

**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. E-2, SUB 1257

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of		
Application of Duke Energy Progress, LLC,	)	ORDER ISSUING CERTIFICATE
for a Certificate of Public Convenience and	)	OF PUBLIC CONVENIENCE
Necessity to Construct a 5-MW Solar	)	AND NECESSITY WITH
Photovoltaic Generating Facility in	)	CONDITIONS
Buncombe County, North Carolina	)	

HEARD: November 18, 2020, at 10:00 a.m. via Webex

BEFORE: Chair Charlotte A. Mitchell, Presiding; and Commissioners ToNola D. Brown-Bland; Lyons Gray, Daniel G. Clodfelter; Kimberly W. Duffley; Jeffrey A. Hughes, and Floyd B. McKissick, Jr.

APPEARANCES:

For Duke Energy Progress, LLC:

Lawrence B. Somers, Deputy General Counsel, and Jack Jirak, Associate General Counsel, Duke Energy Corporation, NCRH 20/P.O. Box 1551, Raleigh, North Carolina 27602-1551

Robert W. Kaylor, Law Office of Robert W. Kaylor, P.A., 353 East Six Forks Road, Suite 260, Raleigh, North Carolina 27609

For the Using and Consuming Public:

John D. Little, Staff Attorney, Public Staff – North Carolina Utilities Commission, 4326 Mail Service Center, Raleigh, North Carolina 27699-4300

BY THE COMMISSION: On July 27, 2020, Duke Energy Progress, LLC (DEP or the Company), filed a verified application pursuant to N.C. Gen. Stat. § 62-110.1 and Commission Rule R8-61 (Application) for a certificate of public convenience and necessity (CPCN) authorizing the construction of the 5-MW Woodfin Solar Generating Facility (Woodfin Facility) in Buncombe County, North Carolina, on a closed landfill owned by the County. According to DEP, the Woodfin Facility was proposed in connection with the Commission’s March 28, 2016 Order Granting Application, in Part, with Conditions, and Denying Application in Part in Docket No. E-2, Sub 1089 (WCMP Order).

In support of the Application, the Company included the direct testimony and exhibits of Lawrence Watson, Director of Distributed Asset Commercial Development. The Company also filed with the Application Exhibit 1A, the 2018 Duke Energy Progress Integrated Resource Plan (IRP) and the 2019 IRP Update Report, and Exhibit 1B, which contained additional resource planning information. Finally, also filed with the Application were Exhibit 2 (Siting and Permitting Information), Exhibit 3 (Equipment and Cost Information), and Exhibit 4 (Construction Schedule and Other Facility Information), as required by Commission Rules R8-61(b)(1) and R8-61 (b)(2)-4. Parts of the Application and several of the exhibits contained confidential information and were filed under seal.

## **BACKGROUND**

### **Procedural History**

On August 6, 2020, the Commission issued an Order Scheduling Hearings, Requiring Filing of Testimony, Establishing Discovery Guidelines, and Requiring Public Notice (Scheduling Order). The Scheduling Order, among other things, scheduled a public witness hearing to be held in Asheville on October 8, 2020, and required DEP to publish notice of its Application and the public witness hearing.

On August 14, 2020, the Commission issued an Order Scheduling Public Hearing to be Held Remotely and Requiring Revised Public Notice, and on September 21, 2020, the Commission issued an Order Scheduling Remote Expert Witness Hearing, Requiring Filing of Cross-Exam and Redirect Exhibits, and Addressing Other Matters (Remote Hearing Order). On September 28, 2020, the Commission issued an Amended Order Correcting Date for Expert Witness Hearing and Dates for Related Filings.

On October 6, 2020, the Public Staff filed a Motion to Cancel Public Witness Hearing because no members of the public had contacted the Public Staff by the October 5, 2020 deadline to register to speak at the hearing. On October 7, 2020, the Commission issued an Order Canceling Remote Public Witness Hearing. Also on October 7, 2020, the Company filed proof of publication of the public notice in the *Asheville Citizen-Times*, a newspaper having general coverage in Buncombe County.

The Public Staff filed the testimony of Public Staff witness Jeff Thomas on October 20, 2020. On October 21, 2020, the Public Staff filed the Exhibit of Public Staff witness Jeff Thomas.

The Company filed a Motion for Extension of Time to File Rebuttal Testimony on October 28, 2020, requesting a one-week extension to investigate the proposals included in Public Staff witness Thomas's testimony and to consult with Buncombe County officials. The motion was granted by the Commission on October 29, 2020.

On October 30, 2020, the State Environmental Review Clearinghouse filed a letter, along with state agencies' comments about the Woodfin Facility, stating that no further

action was needed on the Commission's part for compliance with the North Carolina Environmental Policy Act.

On October 27, 2020, the Public Staff filed its consent to remote hearing, and on October 29, 2020, the Company filed its consent to remote hearing. On November 4, 2020, the Company and Public Staff filed potential cross-examination exhibits.

On November 6, 2020, the Company filed rebuttal testimony of Lawrence Watson, Todd Beaver, and Jason Walls.

On November 17, 2020, MountainTrue and Sierra Club filed a letter requesting that a remote hearing for public witness testimony be allowed based on the fact that at the time of the cancellation of the initial public hearing, the Public Staff had not yet filed testimony recommending that the Commission deny the CPCN for the Woodfin Facility.

