

1 PLACE: Dobbs Building, Raleigh, North Carolina
2 DATE: Monday, May 22, 2023
3 TIME: 1:00 p.m. - 2:42 p.m.
4 DOCKET NO: E-2, Sub 1311
5 BEFORE: Chair Charlotte A. Mitchell, Presiding
6 Commissioner ToNola D. Brown-Bland
7 Commissioner Daniel G. Clodfelter
8 Commissioner Kimberly W. Duffley
9 Commissioner Jeffrey A. Hughes
10 Commissioner Floyd B. McKissick, Jr.
11 Commissioner Karen M. Kemerait

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IN THE MATTER OF:

Application of Duke Energy Progress, LLC,
for a Certificate of Public Convenience and Necessity
to Construct a 9.5 MW Solar Photovoltaic Generating
Facility in Buncombe County, North Carolina

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A P P E A R A N C E S:
FOR DUKE ENERGY PROGRESS, LLC:
Jason A. Higginbotham, Esq.
Associate General Counsel
Duke Energy Corporation
410 Fayetteville Street
Raleigh, North Carolina 27601

Robert W. Kaylor, Esq.
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:
Anne M. Keyworth, Esq.
Public Staff - North Carolina Utilities Commission
4326 Mail Service Center
Raleigh, North Carolina 27699-4300

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E X H I B I T S

IDENTIFIED/ADMITTED

Duke Energy Progress, LLC
Application, Exhibits 1 - 4,
and Supplemental Exhibits 3 - 4 /10

P R O C E E D I N G S

1
2 CHAIR MITCHELL: Good afternoon. Let's come
3 to order and go on the record, please. My name is
4 Charlotte Mitchell, Chair of the Utilities Commission.
5 And with me this afternoon are Commissioners
6 Clodfelter, Duffley, Hughes, and Kemerait. I now call
7 for hearing Docket No. E-2, Sub 1311, which is In the
8 Matter of Application of Duke Energy Progress, LLC for
9 the Approval of a Certificate of Public Convenience
10 and Necessity to Construct a Solar Generating Facility
11 in Buncombe County, North Carolina.

12 In compliance with the requirements of the
13 State Government Act -- State Government Ethics Act,
14 I'm sorry, I remind all Members of the Commission of
15 our duty to avoid conflicts of interest and inquire,
16 at this time, as to whether any member of the
17 Commission has a known conflict with respect to the
18 matters coming before us in this Docket.

19 (No response)

20 CHAIR MITCHELL: The record will reflect
21 that no conflicts have been identified, so we will
22 proceed.

23 On January 23rd, 2023, Duke Energy Progress
24 or DEP filed its Application for Approval of

1 Certificate of Public Convenience and Necessity to
2 Construct a Solar Generating Facility in Buncombe
3 County, North Carolina along with a written direct
4 testimony of Justin LaRoche.

5 On February 2nd, 2023, the Commission issued
6 an Order Scheduling Hearing Establishing Discovery
7 Guidelines, setting deadlines for parties to file
8 testimony, and requiring DEP to provide public notice.

9 The Scheduling Order scheduled a hearing to
10 be held on Wednesday April 5th, 2023 at 7 o'clock p.m.
11 at the Buncombe County Courthouse in Asheville, North
12 Carolina for the purpose of receiving public witness
13 testimony regarding DEP's Application. The Scheduling
14 Order also scheduled a hearing to be held today at
15 this time and place for the purpose of receiving
16 expert witness testimony on the Application.

17 On February 2nd, 2023, the Commission sent a
18 letter to the State Environmental Review Clearinghouse
19 providing notification of DEP's Application.

20 On March 14th, 2023, DEP filed the Affidavit
21 of Publication for the public notice as was required
22 by the Scheduling Order.

23 On March 24th, 2023, the State Environmental
24 Review Clearinghouse filed its comments on the

1 Application.

2 On March 28th, 2023, DEP filed a motion to
3 cancel the Public Witness Hearing which motion was
4 granted by Order of the Commission issued on
5 March 29th.

6 On April 26th, 2023, DEP filed supplemental
7 information related to the Application and requested
8 that the supplemental information be incorporated with
9 and considered part of the Company's Application. The
10 participation in this proceeding by the Public Staff
11 is recognized pursuant to North Carolina General
12 Statute § 62-15.

13 On May 5th, 2023, the Public Staff filed the
14 direct testimony of Jeff Thomas which was corrected by
15 filing made on May 9th.

16 On May 15th, 2023, DEP filed the rebuttal
17 testimony of Justin LaRoche.

18 While no persons have sought to intervene in
19 this proceeding, the Commission has received several
20 consumer statements of position which have been made
21 part of the record of evidence. All right. I now
22 call on counsel for the parties to make their
23 appearances, for the record, and we'll begin with DEP.

24 MR. KAYLOR: Chair Mitchell, Robert Kaylor

1 on behalf of Duke Energy Progress.

2 MR. HIGGINBOTHAM: Chair Mitchell, Jason
3 Higginbotham on behalf of Duke Energy Progress.

4 CHAIR MITCHELL: Good afternoon, gentlemen.

5 MS. KEYWORTH: Anne Keyworth on behalf of
6 the Using and Consuming Public, with the Public Staff.

7 CHAIR MITCHELL: Good afternoon,
8 Ms. Keyworth. Before we begin, I note that
9 Commissioners Brown-Bland and McKissick have joined
10 the Commission. I also note that there is an
11 outstanding motion to excuse witnesses, cancel this
12 hearing, and admit evidence into the record. I will
13 deny that motion as we are here today for the purpose
14 of hearing from the witnesses and getting evidence
15 admitted into the record. Any other preliminary
16 matters before we get started?

17 MR. HIGGINBOTHAM: Yes. Chair Mitchell, so
18 the motion that you just referenced contained an
19 itemization of exhibits and testimony that had been
20 filed in the docket, and we would reiterate our
21 request to move those into evidence, at this time,
22 waive cross-examination of the Public Staff's
23 witnesses pursuant to an agreement that we have with
24 the Public Staff, and tender our witness available for

1 Commissioner questions.

2 CHAIR MITCHELL: Let's do this. At this
3 point, would you please make a motion to move the
4 Company's evidence into application -- into evidence
5 beginning with the Application and including the
6 testimony of your witness, both the direct and
7 rebuttal.

8 MR. HIGGINBOTHAM: Yes.

9 CHAIR MITCHELL: I'll rule on the motion,
10 then I'll ask you to do the same thing.

11 MR. HIGGINBOTHAM: Yes. At this time, DEP
12 moves to admit into evidence the Application for
13 Certificate of Public Convenience and Necessity filed
14 by Duke Energy Progress, along with the direct
15 testimony of Justin LaRoche and attached exhibits, as
16 well as the rebuttal testimony of Justin LaRoche.

17 CHAIR MITCHELL: All right.
18 Mr. Higginbotham, that motion will be allowed. The
19 supplemental information filed on April 26th?

20 MR. HIGGINBOTHAM: Yes, as well as the
21 supplemental information.

22 CHAIR MITCHELL: I will allow into evidence
23 the supplemental information the Company filed in the
24 Docket on April 26th.

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(Duke Energy Progress, LLC
Application, Exhibits 1 - 4,
and Supplemental Exhibits 3 - 4
are admitted into evidence.)
(Whereupon, the prefiled direct
and rebuttal testimony of Justin
LaRoche is copied into the record
as if given orally from the
witness stand.)

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-2, SUB 1311

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of)
Application of Duke Energy Progress, LLC)
for A Certificate of Public Convenience)
and Necessity to Construct a Solar)
Generating Facility in Buncombe County,)
North Carolina)

**DIRECT TESTIMONY OF
JUSTIN LAROCHE**



1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Justin LaRoche, and my business address is 526 South Church
3 Street, Charlotte, North Carolina 28202.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am employed by Duke Energy Corporation (“Duke Energy”) as a Director of
6 Renewable Development.

7 **Q. WHAT ARE YOUR RESPONSIBILITIES AS DIRECTOR OF**
8 **RENEWABLE DEVELOPMENT?**

9 A. I oversee the development of new renewable facilities, including solar and
10 wind, on behalf of Duke Energy’s regulated utilities, including Duke Energy
11 Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”). In my
12 current role, I am responsible for conducting solar development activities,
13 including project siting, land acquisition, resource assessment, permitting,
14 obtaining interconnection rights, project layout and design, and arranging
15 contracts for engineering, procurement and construction services, as well as
16 originating, structuring, and executing transactions to acquire rights to existing
17 solar development projects from third-party developers.

18 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL AND**
19 **PROFESSIONAL BACKGROUND.**

20 A. I have a bachelor’s degree in Accounting from the University of North Carolina
21 Belk College of Business and a master’s degree in business administration from
22 the University of South Carolina Darla Moore School of Business. I began my
23 career with Duke Energy in 2008 as an intern where I supported initiatives

1 within corporate finance, energy efficiency and regulated renewables. From
2 2010 to 2012, I served as a project manager within the grid modernization
3 group, after which I returned to regulated renewables in 2012. Since 2014, I
4 have been supporting and leading Duke Energy's renewable investments in
5 solar and wind facilities throughout our regulated service territory.

6 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NORTH**
7 **CAROLINA UTILITIES COMMISSION ("COMMISSION")?**

8 A. No. However, I submitted pre-filed direct testimony before this Commission
9 in DEP's 2022 Rate Case in Docket No. E-2, Sub 1300. An evidentiary hearing
10 has not occurred in that docket as of the date of this filing.

11 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

12 A. The purpose of my testimony in this proceeding is to support DEP's Application
13 for a Certificate of Public Convenience and Necessity ("CPCN") to construct a
14 Solar Generating Facility in Buncombe County, North Carolina ("Asheville
15 Plant Solar Facility").

16 **Q. WERE YOU INVOLVED IN PREPARING DEP'S APPLICATION IN**
17 **THIS DOCKET?**

18 A. Yes.

19 **Q. PLEASE DESCRIBE THE ASHEVILLE PLANT SOLAR FACILITY.**

20 A. As detailed in the CPCN Application, the Asheville Plant Solar Facility will be
21 constructed as an approximately 9.5 megawatt ("MW") alternating current
22 ("AC") / ~12.8 MW direct current ("DC") solar photovoltaic ("PV") electric

1 generator in Buncombe County, North Carolina. The entire facility will be
2 located at the Asheville Plant site, which is owned by DEP.

