the Commission (1) allow the Public Staff to file its comments on the electric utilities' IRP updates and REPS compliance plans in a single combined filing (IRP/REPS compliance review), and (2) establish October 31, 2017, as the due date for the filing of the Public Staff's IRP/REPS compliance review. The motion was approved on August 10, 2017 by the Commission. The Commission's order also noted that October 31, 2017, would continue to be the deadline for parties to seek leave to file comments on DEC's and DEP's IRP updates.

On September 1, 2017, DEC and DEP filed 2017 IRP Update Reports and related REPS compliance plans.

On September 15, 2017, DEC and DEP (collectively Duke) filed notice that the stakeholder meeting to review their 2017 IRPs had been scheduled for October 27, 2017, in Raleigh.

On October 12, 2017, NC WARN filed initial comments, with an attachment entitled "North Carolina Clean Path 2025" (hereinafter, comments). In summary, NC WARN states that Duke's 2017 IRPs contain lower load forecasts than Duke's 2016 IRPs. In addition, NC WARN generally criticizes Duke as using the same resource additions as in past years, without giving full consideration to renewable resources and energy efficiency.

On October 18, 2017, Duke filed a Motion to Strike NC WARN's Comments. In summary, Duke notes that NC WARN failed to file a motion requesting leave to file comments, and submits that NC WARN's comments restate the same opinions and allegations that NC WARN has filed and that the Commission has rejected in previous IRP dockets. Duke requested that the Commission decline to accept NC WARN's proposed comments.

On October 30, 2017, NC WARN filed a response to Duke's motion to strike. In summary, NC WARN cites Commission Rule R8-62(k), the provision that allows intervenors to file their own alternative IRP, and asserts that its Clean Path 2025 constitutes an alternative IRP. NC WARN requests that if the Commission does not accept its filing as comments or an alternate IRP, that the Commission accept it as a statement of consumer position.

On October 31, 2017, the Public Staff filed its report regarding whether the utilities' 2017 IRPs meet the requirements of Commission Rule R8-60(j). Based on its review, the Public Staff determined that the 2017 IRPs met the requirements of the rule. The Public Staff noted that this review should not be construed to indicate that it endorses all of the inputs and assumptions utilized by the utilities in the development of their 2017 IRPs. However, according to the Public Staff, the information utilized by the utilities appears to be reasonable for planning purposes.

On October 31, 2017, the Public Staff filed its Comments on REPS Compliance Plans submitted by the utilities as part of their 2017 IRPs. On November 3, 2017, the Public Staff filed a few minor corrections to its comments. In its conclusions, the Public Staff stated that:

1. DEP, DEC, and DENC should be able to meet their REPS obligations during the planning period, with the exception of the swine and poultry waste set-asides. In 2019, DEP projects to be at 98% of the cost cap.
2. DEP and DEC would not have been able to meet the swine waste requirement in 2017 had it not been delayed by the Commission, and they met the poultry waste requirement only after the Commission reduced the aggregate statewide requirement to 170,000 MWh. They are uncertain about meeting the requirement in 2018 and 2019.
3. For the planning period, DENC is confident that it will meet the swine waste requirement for itself although it is dependent on the performance of a single supplier. For the Town of Windsor, DENC is confident that it will meet the requirement for the full planning period.
4. DEP, DEC, and DENC are actively seeking energy and RECs to meet the set-aside requirement for the years in which they expect to fall short of compliance. DEP is no longer purchasing solar and general RECs to meet its general obligation or solar set-aside obligation because it has sufficient solar RECs to comply with both obligations during the planning period.
5. The Commission should approve the 2017 REPS Compliance Plans.

On November 15, 2017, the Commission issued an Order striking NC WARN's filing as comments and accepting the filing as a statement of position. The Commission concluded that NC WARN's Clean Path 2025 is not an alternative IRP under Rule R8-60(k), and further, that NC WARN did not follow the Rule R8-60(l) requirement that intervenors request leave from the Commission to file comments on IRP update reports.

On November 21, 2017, the Commission issued an Order Scheduling Public Hearing on 2017 IRP Update Reports and Related 2017 REPS Compliance Plans. The order set the required public hearing for the night of February 5, 2018.