Pursuant to the Commission's Remote Hearing Order, the Company's case was heard by the Commission on November 18, 2020. On December 4, 2020, the Public Staff filed its Late-Filed Exhibits, and on December 9, 2020, the Company filed its Late-Filed Exhibit. On December 11, 2020, the Commission filed its Notice of Due Date for Proposed Orders and/or Briefs, which required parties to file proposed orders and/or briefs on or before January 11, 2021.

On December 15, 2020, the Commission issued an order denying the request for an additional public witness hearing on the grounds that it had received a large number of consumer statements of position and that the record remained open for interested persons to submit written statements of position.

After one extension of time, on January 19, 2021, DEP filed its post-hearing brief and proposed order, and the Public Staff filed its proposed order.

## **Whole Record**

Since the filing date of the Company's Application, approximately 200 consumer statements of position have been filed in this docket, all in support of the Woodfin Facility and none in opposition. In addition, letters in support of the Woodfin Facility have been filed by the North Carolina Sustainable Energy Association, the Western North Carolina Renewables Coalition, MountainTrue, the Western North Carolina Sierra Club, the Southern Environmental Law Center, the Mayor of the City of Asheville, North Carolina, and the Buncombe County Commission.

## **Jurisdiction**

No party contested the fact that DEP is a public utility subject to the Commission's jurisdiction pursuant to the Public Utilities Act, Chapter 62 of the North Carolina General Statutes. The Commission concludes that it has personal jurisdiction over DEP and subject matter jurisdiction over the matters presented in DEP's Application.

Based on the Company's verified Application, the testimony and exhibits received into evidence, and the entire record, the Commission makes the following

### **FINDINGS OF FACT**

1. The Application satisfies each of the requirements of N.C.G.S. § 62-110.1 and Commission Rule R8-61.

2. The Woodfin Facility is identified in and consistent with DEP's 2018 IRP, 2019 IRP Update Report, and 2020 IRP.

3. The Woodfin Facility will contribute to meeting the needs of customers within DEP–West, a region in which the development of new generation and transmission resources faces many challenges.

4. DEP's ability to import electricity into DEP–West is limited.

5. The Western Carolinas Modernization Project (WCMP) includes targets of 15 MW of solar and 5 MW of energy storage in the Asheville region, which targets were originally proposed by DEP in its application to construct combined cycle generating units at the Asheville coal generation facility site. DEP's application to construct generating units pursuant to the Mountain Energy Act did not include an application to construct a solar facility, but the construction of a solar facility in the Asheville region was contemplated by the WCMP Order. The Woodfin Facility is part of the larger WCMP.

6. DEP will gain valuable experience in designing, constructing, and operating a solar facility in the mountain region of North Carolina, as well as on a closed municipal landfill site, by constructing the Woodfin Facility.

7. Such experience will be beneficial to DEP and others in considering future development of solar facilities on closed municipal landfills and in the mountain region of North Carolina.

8. DEP has taken steps to reduce the costs of the development of the Woodfin Facility that are within the Company's control.

9. DEP and Buncombe County have agreed to amend the lease agreement for the landfill site to reflect that the value of renewable energy certificates (RECs) will equal the rental land value, which will effectively reduce the annual cost of the lease to \$0.

10. Construction of the Woodfin Facility is consistent with the public convenience and necessity.

## **EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 1**

This finding of fact is supported by the Application and exhibits, the direct and rebuttal testimony and exhibits of DEP witnesses Watson, Beaver, and Walls, and the testimony of Public Staff witness Thomas.

The Woodfin Facility is described in the Application and the direct testimony of DEP witness Watson and consists of approximately 5 megawatts (MW) alternating current (AC)/6.3 MW direct current (DC) solar photovoltaic (PV) capacity. According to witness Watson, the Woodfin Facility will consist of PV panels affixed to ballasted foundation system, 20 degree fixed-tilt racking, solar inverters, electrical protection and switching equipment, and step-up transformers. Additional equipment to support the facility will include circuit breakers, combiners, surge arrestors, conductors, disconnect switches, and connection cabling. The Woodfin Facility is expected to produce approximately 9,413 MWh per year. This corresponds to a 21.5% capacity factor. The service life of the asset is 25 years.

As described in the Application and the testimony of DEP witness Watson, the Woodfin Facility will be sited on the closed Buncombe County Landfill. The Woodfin Facility will be interconnected to the single DEP-owned 24-kV distribution feeder. The site is approximately 25 acres and is enclosed by security fencing along its perimeter boundary. Consistent with Commission Rule R8-61, DEP submitted information concerning the Woodfin Facility site and permitting details, and details related to the anticipated construction schedule and other aspects of the facility.

Public Staff witness Thomas testified that the Application is complete and satisfies the requirements of N.C.G.S. § 62-110.1 and Commission Rule R8-61.

The Commission concludes that the Application is complete and satisfies the requirements of N.C.G.S. § 62-110.1 and Commission Rule R8-61.

## **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 2–4**

These findings of fact are supported by the Application and exhibits, the direct and rebuttal testimony and exhibits of DEP witness Walls, and the testimony of Public Staff witness Thomas.

### **Summary of the Evidence**

According to the Application and the testimony of DEP witness Walls, the comprehensive planning process for the 2018 IRP demonstrates that a combination of renewable resources, demand-side management and energy efficiency (DSM/EE) programs, and additional base load, intermediate, and peaking generation are required over the next 15 years to reliably meet DEP's customer demand. Witness Walls testified that from a total system perspective the DEP 2018 IRP identifies the need for approximately 6,300 MW of new resources to meet customers' energy needs by 2033.

Additionally, the 2018 IRP calls for 80 MW of energy storage and approximately 1,000 MW of incremental solar installations over the next five years. Tr., 21.