3 The Asheville Plant Solar Facility consists of PV modules affixed to a
4 fixed-tilt racking system, 20 degree fixed-tilt racking, solar inverters, electrical
5 protection and switching equipment, and step-up transformers. Additional
6 equipment to support the facility will include circuit breakers, combiners, surge
7 arrestors, conductors, disconnect switches, and connection cabling. Appendix
8 2 to Exhibit 2 shows the preliminary site layout of all major equipment
9 including the PV panels' location and Exhibit 4 provides further facility details.
10 The facility is expected to produce approximately 19,700 MWh per year. This
11 corresponds to a 23.7% net capacity factor (year 1). The service life of the asset
12 is 35 years.

13 **Q. PLEASE DESCRIBE THE PURPOSE OF THE ASHEVILLE PLANT**
14 **SOLAR FACILITY.**

15 A. The Asheville Plant Solar Facility is part of a larger solar deployment plan and
16 grid modernization effort in the Western Carolinas called the Western Carolinas
17 Modernization Project or "WCMP". The WCMP is a collaborative energy
18 innovation project for the Asheville area in the western region of DEP's service
19 territory. As the Commission is aware from the proceedings in Docket No. E-
20 2, Sub 1089 (the "WCMP CPCN Docket"), the goal of the WCMP is to partner
21 with the local community and elected leaders to help transition Western North
22 Carolina to a cleaner, smarter, and more reliable energy future. DEP is

1 committed to this partnership to promote the efficient use of energy in the
2 region.

3 **Q. HOW DOES THE ASHEVILLE PLANT SOLAR FACILITY RELATE**
4 **TO THE COMPANY'S COMMITMENTS AND THE COMMISSION'S**
5 **ORDER IN THE WCMP CPCN DOCKET?**

6 A. In the WCMP CPCN Docket, DEP applied for a CPCN to construct two natural
7 gas-fired combined cycle units in Buncombe County near the City of Asheville.
8 Construction of the combined cycle units would allow DEP to retire the then-
9 existing coal-fired units at the Asheville plant. In its application, DEP also
10 committed to build up to 15 MW of solar generation at the Asheville Plant and
11 invest in a minimum of 5 MW of utility-scale storage pilot in the DEP-Western
12 region. The Commission granted DEP's application to construct the gas-fired
13 units and indicated that it expected DEP to file "as soon as practicable the
14 CPCN to construct at least 15 MW of solar at the Asheville Plant or in the
15 Asheville region." WCMP CPCN Docket Order at 38. Accordingly, the
16 Asheville Plant Solar Facility fulfills DEP's commitment and complies with the
17 Commission's directive in the WCMP CPCN Docket.

18 **Q. PLEASE DISCUSS THE NEED FOR THE ASHEVILLE PLANT SOLAR**
19 **FACILITY.**

20 A. The Project complies with DEP's commitments and the Commission's
21 requirements in the WCMP CPCN Order. Additionally, the facility will
22 contribute to achieving the carbon dioxide ("CO₂") reduction targets
23 established by HB 951 (Session Law 2021-165).

1 **Q. ARE THERE ANY UNIQUE BENEFITS TO THE SITE WHERE DEP**
2 **WILL CONSTRUCT THE ASHEVILLE PLANT SOLAR FACILITY?**

3 A. Yes. The Asheville Plant Solar Facility will be constructed at the Asheville
4 Plant site, which has the following beneficial characteristics: (1) the site is a
5 brownfield development on a former coal generation site and suitable for solar,
6 (2) the acreage is sufficient for siting multiple MW of solar generation and the
7 site is primarily clear of trees and debris; (3) the point of interconnection is
8 located onsite, does not require additional land rights or permitting to access the
9 interconnection facilities, and takes advantage of the existing transmission
10 switching station onsite; (4) the site is not adjacent to residential customers; (5)
11 the site does not require tree clearing to support the solar; and (6) the property
12 is Company-owned.

13 **Q. IS THE ASHEVILLE PLANT SOLAR FACILITY CONSISTENT WITH**
14 **DEP'S MOST-RECENT INTEGRATED RESOURCE PLAN?**

15 A. Yes. This Application is being filed in the midst of a transition period in the
16 North Carolina Integrated Resource Plan ("IRP") structure and rules, as
17 described in the Application. However, I can confirm that the Asheville Plant
18 Solar Facility is consistent with Company's 2020 IRP and 2020 IRP Update.
19 The Company's 2020 IRP was filed in Docket No. E-100, Sub 165 and includes
20 15 MW of solar that represents the solar required to meet the Company's
21 commitment to the WCMP. From a total system perspective, the DEP 2020
22 IRP identifies the need for approximately 8,800 MW of new resources to meet
23 customers' energy needs by 2035. Additionally, the 2020 IRP calls for 100 MW

1 of energy storage and approximately 930 MW of incremental solar installations
2 from 2021 through 2025. Accordingly, the Asheville Plant Solar Facility is
3 consistent with the DEP 2020 IRP.

4 **Q. IS THE ASHEVILLE PLANT SOLAR FACILITY CONSISTENT WITH**
5 **THE 2022 CARBON PLAN ADOPTED BY THE COMMISSION IN ITS**
6 **DECEMBER 30, 2022 ORDER IN DOCKET NO. E-100, SUB 179**
7 **(“CARBON PLAN ORDER”)?**

8 A. Yes. The Asheville Plant Solar Facility is consistent with the Carbon Plan
9 adopted by the Commission in its Carbon Plan Order. The Company’s
10 proposed Carbon Plan, filed with the Commission on May 16, 2022, in Docket
11 No. E-100, Sub 179, assumed as a baseline solar generation amounts that
12 included includes 130 MW of new solar in DEP by year-end 2025, including
13 the Asheville Plant Solar Facility. Accordingly, the Asheville Plant Solar
14 Facility is consistent with the 2020 IRP as well as the 2022 Carbon Plan.

15 **Q. PLEASE DISCUSS THE ENVIRONMENTAL ATTRIBUTES OF THE**
16 **ASHEVILLE PLANT SOLAR FACILITY.**

17 A. Operation of the Asheville Plant Solar Facility will have no emissions or
18 pollutants, and the generation source of the solar power will be 100%
19 renewable. In addition, the facility will be designed in accordance with State
20 of North Carolina environmental requirements with regard to materials.

21 **Q. TO YOUR KNOWLEDGE, HAS DEP FILED AND PROVIDED ALL**
22 **INFORMATION AND OBTAINED OR IDENTIFIED ALL FEDERAL**
23 **AND STATE LICENSES, PERMITS, AND EXEMPTIONS REQUIRED**

1 **FOR CONSTRUCTION AND OPERATION OF THIS PROPOSED**
2 **GENERATION FACILITY?**

3 A. Yes. I believe that the CPCN Application provides all information required
4 under the Commission’s rules. A complete list of all required federal, state and
5 local approvals and their status is included in Exhibit 2 to the Application.

6 **Q. WHAT IS THE PROJECTED COST OF THE ASHEVILLE PLANT**
7 **SOLAR FACILITY?**

8 A. The cost estimate for the Asheville Plant Solar Facility is approximately
9 **[BEGIN CONFIDENTIAL]** ██████████ **[END CONFIDENTIAL]**. The
10 estimate includes Engineering Procurement & Construction (“EPC”), major
11 equipment, labor, and associated permitting and development costs. The
12 average annual operating cost is approximately **[BEGIN CONFIDENTIAL]**
13 ██████████ **[END CONFIDENTIAL]**. Any tax credits and accelerated
14 depreciation benefits will offset project costs for the benefit of customers.

15 **Q. PLEASE COMMENT ON THE PROJECTED COST FOR THE**
16 **ASHEVILLE PLANT SOLAR FACILITY?**

17 A. As with the WCMP Woodfin Solar Facility (approved by the Commission in
18 Docket No. E-2, Sub 1257), the cost of the Asheville Plant Solar Facility is
19 higher than many other utility-scale solar facilities in North Carolina due to the
20 location and the relatively small size of the project. As was the case with the
21 Woodfin Solar Facility, the Company believes that the Asheville Plant Solar
22 Facility is cost-effective given the parameters of the Commission’s directive in
23 the WCMP Order. Under the WCMP Order, the Company was directed to site

1 and construct smaller solar generating projects in an area of the state that is not
2 conducive to the lowest cost solar development. Under those parameters, the
3 Company has delivered a cost-effective project that has market-competitive
4 equipment and construction costs and no land cost.

5
6 The Company acknowledges that in the order approving the Woodfin Solar
7 Facility, the Commission expressed concern regarding the project cost, and the
8 Company understands that similar concerns may exist for the Asheville Plant
9 Solar Facility. However, while siting a larger facility in a different region of
10 North Carolina could result in potentially lower costs, the Asheville Plant Solar
11 Facility fulfills DEP commitment and complies with the Commission's
12 directive to DEP to construct up to 15 MW of solar generation in the Asheville
13 region in the WCMP CPCN Docket and does so in the most cost-effective
14 manner possible.

15 **Q. WHAT IS THE ESTIMATED CONSTRUCTION SCHEDULE FOR THE**
16 **ASHEVILLE PLANT SOLAR FACILITY?**

17 A. If Commission approval were to be obtained, the limited notice to proceed is
18 expected to be issued in late 2023, with site mobilization to begin in late 2024
19 or early 2025, with final commissioning in September 2025.

20 **Q. DID DEP EVALUATE THE WHOLESALE MARKET FOR**
21 **ALTERNATIVES TO SERVE THE NEEDS THE PROJECT WILL**
22 **MEET?**

1 A. No. Because of the unique circumstances of the Asheville Plant Solar Facility,
2 and the Commission's WCMP CPCN order requirements, DEP did not evaluate
3 the existing wholesale market for alternatives to the capacity and energy to be
4 provided by the Asheville Plant Solar Facility. DEP will conduct a competitive
5 bid process for all of the major components and construction of the project to
6 ensure the lowest reasonable cost for our customers. Upon a favorable ruling
7 on this Application, DEP will execute agreements to procure equipment and
8 construct the facility. DEP intends to seek to obtain components and services
9 from North Carolina providers where possible and effective.

10 **Q. IN CONCLUSION, WHY IS DEP REQUESTING APPROVAL TO**
11 **CONSTRUCT THE ASHEVILLE PLANT SOLAR FACILITY?**

12 A. The Asheville Plant Solar Facility is one of many deployments and initiatives
13 designed to meet the goals of the WCMP Order and DEP's commitment to
14 invest in smart, clean energy projects in Western North Carolina. The Asheville
15 Plant Solar Facility presents a unique opportunity for DEP to collaborate with
16 our customers and community stakeholders on an innovative solution and
17 reflects Duke Energy's commitment to proactively support our customers and
18 their energy-related goals and objectives. We are pleased with the strong local
19 support for the Asheville Plant Solar Facility and look forward to bringing it
20 online for our customers' benefit.