On January 24, 2018, DEC filed Affidavits of Publication for the Notice of Public Hearing on the 2017 IRPs. DEP filed similar affidavits on February 5, 2018. On January 31, 2018, DENC notified the Commission that due to an inadvertent oversight the Company did not publish a Notice of Public Hearing (Notice) in newspapers and it would not be capable of doing so prior to the scheduled public hearing. According to DENC, the Company did, however, post the Notice on its DENC website.

On January 30, 2018, the Public Staff requested an extension of time for DEC, DEP, and the Public Staff to submit the joint report addressing the utilities' target reserve margins called for in the Commission's June 27, 2017 IRP Order. The extension request was granted by the Commission on February 1, 2018, with a revised due date for the report of February 16, 2018. On February 16, 2018, the Public Staff requested a second extension to March 30, 2018 which was approved by the Commission on that same date.

On April 2, 2018, the Public Staff filed the Joint Report of the Public Staff, DEC, and DEP addressing target reserve margins pursuant to the Commission's June 27, 2017 IRP Order.

On April 3, 2018, NC WARN filed a Second Statement of Position regarding Integrated Resource Plans and stated that Duke Energy progressively relies on fossil fuel plants without first seeking opportunities to use energy storage or other renewable energy sources to meet its needs.

### Public Hearing

Pursuant to G.S. 62-110.1(c), the Commission held a required public hearing in Raleigh on February 5, 2018, as scheduled. No public witnesses attended the hearing.

### DSM Resources

In its 2016 IRP Order, the Commission noted that it "agrees with the Public Staff that additional emphasis should be placed on defining and implementing cost-effective demand-side management (DSM) programs that will be available to respond to winter peak demands" especially given the increased sensitivity in planning for winter loads and resources.

The Commission notes that DEP's 2017 IRP includes additional winter DSM resources of approximately 30 MW compared to DEP's 2016 IRP. DEP's increased emphasis on DSM as reflected in the 2017 IRP is consistent with the Commission's expectations. The Commission applauds the efforts of DEP, and in particular the work of the Energy Innovation Task Force (EITF)<sup>4</sup> in the Western Region. DEP explained in its Western Carolinas Modernization Project Annual Report<sup>5</sup> that the focus and efforts associated with existing and new programs offered by the convening partners of the EITF continued in 2017, with increased participation in DEP's EnergyWise Home program being among the accomplishments:

Early on, the EnergyWise Home program was identified as a priority to drive peak demand reductions in the region. In 2017 efforts to increase participation in the program continued. Total new enrollments in EnergyWise Home for the DEP-W service area were 4,418 for the year. New enrollments in the winter program increased the curtailable winter load by 1.4 MW for a total of 13.75 MW of winter load being controlled. The focus on EnergyWise home in the region has clearly made a difference. Program participation grew by 17% in 2017. By comparison, program participation grew by 11% in the rest of the DEP service territory.

Western Carolinas Modernization Project Annual Report, pp. 4-5.

In contrast with the success of DEP's DSM efforts, the Commission notes that DEC's 2017 IRP includes winter DSM resources that are approximately 80 MW less than included in its 2016 IRP Report. The Commission is concerned with this development. The Commission expects DEC to place at least as much emphasis on DSM and energy efficiency in its integrated resource planning as that given DSM and EE by DEP. As a result, the Commission directs that DEC include in its 2018 IRP a detailed discussion of its decline in winter DSM during 2017, and its plans for re-emphasizing DSM.

#### Reserve Margins Joint Report

The Commission's 2016 IRP Order stated that "the analyses regarding reserve margin targets is extremely technical and complicated, made even more so by the advent of winter peaking on DEP and DEC's system. The Commission relies heavily on the Public Staff's review and analysis to make its decisions on this subject. Therefore, the Commission determines that DEC and DEP should work with the Public Staff to address the Public Staff's and Mr. Wilson's reserve margin concerns and to implement changes

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<sup>4</sup> The advisory and innovation group of community leaders co-convened by the City of Asheville, Buncombe County, and Duke Energy.