Public Staff witness Thomas testified that the Public Staff conducted its own investigation into how the Woodfin Facility may or may not meet the specific needs of the DEP–West region and testified about the region’s winter peaking needs, as well as history of importing power into the region. *Id.* at 51-54.

In the WCMP Order, the Commission noted the difficulties, including public opposition, associated with developing certain types electric generating facilities and transmission facilities in the DEP–West region. WCMP Order at 16. Further, the testimony of DEP’s witnesses highlights the geographical challenges associated with developing solar facilities in western North Carolina, including availability of suitable land, higher land costs in the Asheville area versus other areas of the state, topography, and rocky subsurface conditions. Tr., 140. DEP witnesses testified that none of the winning CPRE projects have been located in DEP–West. *Id.* at 147. DEP’s Late-Filed Exhibit confirms a dearth of operational utility-scale solar in DEP–West. Finally, DEP witnesses testified that the Woodfin Facility provides unique diversity in the Company’s generating fleet by allowing development of a solar project in an area of the state in which such development is often challenging. *Id.* at 143.

## **Discussion and Conclusions**

The Commission concludes that the Woodfin Facility is consistent with DEP’s 2018 IRP as well as its 2019 IRP Update Report. In addition, the Commission takes judicial notice of DEP’s 2020 IRP filed in Docket No. E-100, Sub 165 and notes that the Woodfin Facility is also consistent with the 2020 IRP. The Commission gives significant weight to the 2018 and 2019 DEP IRPs as indicators of a need for additional solar resources over the next five years. The Commission acknowledges the evidence that peak load in DEP–West occurs in the winter and that the Woodfin Facility will not contribute significantly in meeting DEP’s winter peaking needs. Nonetheless, the IRPs demonstrate that the Woodfin Facility’s energy production will be useful in meeting the needs of DEP’s customers in this region of the state where the capacity to import electric power into the region is limited.

In addition, in large measure the DEP–West area is an “energy island.” The Commission is persuaded by the evidence that developing solar facilities in the DEP–West area is challenging due to geographical and market conditions. Beyond the testimony of the witnesses describing the challenges, the lack of winning bidders in the CPRE program from DEP–West is evidence of these challenges. Further, the limited amount of existing utility-scale solar development in DEP–West, confirmed through the Company’s Late-Filed Exhibit noting that there is currently only 8.17 MW of operational utility-scale solar in DEP–West, is evidence of these challenges.

The Commission also notes the history of importing energy into DEP–West, the existing limited transmission options existing in DEP–West, and the cancellation of the Foothills Transmission Line, which was a part of the initial WCMP and would have been

a significant transmission capacity addition into the region. WCMP Order at 16. Thus, the Commission points out and notes the fact that there exist limitations on DEP's ability to import power into the region.

The Commission concludes that providing a diversity of energy resources at a relatively reasonable cost based on the challenges associated with developing generating resources in the region and based on the transmission limitations of the area is critical to serving the needs of DEP's customers.

## **EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 5**

This finding of fact is supported by the Application and exhibits, the direct and rebuttal testimony and exhibits of DEP witnesses Watson, Beaver, and Walls, and the testimony of Public Staff witness Thomas.

### **Summary of the Evidence**

DEP witness Watson testified that the Woodfin Facility is a key component of the WCMP and the WCMP Order, which accepted DEP's commitment to solar and storage projects and directed DEP to file as soon as practicable CPCN applications to construct at least 15 MW of solar at the Asheville Plant or in the Asheville region. Tr., 16. He testified that the Woodfin Facility is an integral piece of the WCMP and described the WCMP as a "collaborative energy innovation project for the Asheville area in the western region of DEP's service territory." *Id.* at 19. He testified that the goal of the WCMP is to partner with the local community and elected leaders to help transition Western North Carolina to a cleaner, smarter, and more reliable energy future. *Id.* He also testified that the WCMP calls for the deliberate investment in distributed energy resources, including solar and storage, and increased promotion and access to new and existing DSM/EE programs in Western North Carolina. *Id.* at 20. He testified that in the WCMP Order, the Commission accepted DEP's commitment to solar and storage projects and directed DEP file as soon as practicable CPCN applications to construct at least 15 MW of solar at the Asheville Plant or in the Asheville region. *Id.* He testified that the Woodfin Facility fulfills this commitment.

Public Staff witness Thomas testified that the WCMP alone and the fact that the Woodfin Facility is part of the WCMP do not justify the need for the Woodfin Facility. *Id.* at 42, 48. According to witness Thomas, in the WCMP Order the Commission did not direct DEP to construct the proposed 15 MW of solar and 5 MW of energy storage. Rather, DEP was directed to file an application for a CPCN to construct the 15 MW of solar and 5 MW of energy storage as soon as practicable. *Id.* at 47-48; WCMP Order at 38. Further, witness Thomas testified that each generation facility proposed under the WCMP must be able to stand on its own merits. *Id.* at 49. However, in responding to questions concerning whether the Woodfin Facility should be viewed as part of the overall package of projects approved in the WCMP Order and whether viewed in that context DEP's ratepayers will be much better off than they were with the Asheville coal units, witness Thomas agreed that "[i]t's likely." *Id.* at 92.