21 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

22 A. Yes.

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. E-2, SUB 1311

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of)
Application of Duke Energy Progress, LLC)
for A Certificate of Public Convenience)
and Necessity to Construct a Solar)
Generating Facility in Buncombe County,)
North Carolina)

**REBUTTAL TESTIMONY OF
JUSTIN LAROCHE**



1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Justin LaRoche, and my business address is 525 South Tryon Street,
3 Charlotte, North Carolina 28202.

4 **Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS**
5 **PROCEEDING?**

6 A. Yes.

7 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

8 A. The purpose of my rebuttal testimony is to respond to the Direct Testimony of
9 Public Staff – North Carolina Utilities Commission witness Jeff Thomas, which
10 was filed in response to Duke Energy Progress, LLC’s (“DEP” or the
11 “Company”) Application for a Certificate of Public Convenience and Necessity
12 (“CPCN”) to construct the Asheville Plant Solar Facility (“Asheville Facility”
13 or “Facility”) in Buncombe County, North Carolina (“CPCN Application”).
14 My rebuttal testimony also provides an update to the projected in-service date
15 for the Asheville Facility.

16 **Q. WHAT IS YOUR GENERAL REACTION TO MR. THOMAS’ DIRECT**
17 **TESTIMONY?**

18 A. Mr. Thomas recommends that the Commission only approve the CPCN
19 Application if the Commission continues to believe that the need for the
20 Western Carolinas Modernization Project (“WCMP”) also establishes the need
21 for the Asheville Facility. In making this recommendation, Mr. Thomas
22 acknowledges that adding the Asheville Facility to the portfolio of projects
23 under the WCMP will not materially impact the levelized cost of energy

1 (“LCOE”) for the WCMP or cause the WCMP’s LCOE to be greater than
2 DEP’s avoided costs. However, he does not believe that DEP has sufficiently
3 demonstrated a standalone need for the Asheville Facility. While I agree that
4 the addition of the Asheville Facility to the WCMP portfolio will not materially
5 impact the economics of the WCMP, I disagree that the need for the project is
6 supported only by a general finding of need for the WCMP.

7 **Q. WHAT OTHER FACTORS SHOULD THE COMMISSION CONSIDER**
8 **IN DETERMINING WHETHER THERE IS A NEED FOR THE**
9 **PROJECT?**

10 A. The Commission should consider the overwhelming public support DEP has
11 received for each of the renewable energy projects the Company has proposed
12 in the Asheville region. DEP conceptualized the WCMP in response to
13 significant community and stakeholder engagement through which DEP
14 learned that its customers in the DEP-West region strongly support the addition
15 of renewable energy resources to serve their communities. Like the other
16 renewable energy projects the Company has proposed under the WCMP,
17 members of the Asheville community support the construction of the Asheville
18 Facility. This is evident by the letters of support that have been filed by various
19 individuals and organizations in this docket.

20 **Q. ARE YOU AWARE OF ANY PUBLIC OPPOSITION TO THE**
21 **CONSTRUCTION OF THE ASHEVILLE FACILITY?**

22 A. No. In fact, in its February 2, 2023 *Order Scheduling Hearings, Requiring*
23 *Filing of Testimony, Establishing Procedural Guidelines, and Requiring Public*

1 *Notice*, the Commission reserved its right to cancel the public witness hearing
2 in this proceeding if no substantial written complaints were received by the
3 Commission by March 24, 2023. No such complaints were filed. Therefore,
4 after conferring with the Public Staff, DEP filed a Motion to Cancel the April
5 5, 2023 Public Witness Hearing, and the Commission granted DEP's Motion.
6 Further, no members from the public or parties with standing expressed
7 opposition to the Facility at the Buncombe County Board of Adjustment (the
8 "Board") hearing held on May 10, 2023, in which the Board unanimously
9 approved a Special Use Permit for the Facility.

10 **Q. WHAT OTHER FACTORS SHOULD THE COMMISSION CONSIDER**
11 **IN ITS ANALYSIS OF THE ASHEVILLE FACILITY?**

12 A. The Commission should also consider the challenges of siting a utility-scale
13 solar generation facility, such as the Asheville Facility, in the DEP-West region.
14 The topography and relatively few parcels that can accommodate industrial
15 installations limit the number of locations where a large solar facility can be
16 sited. This is evident by the limited number of existing solar facilities in the
17 region.

18
19 DEP's proposal to site the Asheville Facility on land that has already been
20 cleared, is not adjacent to residential customers, and will make use of existing
21 infrastructure for required interconnections is a significant accomplishment
22 given the limited number of options in the Asheville region. The Asheville
23 Plant site is also zoned for industrial purposes, and DEP has received the

1 required zoning permit approval to construct the Facility from Buncombe
2 County. In addition, construction and operation of the Asheville Facility will
3 allow DEP to build upon the learnings from its operation of the other solar
4 facilities it has constructed in the DEP-West Region.

5 **Q. MR. THOMAS COMPARES THE PROJECTED COSTS OF THE**
6 **ASHEVILLE FACILITY TO OTHER SOLAR PROJECTS IN THE**
7 **SOUTHEAST REGION OF THE U.S. HOW DO YOU RESPOND TO**
8 **THESE COMPARISONS?**

9 A. Given the siting challenges I previously described, I do not believe it is
10 reasonable to compare the projected costs of the Asheville Facility with projects
11 in other parts of the country, where land may be acquired at a lower cost and
12 utility infrastructure may be more readily accessible, or to projects of larger size
13 and different racking type (i.e., single axis tracking facilities). As I stated in
14 my direct testimony, the WCMP Order required DEP to site a solar generating
15 project in an area of North Carolina that is not conducive to the lowest cost
16 solar. As a result, a more reasonable comparison would be between the
17 projected costs of the Asheville Facility and other solar projects in the Asheville
18 region or other regions with similar geographical challenges.

19 **Q. MR. THOMAS ALSO COMPARES THE PROJECTED LCOE FOR**
20 **THE ASHEVILLE FACILITY TO THE SOLAR REFERENCE AND**
21 **AVOIDED COSTS IN THE DEP AND DUKE ENERGY CAROLINAS,**
22 **LLC’S (“DEC” AND TOGETHER WITH DEP, THE “COMPANIES”)**

1 **ONGOING SOLAR PROCUREMENTS. HOW DO YOU RESPOND TO**
2 **THESE COMPARISONS?**

3 A. Again, I believe that these are not reasonable comparisons. The LCOE for the
4 Asheville Facility reflects the costs of siting a solar facility in a challenging
5 location whereas the Solar Reference and Avoided Costs are benchmarks that
6 are used to assess proposals from solar developers to construct facilities in a
7 competitive process, which are often being constructed at up to 80.0 MWac. In
8 addition, the Companies' ongoing solar procurements are being conducted
9 pursuant to legislation that prescribes specific requirements for how the
10 Companies must acquire those resources. DEP does not believe those same
11 requirements apply to the Commission's directives in the WCMP Order.

12 **Q. DO YOU AGREE WITH ALL THE LCOE CALCULATIONS**
13 **PROVIDED IN MR. THOMAS' DIRECT TESTIMONY?**

14 A. No. Mr. Thomas identifies the LCOE for the 2026 Solar Investment Project
15 included in DEP's multi-year rate plan ("MYRP") in Docket No. E-2, Sub 1300
16 as [BEGIN CONFIDENTIAL] [REDACTED] [END CONFIDENTIAL]. It
17 appears that this figure is based on DEP's response to discovery propounded by
18 Public Staff in the MYRP proceeding, which DEP served on the Public Staff in
19 November 2022. However, on February 13, 2023, I submitted supplemental
20 direct testimony in the MYRP proceeding which included revised cost estimates
21 for both the 2026 Solar Investment Project and the Asheville Facility. The
22 revised cost estimate for the 2026 Solar Investment Project yields an LCOE for
23 the facility of [BEGIN CONFIDENTIAL] [REDACTED] [END

1 **CONFIDENTIAL]**. DEP also provided supplemental workpapers to the
2 Public Staff in connection with the February 13 supplement, which provided
3 the updated LCOE for the 2026 Solar Investment Project.

4 **Q. WHAT IS YOUR RESPONSE TO MR. THOMAS’ STATEMENT THAT**
5 **THE ASHEVILLE FACILITY DOES NOT MEANINGFULLY ADD**
6 **SOLAR IN DEP’S SERVICE TERRITORIES IN LIGHT OF THE**
7 **COMPANIES ONGOING SOLAR PROCUREMENTS?**

8 A. I believe Mr. Thomas’ observation incorrectly conflates the WCMP and the
9 Companies’ overall solar procurement efforts. While it is true that the
10 Companies are aggressively procuring solar in response to projected resource
11 needs and legislative mandates, the purpose of the WCMP is to modernize DEP-
12 West by replacing older, carbon-emitting resources with newer technologies
13 that will facilitate the energy transition in the region. While the Asheville
14 Facility may add a relatively small amount of incremental solar generation in
15 comparison to the Companies’ system-wide procurement, it is still a meaningful
16 addition to the portfolio of renewable energy resources that will serve the
17 Asheville region.

18 **Q. MR. THOMAS TESTIFIES THAT CONSTRUCTION OF THE**
19 **ASHEVILLE FACILITY IS INCONSISTENT WITH THE**
20 **OBJECTIVES OF S.L. 2021-165, SECTION 5 (“HB 951”) BECAUSE HB**
21 **951 REQUIRES SOLAR TO BE PROCURED IN THE LEAST-COST**
22 **MANNER. HOW DO YOU RESPOND?**

1 A. DEP is not proposing to construct the Asheville Facility to comply with HB 951
2 but rather for the reasons I have previously identified, including to fulfill the
3 Company's commitments under the WCMP Order. Furthermore, DEP believes
4 it is taking steps to ensure that construction of the Asheville Facility is
5 performed in a least-cost manner. As I described in my direct testimony, the
6 Company plans to issue requests for proposal to competitively source the
7 engineering, procurement, and construction and major equipment to execute the
8 project as cost-effectively as possible for customers.