<sup>5</sup> Duke Energy Progress, LLC Western Carolinas Modernization Project Annual Progress Report, Docket E-2, Sub 1089 (March 28, 2018).

as necessary to help ensure that the reserve margin target(s) are fully supported in future IRPs.”<sup>6</sup>

As stated in the Joint Report, since the issuance of the 2016 IRP Order, Duke and the Public Staff had further discussions to identify and address the areas of concern regarding the reserve margin targets. Duke and the Public Staff held conference calls to discuss the issues and identify actions needed to resolve outstanding items. Duke responded to multiple requests for information and evaluated multiple inputs and scenarios that were suggested by the Public Staff. In addition, Duke and Astrapé met with the Public Staff to present results of the additional analyses and to work toward a consensus. As noted in the Joint Report, the discussions were helpful, however, the Public Staff and Duke did not reach consensus on all of the issues. The Public Staff recommends that DEC and DEP utilize a 16% reserve margin for planning purposes in their 2018 IRPs and until such time that a new resource adequacy study is conducted. Duke recommends that DEC and DEP utilize a minimum 17% winter reserve margin for planning purposes until such time that a new resource adequacy study is conducted. The Public Staff and Duke jointly recommend that DEC and DEP update their reserve margins no later than the 2020 biennial IRP filings to reflect updated peak load and forecast data, weather, and other relevant inputs.

The Commission appreciates the work of the parties to thoroughly investigate the resource adequacy planning accomplished by Duke. The Commission accepts the Joint Report of the Public Staff, DEC and DEP. Based on the analyses presented in the Joint Report, the Commission concludes that DEC and DEP may continue to utilize the minimum 17% winter reserve margin for planning purposes in their 2018 IRPs. In addition, the Commission will require DEC and DEP to present a sensitivity in its resource plan discussion that clearly illustrates the impact of a 16% winter reserve margin for planning. The sensitivity discussion should address, in specific terms, the risk impacts (including Loss of Load Expectations) of a 16% minimum reserve margin versus 17%.

The Public Staff and Duke do not dispute the appropriateness of modeling to include the economic load forecast uncertainty. Based on the Joint Report, Astrapé incorporated three years of economic load forecast uncertainty in the 2016 studies. The Public Staff agreed that it was appropriate to include the economic load forecast uncertainty; however, the Public Staff disagreed with the assumptions used to capture the uncertainty. The Public Staff believes that Astrapé’s methodology for deriving the load forecast error (LFE) is problematic and will likely result in an incorrect calculation. The Public Staff provided LFE assumptions for Astrapé to simulate in lieu of the assumptions used in the 2016 study. The Public Staff’s calculated LFEs are based directly on load forecasts rather than Astrapé’s approach that starts with economic forecast uncertainty and then scales down 40% to proxy the uncertainty in load forecast. Astrapé ran the simulations which showed that the reserve margin could be reduced from 17% to about 16%. However, Duke and Astrapé do not agree with the Public Staff’s assumptions and do not support the scenario results defined by the Public Staff.

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<sup>6</sup> Order Accepting Integrated Resource Plans and Accepting REPS Compliance Plans, Docket E-100, Sub 147 (June 27, 2017), p. 22.



The Commission concludes from the Joint Report that resource adequacy study results are impacted by the methodologies and assumptions employed in the models. The Public Staff and Duke did not reach consensus on how to model economic load forecast uncertainties. As a result, the Commission finds good cause to direct that Duke further address this issue in its 2018 IRP, including additional review and assessment of the Public Staff's proposed approach versus that employed by Astrapé in the 2016 study.

### Conclusion

Based upon the record in this proceeding, and the comments of the Public Staff regarding the IRP Update Reports and REPS compliance plans submitted by DEC, DEP and DENC, the Commission hereby accepts the 2017 IRPs filed by the utilities as complete and fulfilling the requirements set out in Commission Rule R8-60. The Commission further accepts the REPS compliance plans submitted by DEC, DEP and DENC, as recommended by the Public Staff.

IT IS, THEREFORE, SO ORDERED.

ISSUED BY ORDER OF THE COMMISSION.

This the 16<sup>th</sup> day of April, 2018.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in dark ink, appearing to read "Janice H. Fulmore", is written over a faint, circular official seal of the North Carolina Utilities Commission.

Janice H. Fulmore, Deputy Clerk

Commissioners ToNola D. Brown-Bland and Charlotte A. Mitchell did not participate in this decision.