DEP witness Walls testified regarding the Energy Innovation Task Force, recast as the Blue Horizons Project, which is comprised of a diverse group of community leaders working on a plan that would: 1) avoid or delay the construction of the planned contingent combustion turbine; and 2) transition DEP-West to a smarter, cleaner, and affordable energy future. *Id.* at 184. Witness Walls testified that community engagement is the foundation of the Company's overall strategy in the Asheville area and that from the announcement of the initial WCMP and the Foothills Transmission Line in August of 2015 to updating that plan to reflect the feedback the Company received from the community, DEP recognized that its plans should be reflective of the Company's and community's common interests. *Id.* He testified that this effort has revealed that Buncombe County and the DEP-West service area in general have a greater percentage of low-income households than North Carolina overall and, specifically, that 40% of DEP-West households are low-income. *Id.* at 185.

Finally, he testified regarding the extensive community engagement undertaken by DEP specifically with respect to the Woodfin Facility and the extensive community support for the Woodfin Facility. *Id.* at 187-88.

Finally, the Commission has received scores of public statements of support for the Woodfin Facility and no statement of opposition. Notably, two of the intervenors from the proceeding that resulted in the WCMP Order — MountainTrue and Sierra Club — requested an additional public hearing to allow further public support to be heard by the Commission. Buncombe County also filed a second letter in this docket noting that the Woodfin Facility is “part of a complex, broad agreement for future energy generation in a specific region that involved numerous trade-offs by all parties” and that the commitment to 15 MW of solar in the Asheville area was a key part of obtaining community support for WCMP.

## **Discussion and Conclusions**

Witness Thomas was correct when he testified that the WCMP Order did not authorize DEP to construct the proposed 15 MW of solar and 5 MW of energy storage. The operative paragraph of the WCMP Order on this point is as follows:

The Commission commends the work that DEP has begun in engaging Asheville community leaders to work collaboratively on load reduction measures. The Commission shall require DEP to continue to update it on these efforts, along with its efforts to site solar and storage in the western region. As to solar and storage, the Commission expects DEP to file as soon as practicable the CPCN to construct at least 15 MW of solar at the Asheville Plant or in the Asheville region. The Commission further urges DEP to move forward in a timely manner with the 5 MW storage project in the Asheville region. To the extent DEP does not do so, the Commission reserves the



right on its own motion or on the motion of any interested party to investigate DEP's decision not to move forward with its representations.

WCMP Order at 38.

Moreover, the WCMP Order does not include an ordering paragraph approving a 5-MW solar project, and there is not a CPCN attached to the WCMP Order for such a 5-MW solar project. Rather, the WCMP Order indicated an expectation that DEP would file an application for a CPCN to construct at least 15 MW of solar at the Asheville Plant or in the Asheville region as soon as practicable. The Commission concludes that the Woodfin Facility is consistent with the expectation of the WCMP Order, particularly in light of the challenges associated with developing generating facilities and transmission facilities in DEP–West, as discussed elsewhere in this Order.

The WCMP Order expressly applauded and encouraged the collaborative efforts of DEP and Asheville area community leaders working together to formulate a package of DSM/EE and renewable energy goals that: 1) balanced the community's interests in establishing a diversity of supply and demand resources; and 2) would eliminate the need for the 186-MW combustion turbine peaking unit that initially was proposed by DEP as part of the WCMP. DEP's request for a CPCN for the peaking unit was denied by the Commission in the WCMP Order. Thus, the WCMP Order directed DEP and the DEP–West community to work together in solving the energy needs and challenges facing the region. The Commission takes note of the work and efforts of the stakeholders in this regard, as well as the statements of support for the Woodfin Facility. Working together to identify and to solve the problems and challenges facing North Carolina — paying special and deliberate attention to the existence of energy-burdened customers and solutions for this burden — is in the public interest and a critical component of the energy transition.

Thus, the Commission concludes that the Woodfin Facility is consistent with the WCMP Order and with the Commission's directive to engage with the community in planning for the energy transition.

#### **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 6–7**

These findings of fact are supported by the Application and exhibits, and the direct and rebuttal testimony and exhibits of DEP witnesses Watson, Beaver, and Walls.

#### **Summary of the Evidence**

With respect to the development of solar facilities in DEP–West, the WCMP Order noted the difficulties, including public opposition, associated with developing certain types electric generating facilities and transmission facilities in the DEP–West region. WCMP Order at 16. Further, the testimony of DEP witnesses highlights the geographical challenges associated with developing solar facilities in western North Carolina, including availability of suitable land, higher land costs in the Asheville area versus other areas of

the state, topography, and rocky subsurface conditions. Tr., 140. DEP's witnesses testified that none of the winning CPRE projects have been located in DEP–West. *Id.* at 147. DEP's Late-Filed Exhibit confirms a dearth of operational utility-scale solar in DEP–West. Finally, DEP witnesses testified that the Woodfin Facility provides unique diversity in the Company's generating fleet by allowing development of a solar project in an area of the state in which such development is often challenging. *Id.* at 143.

With respect to the development of the Woodfin Facility on the closed landfill, DEP witness Watson testified that the facility will allow DEP to gain experience owning and operating a solar facility on a customer's landfill site. He further testified that while landfill solar development has occurred across the United States, Duke Energy has not deployed solar on a municipal-owned landfill in the Carolinas. *Id.* at 16. He testified that the closed Buncombe County Landfill, where the Woodfin Facility is proposed to be constructed, is located within the town limits of Woodfin, North Carolina, and is bordered on the south-southwest by the French Broad River. The landfill is approximately 190 acres and is enclosed by security fencing along its perimeter boundary. Subject to final design of the facility, the Woodfin Facility will occupy approximately 30 acres on the landfill. *Id.* He testified that the proposed location of the facility at the landfill has the beneficial characteristics of being already zoned for industrial land use and providing a relatively flat, buildable area on one parcel of land. *Id.* at 18.