9 **Q. WHAT IS YOUR RESPONSE TO MR. THOMAS' STATEMENT THAT,**
10 **ABSENT THE WCMP, DEP WOULD LIKELY PROCURE LESS**
11 **EXPENSIVE SOLAR IN ITS EASTERN REGION?**

12 A. While I agree that it is currently less expensive to procure solar resources in
13 DEP's eastern region than in DEP-West, I cannot agree with Mr. Thomas'
14 hypothetical statement because it assumes that cost will always be the primary
15 driver for a resource siting decision. The WCMP seeks to address the dearth of
16 renewable energy generation in the western region due to the relatively higher
17 costs and siting challenges associated with installing solar facilities in the area.
18 DEP's proposal to construct the Asheville Facility recognizes that customers in
19 DEP-West desire to be included in the energy transition notwithstanding the
20 region's geographical limitations. DEP has made a concerted effort to identify
21 the most viable locations to site its proposed renewable energy projects in DEP-
22 West, including the Asheville Facility.

1 **Q. DOES MR. THOMAS IDENTIFY ANY BENEFITS OF THE**
2 **ASHEVILLE FACILITY?**

3 A. Yes. Mr. Thomas acknowledges that the Facility may qualify for increased tax
4 benefits under the Inflation Reduction Act because the Facility will be
5 constructed in an “energy community.” Mr. Thomas also acknowledges that
6 the Facility will make use of existing transmission infrastructure, which will be
7 shared by the Lake Julian battery energy storage system.

8 **Q. HOW DO YOU RESPOND TO MR. THOMAS’ ANALYSIS OF**
9 **HISTORICAL AND PROJECTED LOAD IN DEP-WEST?**

10 A. I agree with Mr. Thomas’ conclusions and believe his analysis further
11 demonstrates the need for additional resources in DEP-West, such as the
12 Asheville Facility. Based on information DEP provided to the Public Staff in
13 discovery, Mr. Thomas found that there is a trend of increasing peaks and
14 energy consumption over time in DEP-West. Mr. Thomas also compared
15 winter and summer peak load growth in DEP-West to the DEP region as a
16 whole and found that the DEP-West summer and winter peaks are growing
17 significantly faster than the DEP region as a whole.

18 **Q. DO YOU AGREE WITH MR. THOMAS THAT CONSOLIDATED**
19 **SYSTEMS OPERATIONS AND A FUTURE MERGER OF THE**
20 **COMPANIES MAY ADDRESS SOME OF THE CHALLENGES OF**
21 **DELIVERING POWER TO THE DEP-WEST REGION?**

22 A. While I do not disagree with Mr. Thomas’ statement, I believe it is premature
23 to opine on the potential impact of consolidated system operations (“CSO”) or

1 a utility merger on future resource needs. These are system-wide efforts that
2 may take years to accomplish and will impact modeling inputs and assumptions
3 used to generate future resource plans. In addition, even if CSO or a utility
4 merger did reduce the cost of importing power into DEP-West, the
5 Commission's directive in the WCMP Order to *site* up to 15 MW of solar in the
6 Asheville region would remain.

7 **Q. MR. LAROCHE, WOULD YOU LIKE TO UPDATE ANY OF THE**
8 **INFORMATION PROVIDED IN YOUR DIRECT TESTIMONY**
9 **REGARDING THE ASHEVILLE FACILITY?**

10 A. Yes. In my Direct Testimony, I stated that the Asheville Facility would be
11 placed in service in September 2025. However, on April 26, 2023, DEP and
12 the Public Staff entered into an Agreement and Stipulation of Partial Settlement
13 (“Stipulation”) in Docket No. E-2, Sub 1300 – DEP’s Application to Adjust
14 Retail Base Rates and for Performance-Based Regulation, and Request for an
15 Accounting Order. Under the Stipulation, DEP and the Public Staff agreed to
16 modify the in-service date for the facility from September 2025 to March 2026.

17 **Q. DOES THIS CONCLUDE YOUR PRE-FILED REBUTTAL**
18 **TESTIMONY?**

19 A. Yes.

1 CHAIR MITCHELL: Ms. Keyworth.

2 MS. KEYWORTH: Yeah. And Chair Mitchell, I
3 would just note that in addition to the corrected
4 filing on May 9th of the Public Staff Witness Jeff
5 Thomas' testimony, we've refiled that on May 16th with
6 corrected pages, so --

7 CHAIR MITCHELL: Okay, so that's correct.
8 So the testimony was filed on -- the testimony
9 corrections you've referenced now were filed on
10 May 16th?

11 MS. KEYWORTH: They were initially filed
12 May 9th and then refiled with attachments of the
13 corrected pages on May 16th.

14 CHAIR MITCHELL: Well, the record will so
15 reflect.

16 MS. KEYWORTH: Thank you. And Chair
17 Mitchell, at this time, I move that the prefiled
18 direct testimony as corrected of the Public Staff
19 Witness Jeff Thomas be entered into the record as if
20 given orally from the stand.

21 CHAIR MITCHELL: That motion will be
22 allowed. I note that Mr. Thomas' testimony includes
23 confidential information, so I would ask,
24 Ms. Keyworth, that you make sure that the transcript

1 reflects that confidential information and is redacted
2 as appropriate. I do not believe that any information
3 in Duke's filing is confidential, but
4 Mr. Higginbotham, I'd ask you that you do the same
5 thing and ensure that the transcript reflects
6 confidential information, if any is included in the
7 materials that have been admitted into evidence.

8 MR. HIGGINBOTHAM: We will, yes. Thank you.

9 (WHEREUPON, the prefiled
10 corrected direct testimony of
11 Jeff Thomas is copied into the
12 record as if given orally from
13 the witness stand.)
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BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-2, SUB 1311

In the Matter of
Application of Duke Energy Progress,)
LLC, for a Certificate of Public)
Convenience and Necessity to construct)
a Solar Generating Facility in Buncombe)
County, North Carolina)

**TESTIMONY OF
JEFF THOMAS
PUBLIC STAFF –
NORTH CAROLINA
UTILITIES COMMISSION**

May 5, 2023

1 **Q. Please state your name, business address, and present**
2 **position.**

3 A. My name is Jeff Thomas. My business address is 430 North
4 Salisbury Street, Dobbs Building, Raleigh, North Carolina. I am an
5 engineer with the Energy Division of the Public Staff – North Carolina
6 Utilities Commission.

7 **Q. Briefly state your qualifications and duties.**

8 A. My qualifications and duties are included in Appendix A.

9 **Q. What is the purpose of your testimony?**

10 A. The purpose of my testimony is to present to the Commission the
11 Public Staff's analysis and recommendations on Duke Energy
12 Progress, LLC's (DEP or the Company) Application for a Certificate
13 of Public Convenience and Necessity (CPCN) for a proposed 9.5-
14 megawatt (MW)¹ solar photovoltaic (PV) facility (the Asheville Facility
15 or the Facility) in Buncombe County, North Carolina.

16 **Q. How is your testimony organized?**

17 A. My testimony first presents a summary of the application and exhibits
18 (Application) as filed by DEP. I then present the results of the Public

¹ All references to MW refer to nameplate alternating current (AC), unless otherwise stated.

1 Staff's investigation and conclude with recommendations to the
2 Commission.

3 **Q. Please summarize your recommendations to the Commission.**

4 A. Based upon the Public Staff's investigation of the Application, review
5 of the Commission's March 28, 2016 Order Granting Application in
6 Part, with Conditions, and Denying Application in Part in Docket No.
7 E-2, Sub 1089, concerning the Western Carolinas Modernization
8 Project (WCMP Order);² the Commission's April 20, 2021 Order
9 Issuing Certificate of Public Convenience and Necessity with
10 Conditions in Docket No. E-2, Sub 1257, concerning DEP's
11 proposed Woodfin Solar Facility (Woodfin Order); the Commission's
12 December 30, 2022 Order Adopting Initial Carbon Plan and
13 Providing Direction for Future Planning in Docket No. E-100, Sub 179
14 (Carbon Plan Order); and review of DEP's recent WCMP updates,
15 the Public Staff believes that the Asheville Facility is needed only
16 insofar as the Commission continues to believe that the WCMP

² In the WCMP Order, in response to DEP's plans to build up to 15 MW of solar generation at the Asheville Plant and a minimum of 5 MW of utility-scale storage in the DEP-West region, the Commission stated that:

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.

WCMP Order at 38.

1 Order is dispositive in the determination of need.³ The Facility is
 2 significantly more expensive than solar facilities located elsewhere
 3 in DEP's system, particularly in DEP-East, and the Public Staff has
 4 concerns that the capital for this Facility and DEP's interconnection
 5 resources could be more effectively allocated elsewhere to meet the
 6 carbon reduction requirements of S.L. 2021-165, Section 5 (HB 951)
 7 at least cost.

8 If the Commission believes the WCMP alone is sufficient to support
 9 the need for this Facility, the Public Staff recommends approval of
 10 the CPCN. If the Commission no longer believes the WCMP is
 11 sufficient to support the need for the Facility, then the Public Staff
 12 recommends the Commission deny the CPCN and direct DEP to
 13 remove the Facility from the Carbon Plan baseline and competitively
 14 procure the shortfall, potentially in DEP-East, and to wheel the power
 15 to DEP-West if necessary.

16 **I. CPCN APPLICATION**

17 **Q. Please describe the CPCN Application.**

18 A. DEP filed its Application in this docket on January 23, 2023, pursuant
 19 to N.C. Gen. Stat. § 62-110.1 and Commission Rule R8-61,
 20 requesting Commission authorization to construct the Facility. The

³ In Commissioner Clodfelter's concurrence, he found the WCMP to be "dispositive, though only just barely so." See Woodfin Order at 18.

1 Application is supported by the testimony and exhibits of DEP
2 witness Justin LaRoche.

3 **Q. Did the Public Staff find the Application, as initially filed, to be**
4 **complete?**

5 A. No, the Application that was filed on January 23, 2023, was not
6 complete. The Application provided information satisfying most of the
7 requirements of N.C.G.S. § 62-110.1 and Commission Rule R8-61.
8 However, Commission Rule R8-61(b)(4)(iv) requires a description of
9 risk factors related to construction and operation of the Facility and a
10 verified statement as to whether the facility will be capable of
11 operating in the lowest temperature that has been recorded in the
12 area. This information was omitted from the Application.

13 The Company agreed with the Public Staff that this information was
14 omitted and provided the missing information in a supplemental filing
15 on April 26, 2023. With this new information, the Public Staff finds
16 the Application complete.

17 In addition, on March 24, 2023, the State Clearinghouse filed
18 comments indicating that no further State Clearinghouse review
19 action is needed for compliance with the North Carolina
20 Environmental Policy Act.

- 1 **Q. Please describe the proposed Facility.**
- 2 A. DEP proposes to build a 9.5 MW AC / 12.8 MW DC fixed-tilt solar PV
3 generation facility on DEP-owned land at the site of the
4 decommissioned Asheville coal-fired generation facility, with 40% to
5 60% of the Facility to be located on closed coal ash landfills. The
6 Facility would be located adjacent to the currently operating Asheville
7 natural-gas-fired combined cycle (CC) plant, and DEP has estimated
8 that the Facility will come online in September 2025. The current
9 design does not require ballasted racking as was used at the facility
10 approved in the Woodfin Order (Woodfin Facility); however, the
11 portion located on the coal ash landfill area will require a novel
12 mounting technology that will be integrated with the closure turf
13 covering. DEP estimates that the facility will produce approximately
14 19,575 megawatt-hours (MWh) in its first year, reflecting a capacity
15 factor of 23.5%.⁴ DEP proposes to interconnect the Facility to its
16 transmission system through the existing transmission switching
17 station on site, requiring no additional land rights or permitting to
18 install the interconnection facilities.
- 19 **Q. What is the estimated cost of the Facility?**
- 20 A. DEP estimates that the project capital cost will be approximately
21 \$24.3 million and has estimated the NC retail in-service cost of

⁴ These figures differ slightly from the figures contained in the Application due to minor errors discovered by DEP during the discovery process.

1 approximately \$15.2 million, utilizing a production plant allocation
2 factor of 62.56%. This equates to a system capital cost of \$2,468 per
3 kW AC, excluding \$854,000 of Allowance for Funds Used During
4 Construction (AFUDC). DEP estimates annual non-capital costs
5 (including operating costs, property taxes, and insurance) to be
6 **[BEGIN CONFIDENTIAL]** [REDACTED]
7 [REDACTED] **[END CONFIDENTIAL]**. Average
8 operational expenses over the life of the project are estimated to be
9 **[BEGIN CONFIDENTIAL]** [REDACTED] **[END**
10 **CONFIDENTIAL]**.

11 DEP estimates that customer rates in the first year of operation will
12 increase by 0.02% due to the Facility. The Asheville Facility is
13 included in rate year two of DEP's proposed Multi-Year Rate Plan
14 (MYRP) in Docket No. E-2, Sub 1300, with an in-service date of
15 September 2025; so whether the Facility is completed or not, its cost
16 will be included in DEP's rates beginning in October 2024, assuming
17 approval of DEP's proposed MYRP.⁵

⁵ In DEP's proposed MYRP, the Public Staff recommended that the in-service date of the Asheville Facility be delayed until March 2026, putting the project in rate year three – meaning that DEP ratepayers would not see the project reflected in rates until October 2026. See testimony of Public Staff witness Jeff Thomas, filed on March 27, 2023, at 16. Further, the Agreement and Stipulation of Partial Settlement between DEP and the Public Staff, filed April 26, 2023, adopts witness Thomas' recommended in-service date of March 2026, at 10.

1 **Q. How does DEP demonstrate the need for the Facility?**
2 A. DEP describes the Facility as a “key component” of the WCMP and
3 states that it presents a unique opportunity to work with the local
4 community as a result of the WCMP Order. DEP states that the
5 Facility and the Hot Springs microgrid⁶ help meet its commitment to
6 construct at least 15 MW of solar generation in the Asheville region.
7 The 2 MW Hot Springs Microgrid, the 5 MW Woodfin Facility,⁷ and
8 the 10 kW Mount Sterling microgrid represent approximately 7.01
9 MW of solar capacity in the region; the Asheville Facility would bring
10 that total to 16.51 MW.

11 In addition, DEP states that the Facility is consistent with the public
12 policies of North Carolina, specifically those enumerated in S.L.
13 2007-397 (Senate Bill 3) and will contribute to achieving the carbon
14 reduction targets established by HB 951. DEP also states that the
15 facility is consistent with the Company’s 2020 Integrated Resource
16 Plan (IRP), which included an update on the WCMP that referenced
17 the Asheville Facility and co-located energy storage with an
18 anticipated in-service date of 2024.⁸ The Company further states that

⁶ Approved in Docket No. E-2, Sub 1185, consisting of a 2 MW solar PV facility and a 4.4 MW battery.

⁷ The Woodfin Facility is expected to come online in September 2023.

⁸ See DEP’s 2020 IRP, filed in Docket No. E-2 Sub 165, at 383.

1 the Asheville Facility was included as “baseline solar generation” in
2 its 2022 proposed Carbon Plan.

3 **II. Public Staff’s Investigation**

4 **Q. Does the Public Staff find DEP’s statement of need to be**
5 **satisfactory?**

6 A. No. Consistent with the Public Staff’s position in the Woodfin docket,
7 the Public Staff believes that DEP’s sole reliance upon the WCMP
8 Order is inadequate for justifying the Facility as proposed. In addition,
9 given the high cost of the Facility, the Public Staff has concerns about
10 the necessity of locating this project in DEP-West territory. The
11 Public Staff continues, in this docket, to have many of the same
12 concerns expressed by the Public Staff in the Woodfin docket.⁹
13 However, the Commission’s Woodfin Order gave dispositive weight
14 to the WCMP and approved that project, in part, due to the Woodfin
15 Facility’s consistency with the expectation contained in the WCMP
16 Order that 15 MW of solar would be built in the region.¹⁰

⁹ See the Direct Testimony of Public Staff witness Thomas in Docket No. E-2, Sub 1257.

¹⁰ Woodfin Order at 9.

1 **Q. Is it the Public Staff's position that new solar generation is not**
2 **needed in DEP's service territories?**

3 A. No. In fact, the Public Staff supported the procurement of thousands
4 of MW of solar and solar plus storage capacity in the Carbon Plan
5 proceedings and has been working diligently with DEP and Duke
6 Energy Carolinas, LLC (DEC and, together with DEP, Duke or the
7 Companies), to successfully design and implement renewable
8 energy competitive procurements to achieve the emission reduction
9 targets, at least cost, compliant with the Carbon Plan Order. The
10 Companies need a significant amount of solar energy to meet the
11 carbon reduction requirements of HB 951; however, this legislation
12 requires that it be acquired in a least-cost manner. Less expensive
13 options are available to the Company than this proposed facility.

14 **Q. What are the Public Staff's primary concerns with the Asheville**
15 **Facility?**

16 A. The Public Staff is concerned about the high cost of the facility. In
17 addition, power flows into DEP-West have steeply declined since the
18 Asheville CC Plant came online, particularly during daylight hours
19 when solar in DEP-East is overproducing and must be exported or
20 curtailed. In short, the Public Staff is not convinced that the Facility
21 is needed in DEP-West, nor that ratepayers would benefit from solar
22 energy at such a cost premium.

- 1 **Q. Please elaborate on the cost premium associated with the**
2 **Facility.**
- 3 A. The Public Staff believes that DEP could build a larger facility in DEP-
4 East for the same cost as the Asheville Facility, which is estimated
5 to cost approximately \$2,500 per kW and has a levelized cost of
6 energy (LCOE) of **[BEGIN CONFIDENTIAL]** [REDACTED] **[END**
7 **CONFIDENTIAL]** over its 35-year life. In contrast, the 2026 Solar
8 Investment project in DEP's MYRP, which is an 80 MW winning
9 project from the 2022 Solar Procurement¹¹ located in DEP-East and
10 anticipated to come online in September 2025, is expected to cost
11 \$1,694 per kW¹² with an approximate LCOE of **[BEGIN**
12 **CONFIDENTIAL]** [REDACTED] **[END CONFIDENTIAL]** over its 35-
13 year life. Absent the WCMP Order, DEP would likely procure solar
14 capacity in its eastern region at a significant discount to the Asheville
15 Facility.

¹¹ See Supplemental Testimony of DEP witness LaRoche, filed on February 13, 2023, in Docket No. E-2, Sub 1300, at 4.

¹² See Supplemental Exhibit 1 to DEP witness LaRoche's Supplemental Testimony, filed on February 13, 2023, in Docket No. E-2, Sub 1300. The 2026 Solar Investment project in line 1 is \$135.6 million for 80 MW, which equates to \$1,694 per kW.

1 **Q. How does the LCOE of the Asheville Facility compare to the**
 2 **Solar Reference Cost used in the 2022 Solar Procurement**
 3 **process?**

4 A. The Solar Reference Cost is used to evaluate whether the
 5 Companies should procure more or less than the 1,200 MW target in
 6 the 2022 Solar Procurement. If the average bid price is less than the
 7 Solar Reference Cost, additional capacity will be procured, and vice
 8 versa. The cost is calculated based on a solar facility coming online
 9 in 2026, includes the impact of the Inflation Reduction Act, and
 10 includes transmission system impacts.

11 The Solar Reference Cost for a utility-owned asset is **[BEGIN**
 12 **CONFIDENTIAL]** [REDACTED]
 13 [REDACTED] **[END CONFIDENTIAL].**

14 **Q. How does the LCOE of the Asheville Facility compare to the**
 15 **Company's avoided costs?**

16 A. The Company provided its forecasted 25-year avoided cost rate to
 17 evaluate potential Competitive Procurement of Renewable Energy
 18 (CPRE) projects selected through the 2022 Solar Procurement

¹³ See Attachment A to the Notice of Correction to Preliminary Carbon Plan Solar Reference Cost, filed on June 22, 2022, in Docket Nos. E-2, Sub 1297, and E-7, Sub 1268.

1 process. For DEP, this rate for transmission-connected solar is
2 \$62.86 per MWh.¹⁴

3 **Q. How does the cost of the Asheville Facility compare to similar**
4 **projects in other regions?**

5 A. The Public Staff reviewed the 2022 Lawrence Berkeley National
6 Laboratory (LBNL) Utility-Scale Solar report (LBNL Report), which
7 provides a detailed list of projects completed across the country for
8 benchmarking.¹⁵ The report provides data on the cost of solar
9 projects on a national and regional scale, as well as broken out by
10 factors such as system size and technology. The Public Staff
11 compared the Asheville Facility cost to two key metrics: (1) the
12 installed cost of solar between 5-20 MW; and (2) the installed price
13 in the Southeast (non-ISO) region. The capital cost of the Asheville
14 Facility is 49% greater than the capital cost of projects between 5
15 and 20 MW that were installed in 2021, and 98% greater than
16 projects in the southeast region that were installed in 2021.

17 *Table 1: Comparison of capital costs (\$ per kW). LBNL values, which are provided in 2021*
18 *dollars, have been adjusted to 2022 dollars.*

Asheville (excluding AFUDC)	LBNL Report: 2021 Projects between 5-20 MW	LBNL Report: 2021 Projects in the Southeast
\$ 2,468	\$ 1,653	\$ 1,245

¹⁴ See DEC's and DEP's 2022 SP Additional CPRE Program Avoided Cost Cap, filed on December 15, 2022, in Docket No. E-2, Sub 1159.