DEP witness Watson testified that the adaptive reuse of the closed municipal landfill will allow Duke Energy to gain experience owning and operating a ballasted solar facility on a landfill site and will have less of an environmental impact in the area due to the site being clear of vegetation and other sensitive environmental features. *Id.* at 21.

DEP witness Walls testified that in his discussions with local leaders, even those who do not put clean energy as their top issue, a solar facility on top of a retired landfill was thought simply to make sense, as there are not many uses for a retired landfill, but a solar facility on the landfill would allow the entire community to benefit from clean energy. *Id.* at 188.

## **Discussion and Conclusions**

The Commission notes that the development of utility-scale generating facilities, including solar facilities, involves making use of significant acreage of cleared land. In the coastal and piedmont regions of North Carolina, land already cleared for agricultural purposes has been reused for solar facilities. Such land is not abundantly available in the mountain region, and as a result, siting a utility scale solar farm in the mountain region is challenging. Again, the relative dearth of utility-scale solar facilities in the western region of the state underscores this point. The Commission notes that the Buncombe County Landfill provides a unique opportunity to reuse an existing single, cleared, and relatively flat parcel of land, already zoned for and historically used for industrial purposes. Siting the Woodfin Facility on the landfill, in addition to making productive reuse of land and minimizing the environmental impacts associated with constructing a solar facility, will provide the Company with the opportunity to gain valuable experience in developing,

constructing, owning, and operating a facility on a landfill/industrial site. Moreover, adaptively reusing the landfill for this purpose is consistent with the policy of the state to encourage and promote harmony between utilities, their users, and the environment. N.C.G.S. § 62-2(a)(5).

Further, as discussed elsewhere in this Order, one of the expectations of the WCMP Order was that DEP would seek to develop solar facilities in the western region. That expectation is consistent with several policies of the state, including the development of diversified energy resources and the development of renewable energy. N.C.G.S. § 62-2(a)(10). The Commission gives significant weight to the role that the Woodfin Facility will play in directly supporting these state policies and in serving as an example of how these policies might continue to be implemented in western North Carolina.

To realize these public benefits of the Woodfin Facility, the Commission will require that DEP make available to interested North Carolina government and nonprofit entities nonconfidential information and lessons learned from DEP's development of the Woodfin Facility. To be clear, DEP is not required to carry out research or develop data that DEP is not otherwise maintaining, but, rather, to respond promptly and thoroughly to inquiries from interested persons by answering questions and share nonconfidential technical and cost information and lessons learned from developing, constructing, owning, and operating the Woodfin Facility.

Thus, the Commission gives significant weight to the unique features of the Woodfin Facility that will allow for valuable experience to be gained and shared in the interest of furthering the existing policies of the state.

## **EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 8–9**

These findings of fact are supported by the Application and exhibits, the direct and rebuttal testimony and exhibits of DEP witnesses Watson, Beaver, and Walls, and the testimony of Public Staff witness Thomas.

### **Summary of the Evidence**

DEP Witness Watson testified that to identify sites suitable for solar in the greater Asheville region, DEP conducted a GIS solar suitability survey, and upon being aware that Buncombe County was interested in making its landfill site available for solar development to support the county's renewable energy goals, DEP presented Buncombe County with a proposal to allow it to lease the closed landfill to support the WCMP's goal to advance solar development in the area. Tr., 14-16. He further testified that the site was determined to have the following beneficial characteristics: (1) the site is on a municipal landfill and zoned for industrial land use and has approximately 30 acres of relatively flat, buildable area on one parcel; (2) the acreage is sufficient for siting multiple megawatts of solar generation, and the site is primarily clear of trees and debris; (3) the point of interconnection is located adjacent to the planned project and on the same property and does not require additional land rights or permitting to access the interconnection

facilities; (4) the site is not adjacent to residential customers; (5) the site does not require tree clearing to support the solar; and (6) the site is owned by a single landowner willing to enter into a lease agreement in support of the project and community's goals. *Id.* at 16-18.

DEP witnesses testified that as it relates to those factors that are within the Company's control, the Company has taken reasonable steps to drive down costs. For instance, with respect to the capital cost of the project — which represents almost 90% of the total cost of the project — the Company utilized a competitive procurement process and obtained capital cost bids that are consistent with current market prices. DEP witnesses testified that the results from the bid process served as the basis of the cost estimate to support the Application and that the EPC contract, once executed, will be a firm, fixed price contract. The witnesses also testified that DEP will continue diligently to work towards optimizing the system production and driving its partners to the lowest possible cost for this facility. *Id.* at 144.

Additionally, DEP witnesses testified that the partnership with Buncombe County has allowed the Company to access the site at a below market rate and, assuming formal approval of the proposed lease amendment, at essentially no cost. *Id.* at 146. Finally, DEP witnesses testified that the site identified by the Company is well situated from an interconnection perspective, which will allow the project to interconnect at a relatively low cost and without any foreseeable complexity or interconnection challenges. *Id.* at 157.

Witness Watson testified that DEP did not evaluate the wholesale market for alternatives to the capacity and energy to be provided by the Woodfin Facility due to the unique circumstances of the facility and the expectation set forth in the WCMP Order. According to witness Watson, DEP conducted a comprehensive bid process that included soliciting cost proposals for all the major components and construction of the project to ensure the lowest reasonable cost for the facility. *Id.* at 23.