¹⁵ Bolinger, Mark, Joachim Seel, Cody Warner, and Dana Robson. Utility-Scale Solar Data Update: 2022 Edition. Accessible at: <https://emp.lbl.gov/utility-scale-solar>.

1 **Q. How does the cost of the Facility impact the LCOE of the entire**
2 **WCMP portfolio of projects?**

3 A. During the Woodfin evidentiary hearing, Commissioner Clodfelter
4 posed a series of questions asking whether the cost of that facility –
5 which the Public Staff also found to be excessive – would push the
6 overall WCMP project portfolio above avoided cost. A high-level
7 analysis of the LCOE of the entire WCMP portfolio suggests that the
8 impact of the Asheville Facility is minor and that the entire WCMP
9 portfolio of solar and storage projects, inclusive of the Asheville CC,
10 is likely below the Company's most recent estimate of its 25-year
11 avoided costs, with or without the Asheville Facility.

12 **Q. Are there any benefits associated with locating the Facility at**
13 **the proposed location?**

14 A. Yes. Locating the Facility at the site of the retired Asheville coal
15 generation facility qualifies the facility for increased tax benefits
16 associated with the Inflation Reduction Act.¹⁶ This classification as
17 an energy community qualifies the facility for a 10% increase to the
18 production tax credit; assuming that the prevailing wage and
19 apprenticeship standards are met, the Asheville Facility may qualify

¹⁶ According to guidance released on April 4, 2023, in Notice 2023-29 by the United States Internal Revenue Service, Buncombe County qualifies as an "energy community" due to its retired coal generation facility. A full list of eligible counties can be found in Appendix C to Notice 2023-29, accessible at: <https://www.irs.gov/newsroom/irs-issues-guidance-on-eligibility-requirement-for-energy-communities-for-the-bonus-credit-program-under-the-inflation-reduction-act>.

1 for a production tax credit of approximately \$30 per MWh for the first
2 10 years of operation. The Public Staff's calculation of the Facility's
3 LCOE already includes the impact of this tax credit and the energy
4 community status.

5 The Facility's utilization of the existing transmission interconnection
6 facilities also provides certain benefits, as described previously.
7 These interconnection facilities will be shared with the Lake Julian
8 battery storage project, which will be described in more detail below.
9 While locating a generation facility at the site of a retired fossil
10 generation facility can, in some situations, allow for expedited
11 interconnection study requests through a surplus interconnection
12 request¹⁷ or a generation replacement request,¹⁸ it does not appear
13 that DEP utilized these processes to study the Asheville Facility.

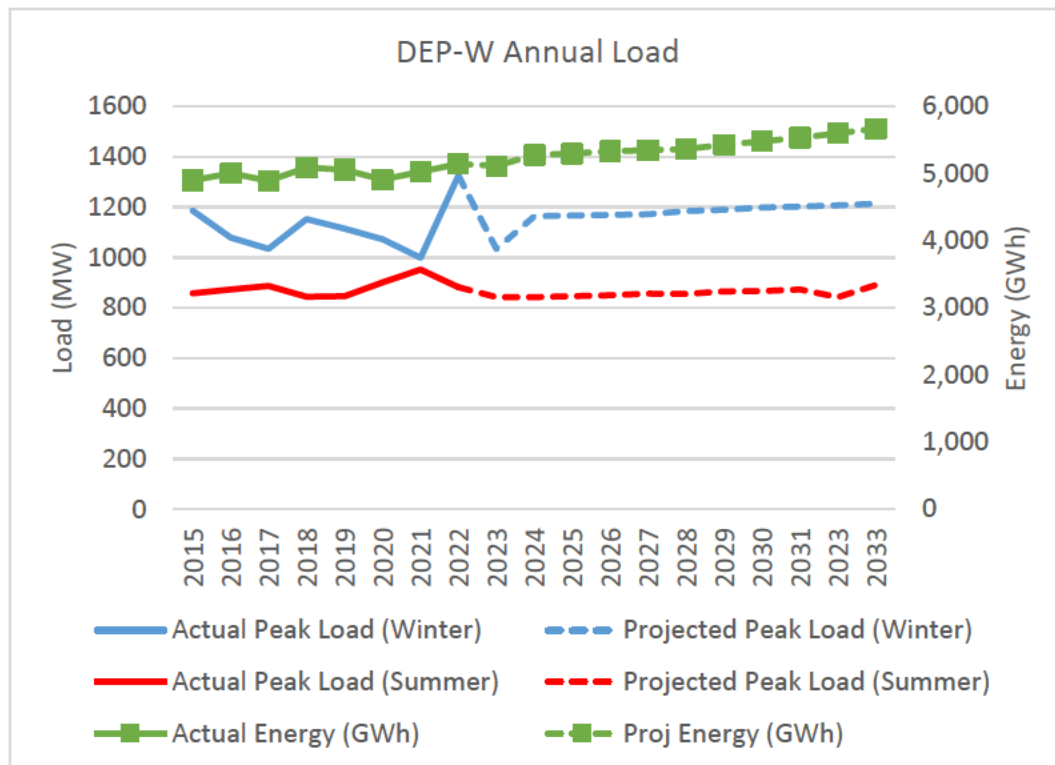
14 **Q. What is the need for energy and capacity in DEP-West?**

15 A. Figure 1 below shows historical and projected peak loads and energy
16 demand over the period 2015 to 2031 for DEP-West. There is clearly
17 a trend of increasing peaks and energy consumption over time.
18 Historically, the winter peak load has been approximately 28% higher
19 than the summer peak load, and over the next ten years, that spread

¹⁷ Defined in section 4.3 of Duke Energy's Large Generator Interconnection Procedures.

¹⁸ Defined in section 4.9 of Duke Energy's Large Generator Interconnection Procedures.

1 is expected to increase to 35%, indicating a greater need for
 2 resources that can meet the winter peak in the early morning hours.



3

4

Figure 1: DEP-West Peak Load and Energy Consumption

5 To put this growth in perspective, I compared the growth projections
 6 in DEP-West to the DEP region as a whole. Generally, DEP-West is
 7 growing faster, as shown in Table 2 below. DEP-West's projected
 8 winter and summer peak loads are projected to grow faster than
 9 DEP, as well as projected total energy consumption. DEP-West's
 10 projected winter peak load is projected to grow at four times the rate
 11 of all of DEP, while the summer peak load growth is similar in both
 12 regions.

1
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Table 2: Comparison of historic and projected Compound Annual Growth Rates (CAGR) for peak load and energy consumption.

	DEP-W	DEP
Historic Peak Load (2016 -2021)	-1.5%	-2.3%
Projected Winter Peak Load (2023 - 2033)	1.6%	0.4%
Projected Summer Peak Load (2023 - 2033)	0.6%	0.6%
Historic Energy Consumption (2016-2021)	0.1%	-0.7%
Projected Energy Consumption (2023 - 2033)	1.0%	0.4%

- 3 **Q. Is the Facility paired with energy storage to meet winter peak**
4 **demand?**
- 5 A. Yes. While not specifically mentioned in the Application, the MYRP
6 includes a 17 MW, four-hour battery to be installed at the retired
7 Asheville coal plant in support of the WCMP.¹⁹ This Lake Julian
8 battery energy storage system (Lake Julian BESS) is anticipated to
9 come online in March 2025, six months prior to the Asheville Facility,
10 and both resources will share a point of interconnection and a main
11 power transformer, which will result in some cost savings for the
12 overall project. The Lake Julian BESS will be dispatched to provide
13 capacity and energy arbitrage benefits, as well as ancillary services
14 to the bulk power system. However, the Lake Julian BESS benefits

¹⁹ See Supplemental Exhibit 1, line 4, to DEP witness Tompson and Shearer's Supplemental Testimony, filed on February 13, 2023, in Docket No. E-2, Sub 1300.

1 are not necessarily contingent upon being co-located with the
2 Asheville Facility.

3 **Q. Is the Lake Julian BESS the only planned MYRP energy storage**
4 **facility located in DEP-West?**

5 A. No. The MYRP identifies two other battery storage projects in DEP-
6 West. The Craggy BESS is a planned 30.5 MW, two-hour battery
7 anticipated to come online in March 2026, and the Riverside BESS
8 is a 4.6 MW, one-hour battery anticipated to come online in August
9 2024. Approximately 35% of the existing and planned 150 MW of
10 energy storage in the Company's MYRP is located in DEP-West.

11 **Q. The WCMP Order also emphasized DEP's commitment to**
12 **energy efficiency (EE) and demand-side management (DSM). Is**
13 **DEP utilizing these programs to reduce demand?**

14 A. It is unclear whether DEP-West has adopted EE and DSM at a higher
15 rate than DEP as a whole, as the Company stated in response to
16 discovery that the level of tracking necessary to make this
17 determination is not available. While DEP has certainly implemented
18 EE and DSM programs for its customers, the Public Staff reviewed
19 annual WCMP progress reports and reports on stakeholder
20 engagement from 2018 through 2023²⁰, filed in Docket No. E-2, Sub

²⁰ Filed in Docket No. E-2, Sub 1089, on March 28, 2018; March 29, 2019; March 30, 2020; March 29, 2021; March 28, 2022; and March 24, 2023.

1 1089, and did not find any mention of specific programs implemented
2 or measured savings achieved through EE and DSM. Due to this lack
3 of information, it is unclear to what extent the need for the Facility
4 could be met or reduced through an increased emphasis on EE and
5 DSM measures in DEP-West.

6 **Q. Given the growing load in DEP-West, should DEP seek to locate**
7 **more solar generation in the region?**

8 A. An analysis of hourly power imports and exports shows that prior to
9 the Asheville CC coming online in early 2020, DEP-West has
10 traditionally been reliant upon power imports to meet local demand;
11 however, these imports have significantly decreased in recent years
12 with the operation of the Asheville CC, as shown in Figure 2. DEP-
13 West is still reliant on imports, with imports increasing in the fall and
14 spring relative to the summer and winter. This is likely due to
15 maintenance on the Asheville CC, lower demand in the DEP-East
16 region, and relatively high production from solar facilities in DEP-
17 East. In addition, DEP has notified the Public Staff of a Transmission
18 Service Request (TSR) that would provide for an additional 100 MW
19 of firm point-to-point transmission service from DEP-East to DEP-
20 West, which is needed in cases where load exceeds generation
21 resources in the DEP-West region or in the case of a generator
22 outage.