Public Staff witness Thomas testified that constructing a solar facility at the Asheville Site could cost less per kilowatt than the Woodfin Facility because the Company would not be required to lease or purchase land for the facility. *Id.* at 55.

## **Discussion and Conclusions**

With respect to those cost items that are in the Company's control, the Commission concludes that the Company has taken reasonable steps to ensure the least impact on customers. The Commission notes that the one cost item identified by the Public Staff, land cost, would be negated by the lease arrangement with Buncombe County discussed in the rebuttal testimony of the DEP witnesses and that the Public Staff did not identify any other cost item that the Company has delivered in an unreasonable or imprudent manner. Finally, the Commission's conclusions and decision on this Application are predicated on the condition that DEP and Buncombe County will, in fact, amend the lease agreement for the landfill site to reflect that the REC value will equal the land value, which will effectively reduce the annual cost of the lease to \$0.

## EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 10

This finding of fact is supported by the Application and exhibits, the direct and rebuttal testimony and exhibits of DEP witnesses Watson, Beaver, and Walls, and the testimony of Public Staff witness Thomas.

### Summary of the Evidence

DEP witness Watson testified that the Woodfin Facility is a key component of the WCMP and the WCMP Order, which accepted DEP's commitment to solar and storage projects and directed DEP to file as soon as practicable CPCN applications to construct at least 15 MW of solar at the Asheville Plant or in the Asheville region. Tr., 16. He testified that the Woodfin Facility is an integral piece of the WCMP and described the WCMP as a "collaborative energy innovation project for the Asheville area in the western region of DEP's service territory." *Id.* at 19. As noted above, DEP witness Watson testified that the Buncombe County landfill site was determined to have the following beneficial characteristics: 1) the site is on a municipal landfill and zoned for industrial land use and has approximately 30 acres of relatively flat, buildable area on one parcel; 2) the acreage is sufficient for siting multiple megawatts of solar generation, and the site is primarily clear of trees and debris; 3) the point of interconnection is located adjacent to the planned project and on the same property and does not require additional land rights or permitting to access the interconnection facilities; 4) the site is not adjacent to residential customers; 5) the site does not require tree clearing to support the solar; and 6) the site is owned by a single landowner willing to enter into a lease agreement in support of the project and community's goals. *Id.* at 16-18. DEP witnesses Watson and Beaver provided significant testimony on the efforts undertaken, discussed in detail elsewhere in this Order, to reduce costs that were within the control of the Company. *Id.* at 143-46.

In general, the Public Staff expressed concerns about the cost-effectiveness of the Woodfin Facility relative to other solar facilities in North Carolina and about the Woodfin Facility's high energy cost relative to system avoided costs. *Id.* at 54. Specifically, Public Staff witness Thomas testified that the cost of the energy produced by the Woodfin Facility is well above DEP's current projection of avoided costs, as well as recent long-term solar PV bids procured through the Competitive Procurement of Renewable Energy (CPRE) program. *Id.* at 42. Additionally, witness Thomas testified that the Levelized Cost of Energy (LCOE), a metric that measures the total costs of building and operating a generating facility compared with the total energy produced over the lifetime of the generating facility, for the Woodfin Facility is substantially above DEP's avoided cost over the same time period. *Id.* at 54.

Witness Thomas testified that the Public Staff recommended approval of the Hot Springs microgrid project based on unique factors specific to the application for the microgrid, despite the Public Staff's finding that the facility was not the most cost-effective solution to service quality. *Id.* at 55. He testified, in justifying the Public Staff's recommendation, that the Hot Springs microgrid provides a "learning opportunity for DEP and provided system benefits beyond energy and capacity." *Id.* Witness Thomas testified

that the Woodfin Facility offers no such benefits and provides ratepayers with expensive energy and little to no capacity during peak load hours in the winter. *Id.* at 56.

Witness Thomas provided several recommendations by which DEP might revise its Application to reduce what he described as a substantial premium that ratepayers would incur, including: 1) agreeing to reduce the cost to be recovered from ratepayers; 2) increasing the amount Buncombe County pays for the RECs produced by the facility; and 3) developing the facility as a community solar facility consistent with the requirements of N.C.G.S. § 62-126.8. *Id.* at 56-62.

DEP witnesses expressed concern over the Public Staff's focus on system-level avoided cost as the measuring stick for assessing the public interest rather than on an assessment of overall benefits of the project within the larger context of the WCMP. *Id.* at 137. DEP witnesses testified that if the Commission adopts the Public Staff's approach to assessing the project solely on the basis of comparison to the Company's current projection of 25-year avoided cost, not only will the Woodfin Facility not be constructed, but DEP will be unable to fulfill its commitments and the Commission's expectation set forth in the WCMP Order to construct at least 15 MW of new solar generation at the Asheville Plant or in the Asheville region. *Id.* at 135-37.

The DEP witnesses testified that DEP did not believe the WCMP Order directed the Company to build solar in the Asheville region at any cost and acknowledged that the cost of the project as measured on a LCOE basis is higher than the current projection of 25-year avoided cost. *Id.* However, the DEP witnesses testified that the Company has taken a comprehensive approach to delivering the Woodfin Facility in the most cost-effective manner given the context and parameters of the WCMP Order. *Id.*

The testimony of the DEP witnesses focuses not on whether the Woodfin Facility is or is not below current avoided cost but on whether the Company has delivered a reasonably cost-effective project in light of the parameters of the WCMP Order, which the DEP witnesses testified had been accomplished through the proposed Woodfin Facility project. *Id.* at 144-47. The DEP panel testified that the most substantial factors contributing to the delta between LCOE and the current projection of 25-year avoided cost are outside of the Company's control. For instance, there has been a substantial drop in avoided cost since the WCMP Order due to numerous complex factors. The DEP panel testified that it is certainly appropriate for avoided costs to be updated over time to reflect market realities, but it is not appropriate to back-cast those updated avoided costs in a manner that constrains the ability of the Company to fulfill the directives in the WCMP Order. Similarly, the tax treatment of the project — namely, the requirement that the Company normalize the investment tax credits — is outside of the Company's control but materially contributes to the LCOE delta for the Woodfin Facility. However, as it relates to those factors that are within the Company's control, the DEP panel asserted that the Company has delivered a cost-effective project. *Id.*

The DEP witnesses disagreed with Public Staff witness Thomas's comparison of the LCOE cost of the Woodfin Facility to the purchase power cost of CPRE winning

bidders, testifying that a smaller, distribution-tied project developed in the Asheville area would not be able to compete with a larger CPRE solar project on an LCOE basis. *Id.* at 142. The DEP witnesses testified that none of the winning CPRE projects have been in DEP–West. *Id.* at 147.

The DEP witnesses testified that the Public Staff’s three recommendations for decreasing the cost associated with the Woodfin Facility were unreasonable. They testified that while Buncombe County refused to amend its agreement with the Company to pay a higher than market value for the RECs, Buncombe County and the Company had discussed amending the ground lease agreement such that the Company would be able to assign the REC value to equal the assigned land value, resulting in the lease rate effectively being reduced to \$0 for the term of the agreement. *Id.* at 149-52.

With respect to the recommendation that DEP limit the amount of cost recovered from ratepayers, DEP witnesses testified that no reasonable investor would make an investment knowing, at the outset, that it would be unable to recover a substantial portion of its investment, and, therefore, DEP could not agree to this option. *Id.* at 150.

With respect to the recommendation that the Woodfin Facility be utilized for a community solar program, DEP witnesses testified that the project structure and lease agreement with Buncombe County preclude this option. Specifically, DEP witnesses testified that obtaining RECs is a key component of the agreement for Buncombe County, and the county is not willing to forego receipt of the RECs. *Id.* at 151.

## **Discussion and Conclusions**

General Statutes Section 62-110.1 provides for the orderly expansion of electric generating capacity to create a reliable and economical power supply and to avoid the costly overbuilding of generation resources. *State ex rel. Utils. Comm’n v. Empire Power Co.*, 112 N.C. App. 265, 278 (1993), *disc. rev. denied*, 335 N.C. 564 (1994); *State ex rel. Utils. Comm’n v. High Rock Lake Ass’n*, 37 N.C. App. 138, 141, *disc. rev. denied*, 295 N.C. 646 (1978). A public need for a proposed generating facility must be established before a certificate is issued. *Empire*, 112 N.C. App. at 279-80; *High Rock Lake*, 37 N.C. App. at 140. Beyond need, the Commission must also determine if the public convenience and necessity are best served by the generation option being proposed. The standard of public convenience and necessity is relative or elastic, rather than abstract or absolute, and the facts of each case must be considered. *State ex rel. Utils. Comm’n v. Casey*, 245 N.C. 297, 302 (1957). Subsections 62-110.1(c)-(f) direct the Commission “to consider the present and future needs for power in the area, the extent, size, mix and location of the utility’s plants, arrangements for pooling or purchasing power, and the construction costs of the project before granting a [CPCN] for a new facility.” *High Rock Lake*, 37 N.C. App. at 140-41. As hereinafter discussed, the Commission has considered all of these factors in determining whether the public convenience and necessity are served by the proposed Woodfin Facility.

The Commission shares the concerns of the Public Staff regarding the cost of the Woodfin Facility, both relative to other solar facilities in North Carolina and about the Woodfin Facility's high energy cost relative to system avoided costs. The Commission notes the Public Staff's support of the Hot Springs microgrid project, in spite of concern over costs, because of the system benefits offered by that project, and notes that the Public Staff did not offer such support in the case of Woodfin Solar. However, the Commission is mindful of the expectation expressed in the WCMP Order, the collaborative effort undertaken by DEP with stakeholders in DEP–West, and the extensive support of the community for the Woodfin Facility. The Commission is persuaded by the relative dearth of utility-scale solar facilities in the western region of the state that a comparison of the costs of the Woodfin Facility to the costs of a solar facility that is developed in the eastern region of the state or that is transmission-tied may not be a fair or accurate comparison. Indeed, Public Staff Late-Filed Exhibit 2 demonstrates that DEP's cost estimate for the Woodfin Facility is in line with construction costs and construction cost estimates for solar facilities in the mountain region. Further, the Commission is persuaded by the testimony of the DEP witnesses that siting of the facility on the Buncombe County landfill provides an opportunity for DEP to learn from the experience and for others to learn from the experience, as well. Thus, the Commission is persuaded that the Woodfin Facility presents benefits that help to balance the cost.

Additionally, as discussed in detail elsewhere in this Order, the Commission concludes that DEP has taken measures to mitigate those cost items within the Company's control associated with the development of the facility.

Further, at the hearing Public Staff witness Thomas responded to questions from the Commission concerning whether the Woodfin Facility should be viewed as part of the overall package of projects approved in the WCMP Order. Viewed in that context, the relatively small cost of the WCMP solar projects is likely to have an immaterial impact on the overall WCMP economics, given the substantial cost of the combined cycle units. In fact, Public Staff witness Thomas agreed that when the WCMP solar projects, including the Woodfin Facility, are viewed as a part of the overall WCMP, it is likely that customers are still "better off" given the WCMP. Tr., 92.