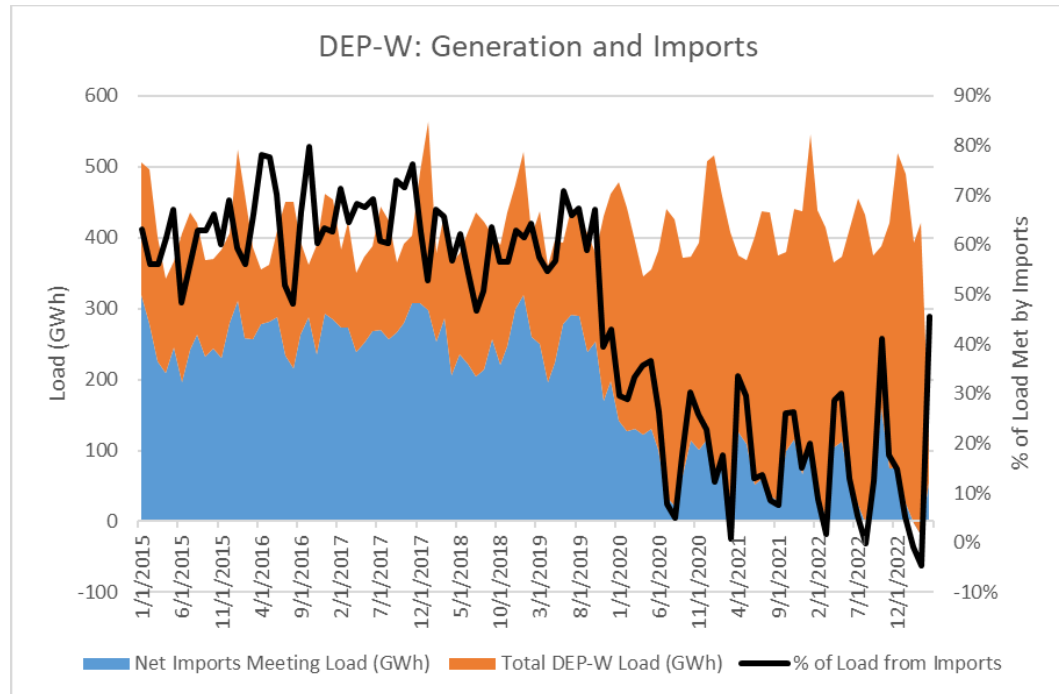


Figure 2: DEP-West load, net imports, and percent of load met from imports, 2015 – 2022.

1 Taken together, the facts that DEP is currently seeking to increase
 2 its transmission transfer capability between DEP-East and DEP-
 3 West, existing generation in the area coupled with planned energy
 4 storage projects will provide additional capacity, and winter peak
 5 load is growing much faster than summer peak load, lead the Public
 6 Staff to believe that, although the Asheville Facility would contribute
 7 to meeting DEP-West's load, it is likely unnecessary to meet DEP-
 8 West's load at this time.

1 **Q. Are DEP and DEC considering any changes to system**
2 **operations that might further obviate the need for the Facility in**
3 **DEP-West?**

4 A. Yes. In the Companies' proposed Carbon Plan, they proposed to
5 consolidate their system operations,²¹ effectively merging the three
6 Balancing Authorities of DEP-West, DEP-East, and DEC.²² The
7 Companies state that the combined system operations can lead to
8 myriad benefits:

9 Overall, consolidated operations provide a number of
10 customer benefits, including lowering reserve
11 requirements, improving dispatch efficiencies,
12 reducing carbon dioxide ("CO2") emissions, and
13 allowing more solar generation to serve our customers.
14 Combining into a single balancing authority to manage
15 load and resources produces savings annually for
16 customers, helps accommodate expanded levels of
17 variable renewable energy resources, substantially
18 reduces forced solar curtailment, and eliminates
19 several hundred annual combustion turbine starts that
20 increase fleet maintenance costs.²³

21 Further, the Companies have stated that a merger of DEP and DEC
22 will provide these same benefits and would be the most
23 straightforward solution to resolving both existing and potential future
24 rate increases.²⁴ Combined system operations, and an eventual

²¹ See Appendix R to the Companies' proposed Carbon Plan.

²² The North American Electric Reliability Corporation (NERC) refers to these three Balancing Authorities as CPLW, CPLE, and DUK, respectively.

²³ See the direct testimony of Company witnesses Peeler and Bateman, filed August 21, 2022, in Docket No. E-100, Sub 179, at 5.

²⁴ *Id.* at 5-6.

1 merger of DEC and DEP, would eliminate wheeling charges between
2 DEP-East and DEP-West and allow for more economic integration
3 of less expensive solar located anywhere in the combined system
4 footprint.

5 **Q. If DEP did not build the Asheville Facility, would complying with**
6 **HB 951 be more difficult?**

7 A. No. DEP and DEC are currently procuring thousands of MW of new
8 solar resources in alignment with the Carbon Plan Order.
9 Approximately 1,200 MW will be procured between DEC and DEP in
10 the 2022 Solar Procurement, and the Commission directed the
11 Companies to collectively procure an additional 2,350 MW over the
12 next two years in the 2023 Solar Procurement and 2024 Solar
13 Procurement cycles. All this solar capacity will be competitively
14 procured, ensuring that the transition to carbon neutrality outlined in
15 HB 951 comes at the least possible cost. To the Public Staff's
16 knowledge, the Woodfin Facility and the Asheville Facility are the
17 only non-competitively procured utility-scale solar that either DEC or
18 DEP plans to build. Both of these projects come at a high-cost
19 premium relative to solar capacity that might be competitively
20 procured through existing processes.

1 **III. Public Staff's Recommendations**

2 **Q. Please summarize the Public Staff's position on the Application.**

3 A. In sum, the Public Staff's investigation shows that the Asheville
4 Facility is significantly more expensive than other solar capacity that
5 could be more cost-effectively procured through a competitive
6 process in DEP-East, and that the Company has not demonstrated
7 that the Facility is necessary nor that it is the most cost-effective
8 option to meet demand and achieve the carbon reduction targets
9 authorized by HB 951.

10 However, the Public Staff's analysis of the WCMP portfolio suggests
11 that the Facility will not materially impact the WCMP LCOE and will
12 not cause the WCMP LCOE to be greater than DEP's avoided costs,
13 as was considered by the Commission in the Woodfin Order.

14 Therefore, the Public Staff recommends that if the Commission finds
15 the WCMP dispositive in terms of establishing the need for the
16 Facility, the Commission should approve the Application, subject to
17 the conditions outlined below. However, should the Commission no
18 longer find the WCMP dispositive, the Public Staff recommends that
19 the Commission deny the Application and direct DEP to continue to
20 procure solar capacity through its annual competitive procurement
21 processes, which will ensure the least-cost solar resources for DEP
22 ratepayers.

1 **Q. What conditions do you propose, should the Commission grant**
2 **the CPCN Application?**

3 A. Should the Commission grant the CPCN, either as filed or under
4 some other conditions, I recommend that the Commission condition
5 the CPCN on the following:

6 1. That DEP construct and operate the Facility in strict
7 accordance with all applicable laws and regulations, including the
8 provisions of all permits issued by the North Carolina Department of
9 Environmental Quality; and

10 2. That issuance of the CPCN does not constitute
11 approval of the final costs associated with the construction of the
12 facility for ratemaking purposes, and the order is without prejudice to
13 the right of any party to take issue with the ratemaking treatment of
14 the final costs in a future proceeding.

15 **Q. Does this conclude your testimony?**

16 A. Yes.

QUALIFICATIONS AND EXPERIENCE**JEFFREY T. THOMAS**

I graduated from the University of Illinois Champaign-Urbana in 2009, earning a Bachelor of Science in General Engineering. From 2009 to 2015, I worked in various operations management roles for General Electric, United Technologies Corporation, and Danaher Corporation. I left manufacturing in 2015 to attend North Carolina State University, earning a Master of Science degree in Environmental Engineering. At NC State, I performed cost-benefit analysis evaluating smart grid components, such as solid-state transformers and grid edge devices, at the Future Renewable Energy Electricity Delivery and Management Systems Engineering Research Center. My master's thesis focused on electric power system modeling, capacity expansion planning, linear programming optimization, and the effect of various state and national energy policies on North Carolina's generation portfolio and electricity costs.

After obtaining my degree, I joined the Public Staff in November 2017. In my current role, I have investigated and filed testimony in avoided cost determinations, general rate cases and riders, interconnection queue reform, CPCN applications, and integrated resource planning proceedings. I have also worked on the implementation of HB 589 renewable energy programs and the

development of competitive resource solicitations, as well as the initiation and implementation of HB 951's initial Carbon Plan and performance-based ratemaking. I received my Professional Engineering license in North Carolina in April 2020.

1 CHAIR MITCHELL: Have you-all agreed upon an
2 order of your witnesses?

3 MR. HIGGINBOTHAM: Yes, we have. We can
4 tender our witness first.

5 CHAIR MITCHELL: Okay. You may call your
6 witness.

7 MR. HIGGINBOTHAM: At this time, Duke Energy
8 Progress calls Justin LaRoche.

9 CHAIR MITCHELL: Mr. LaRoche, good
10 afternoon.

11 MR. LAROCHE: Good afternoon.

12 JUSTIN LAROCHE;
13 having been duly sworn,
14 testified as follows:

15 CHAIR MITCHELL: All right. As we've
16 already admitted your testimony, we will just go ahead
17 and begin with questions from Commissioners. Let me
18 see if there are questions from Commissioners.
19 Commissioner Brown-Bland.

20 (No response)

21 CHAIR MITCHELL: Commissioner Clodfelter?

22 COMMISSIONER CLODFELTER: No.

23 CHAIR MITCHELL: Commissioner Duffley.

24 COMMISSIONER DUFFLEY: This is direct and

1 rebuttal?

2 CHAIR MITCHELL: Direct and rebuttal.

3 (No response)

4 CHAIR MITCHELL: Okay. I will begin with
5 some questions for you, Mr. LaRoche.

6 EXAMINATION BY CHAIR MITCHELL:

7 Q And Mr. LaRoche, just so you are clear, the
8 questions will cover your direct and your
9 rebuttal testimony. So do you have both
10 testimonies in front of you?

11 A Yes, ma'am.

12 Q Okay, perfect. Mr. LaRoche, the Public Staff
13 indicates in its testimony that the actual solar
14 project was not able to take advantage of the
15 interconnection process that you-all have for
16 which you-all have received approval for
17 replacement generation. Can you help me
18 understand why that's the case?