Based on the foregoing, weighing all evidence of record, the Commission concludes that construction of the Woodfin Facility is consistent with the public convenience and necessity under N.C.G.S. § 62-110.1, and, therefore, should be approved. The Commission notes that the approval of this CPCN is based upon the unique facts surrounding this application, including the WCMP Order, and should not be cited by utilities to support a future project, where the only driver is attainment of local renewable energy goals, under the same cost allocation paradigm. The Commission will assign no precedential value to this Order in such circumstance.



IT IS, THEREFORE, ORDERED as follows:

1. That the Application filed in this docket shall be, and the same is hereby, approved, and a certificate of public convenience and necessity for the Woodfin Facility is hereby granted;
2. That the approval of DEP's Application is conditioned on DEP and Buncombe County amending the landfill lease to price the sale of RECs such that DEP's cost for use of the landfill site is effectively \$0;
3. That DEP shall make available to interested North Carolina government and nonprofit entities nonconfidential information and lessons learned from DEP's development of the Woodfin Facility; and
4. That Attachment A shall constitute the certificate of public convenience and necessity issued to DEP for the Woodfin Facility.

ISSUED BY ORDER OF THE COMMISSION.

This the 20th day of April, 2021.

NORTH CAROLINA UTILITIES COMMISSION

A handwritten signature in black ink that reads "Kimberley A. Campbell". The signature is written in a cursive, flowing style.

Kimberley A. Campbell, Chief Clerk

Commissioner Daniel G. Clodfelter concurs.

**Commissioner Daniel G. Clodfelter, concurring:**

But for the WCMP and the WCMP Order this CPCN application likely would never have been brought forward. The Public Staff makes a strong case that the costs for the project, even in comparison to other similarly sized solar projects elsewhere in North Carolina, are excessive and are well above DEP's avoided cost for new generating capacity and energy. This is a point of particular significance in view of the new legislative policy directions embodied in HB 589, which require the Commission to pay closer attention to the cost-effectiveness of new PURPA and non-PURPA renewable energy facilities proposed to be added to a regulated utility's portfolio and become part of the utility's rate base. However, the WCMP predates enactment of HB 589, and I do not believe the project's origins can be ignored. For me, the fact that this project is brought forward in fulfillment of commitments made in the WCMP is dispositive, though only just barely so. As the Public Staff acknowledged, if this high-cost component of the WCMP package is considered as part of the larger whole, the aggregate net economic impact of the WCMP is still beneficial for DEP's ratepayers.

Unlike my colleagues, however, I do not believe this particular project has any value as a demonstration or model. While DEP has not constructed a solar electricity generating facility on a retired landfill site anywhere in North Carolina, the engineering, technical, operational, and economic challenges and considerations of such projects are not novel and are well-understood. See, e.g., "*RE-Powering America's Land*," at [www.epa.gov/re-powering](http://www.epa.gov/re-powering);<sup>1</sup> "Best Practices for Siting Solarvoltaics on Municipal Solid Waste Landfills, United States Environmental Protection Agency (Report, February, 2013) at [https://www.epa.gov/sites/production/files/2015-03/documents/best\\_practices\\_siting\\_solar\\_photovoltaic\\_final.pdf](https://www.epa.gov/sites/production/files/2015-03/documents/best_practices_siting_solar_photovoltaic_final.pdf); How Does Solar on Capped Landfills Work?" *Solar Power World* (July 15, 2019) at <https://www.solarpowerworldonline.com/2019/07/how-does-solar-on-capped-landfills-work/>. It is certainly true that suitable cleared and level sites for solar facilities are not as common in the mountainous areas of the State as they are in the piedmont and coastal plain, but it does not require a demonstration project to know that closed landfills sites owned by local governments provide potential opportunities for siting such facilities, wherever in the State those landfills may be located.

Many local governments in North Carolina have, as has Buncombe County, adopted ambitious, and laudable, goals for sourcing significant and growing portions of their electricity needs from renewable resources. They are not prevented from offering closed landfill sites they own for development of renewable energy facilities through open competitive solicitations or through private negotiations with developers or even by directly developing and owning such facilities themselves. In such ways they can advance

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<sup>1</sup> The website describes EPA's "RE-Powering America's Land" initiative as ". . . an EPA initiative that encourages renewable energy development on current and formerly contaminated lands, landfills, and mine sites when such development is aligned with the community's vision for the site. One of the two North Carolina solar energy projects identified by the EPA in its report on "RE-Powering America's Land" is located at a closed industrial landfill in Haywood County, immediately adjacent to Buncombe County.



**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. E-2, SUB 1257

Duke Energy Progress, LLC  
410 South Wilmington Street  
Raleigh, North Carolina 27601

is hereby issued this

CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
PURSUANT TO N.C.G.S. § 62-110.1

for a 5-MW<sub>AC</sub> solar photovoltaic electric generating facility

to be located at

2720 Riverside Drive, Woodfin, Buncombe County, North Carolina

subject to all orders, rules, regulations and conditions as are now or may hereafter be  
lawfully made by the North Carolina Utilities Commission.

ISSUED BY ORDER OF THE COMMISSION.

This the 20th day of April, 2021.

NORTH CAROLINA UTILITIES COMMISSION



Kimberley A. Campbell, Chief Clerk