19 A Sure. This project actually originated before
20 the replacement generation process was
21 implemented and approved. That's really not even
22 needed.

23 Q Okay. So the interconnection studies for this
24 project were completed before DEP had received

1 approval to utilize the replacement?

2 A Correct. Yep. They use the serial queue process
3 previously, a very similar output, so we're still
4 using the point of interconnection at the
5 existing facility, so it really just wasn't
6 needed based on the timing when the project was
7 originated.

8 Q Okay. Can you discuss the interconnection, the
9 costs associated with interconnecting this
10 particular Solar Generating Facility to DEP's
11 system?

12 A I do not have a copy of the interconnection
13 agreement or the facility studies in front of me,
14 but essentially it's tying into the existing
15 switching station at the plant that's left over
16 from the retired coal generation facility, so
17 leveraging that existing infrastructure. And
18 then should we also build the Lake Julian Battery
19 Storage Facility, the two projects would actually
20 share a single point of interconnection at that
21 switching station.

22 Q So are there any transmission network upgrades
23 necessary to accommodate this project?

24 A Nothing that's needed outside of the fence of

1 that point of interconnection facility, nothing
2 on the outside of the system.

3 Q Okay. Thank you. So Mr. LaRoche, my
4 understanding is that this project could be
5 eligible for certain tax benefits associated with
6 recent federal legislation. Is that correct?

7 A That is correct. We plan to qualify for the --
8 so we plan to use the production tax credit
9 instead of the investment tax credit. We plan to
10 qualify for the base level plus the enhancements,
11 meeting the prevailing wage in apprenticeship, as
12 well as since it's at a retired coal generating
13 facility there's an added benefit, 10 percent
14 added for that as well, and it's unique to this
15 site.

16 Q In that the community, the energy community
17 enhancement is on the PTC. Is that how that
18 works?

19 A It's on both.

20 Q Okay.

21 A The investment tax credit is kind of like the
22 Legacy I. It's a one-time tax credit when it's
23 placed into service. That's kind of like that 30
24 percent, right, baseline to enter the pre-IRA.

1 Under the Production Tax Credit, it's actually a
2 tax credit you get for a 10-year period each year
3 based on the production you produce each other,
4 so it's a \$1 per kilowatt-hour value.

5 Q Okay.

6 A And then it's a higher rate due to it being at a
7 qualifying energy community site.

8 Q Understood. And have you-all been able to
9 quantify, even approximately the tax benefits
10 that this project would receive?

11 A We have. It's roughly in the \$350,000 range for
12 that first year. And the PTC rate, right, gets
13 adjusted by inflation every single year, so it'll
14 change, right, actually when the facility's
15 built. And then over the 10 years, it'll change
16 as well.

17 Q Okay. So it would not be appropriate to assume
18 \$3.5 million dollars in savings because what I'm
19 hearing you say -- over 10 years, because what
20 I'm hearing you say is the production tax credit
21 will change over time.

22 A Yeah, and that's just the year 1 value. So you
23 can multiply it by 10 and then the PTC rate will
24 actually increase over that 10-year period due to

1 inflation or either the treasury sets. But as
2 well the solar facility will degredate over time,
3 so it'll produce slightly less energy year over
4 year, so it's a pretty good proxy, though, right,
5 of what it'll be.

6 Q Okay. Thank you for that explanation. Have
7 you-all shared that approximation of the tax
8 benefits with the Public Staff?

9 A They have, not in this proceeding. This project
10 is included in the MYRP Docket, and there were
11 preliminary revenue requirements provided to
12 Public Staff as part of that.

13 Q Are there -- so my understanding is that this
14 facility, this solar generating facility would be
15 constructed on -- at least partially on a former
16 coal ash deposition site. Is that correct?

17 A Correct. So it's kind of three components of the
18 site that it'll occupy. So we've got the actual
19 standing facility where the coal generation unit
20 used to be and the coal stacks that's being
21 decommissioned, and then the actual coal ash
22 basin itself. And then the third component is
23 where we've moved the coal ash to on-site at the
24 landfill, and that's the smallest portion of it.

1 It's roughly like 65 acres in total the facility
2 will occupy, but 11 acres, 10, 11 acres is
3 actually on the landfill itself. The ash basin,
4 the cleaned-out ash basin will be the largest
5 footprint.

6 Q Okay. And about how many acres are on the
7 cleaned-out basin?

8 A About 40, 45 acres.

9 Q Okay. So the Woodfin Facility is constructed on
10 a closed county -- just domestic landfill,
11 domestic waste landfill. Is that correct?

12 A Correct.

13 Q So at least a portion of this project would be
14 constructed on landfill associated with CCRs. Is
15 that correct?

16 A Correct. So similar characteristics with some
17 differences, yes, not a municipal waste. It will
18 be a lined-capped landfill that we can't
19 penetrate similar to the Woodfin facility,
20 although the racking system we plan to use here
21 is a little bit different. The turf material,
22 the capping of the landfill is actually designed
23 to integrate solar too. So rather than being a
24 ballasted system, it's actually more like a --

1 it's like a carpet, and then it's got cleats to
2 hold the racking facility in place, so part of
3 the capping system for the landfill was chosen
4 with this in mind.

5 Q Okay. So do I understand your testimony
6 correctly, then, that the engineering for this
7 Asheville facility will be different than the
8 engineering for the Woodfin facility,
9 specifically in the context of the landfills over
10 top of which you're locating?

11 A That is correct, yep.

12 Q Okay.

13 A The facilities on both projects that are located
14 on the landfills are different design, different
15 equipment.

16 Q Okay. In reading the Application, I did not see
17 that this will be a tracking system. Is that
18 correct?

19 A That is correct. It's going to be fixed tilt,
20 and that permanently has to do with the
21 topography in just the lay of the land. It's not
22 as well-suited for a tracking facility.

23 Q Okay. If this were a tracking facility, would
24 the output be different or would the capacity

1 factor be different?

2 A Um, so yes. Traditionally, a fixed -- oh, sorry.
3 A tracking facility will produce more energy, a
4 higher net capacity factor, but that comes off as
5 a trade off. It's usually higher costs as well.
6 You have more moving parts, so in the end, it
7 looks a little bit different. So from a levelless
8 cost of energy, would -- may be the same or
9 probably pretty close still to. We did not
10 analyze that on this facility just due to the
11 topography wasn't conducive.

12 Q Okay. One of the -- the Public Staff takes issue
13 with the cost of this facility, at least in my
14 read of their testimony. And one of the things
15 that we, the Commission, have heard over the
16 years is that in siting solar generating
17 facilities in the western part of the State is
18 more expensive than in the eastern part of the
19 State because in the eastern part of the State,
20 you have land that's -- you know, there's
21 abundant land and it's been cleared for farming
22 or agricultural purposes, and you have relatively
23 easy access, or at least you did a while ago to
24 the Company's distribution and transmission

1 systems. And that just isn't the case or isn't
2 as readily the case in the western part of the
3 state. But here, you've got a facility that's
4 being located on, you know, a site that's -- you
5 know, you've got interconnection capabilities
6 immediately adjacent to your solar generating
7 facility. And the land has already been cleared
8 and it's ready for you-all, to, you know, develop
9 with the solar generating facility.

10 So why is the cost not more
11 competitive with facilities that are built in the
12 eastern part of the state?

13 A Yeah. I think you hit the nail on the head.
14 Western Carolinas is traditionally not the
15 focused development area as we see in the eastern
16 part of the State. Perfect example of that in
17 the most recent RFP substation that we were
18 currently running, there wasn't a single solar
19 project sited in DEP-West service territory.

20 Q Is that 2022?

21 A Yeah, 2022. Yeah. Due to those challenges of
22 topography, cost of land, availability of
23 interconnection, and just the size that it takes,
24 we're not going to see 80 megawatt facilities

1 sited out there, primarily due to the topography
2 challenges and then the site conditions. So we
3 decided, we think, offers unique attributes of
4 being sited, being cleared, having
5 interconnection on site, and being company-owned
6 land as well, so we're not paying an annual lease
7 payment as well as positive attributes.

8 Q So is there -- in the cost associated with this
9 facility, is there any value ascribed to or any
10 cost, let me say it differently, ascribed to the
11 land or to the real estate?

12 A So if we were leasing the land from a third-party
13 landowner, the cost would have been higher
14 because we would have been paying a lease
15 payment. Woodfin, I think, had a small minor
16 payment to the city, so cost would have been
17 higher, I think, to develop non -- projects
18 non-sited on Duke-owned land, so I think why the
19 costs are a little bit higher here or just due to
20 the size of the project. There are no other 9.5
21 megawatts being sited in the Carolinas and being
22 bid into the competitive RFPs. We have the
23 benefit of the existing infrastructure on site,
24 which helps lower interconnection costs. If you

1 were to connect a 9.5 megawatt project to a
2 different transmission site, not on an existing
3 switching yard, cost would probably be even
4 higher. And then we should note that should we
5 build the battery storage project, for doing the
6 battery storage project, we'll be able to
7 allocate and share those interconnection costs
8 between the two projects which would help lower
9 the actual proportion.

10 Q Okay. Let's talk about Lake Julian. So Public
11 Staff Witness Thomas' testimony indicates a plan
12 or proposed in-service date for the Lake Julian
13 battery around March 2025. Is that still the
14 case?

15 A So that's my understanding. I'm not responsible
16 for that development and execution, but in close
17 coordination with that team, we are evaluating
18 options to bring our project, our schedules
19 together to leverage on the minimal synergies
20 that we can monetize such as one EPC contractor
21 and then one Duke construction oversight group.
22 That may be a little bit later COD from their
23 side. We might have to pull ours forward a
24 little bit, but we're still in early stages of

1 being able to work through those items.

2 Q Okay. So what is the proposed in-service date
3 for this Asheville facility?

4 A So originally, we were September of 2025 and then
5 we agreed to adjust that to March of '26, and
6 that's where it stands in the MYRP. That's what
7 we changed in my rebuttal testimony, but we will
8 continue to evaluate opportunities for cost
9 savings if we bring that forward a little bit to
10 marry up with Lake Julian, and then we'll
11 certainly do so to help bring down costs.

12 Q Okay. Recognizing that you're not the team
13 member that's the lead for the Lake Julian
14 project, what can you tell me about Lake Julian?
15 Specifically, I'm interested in whether it's been
16 studied to export energy and what has been
17 determined from those studies, and sort of what
18 you-all know about its export capabilities.

19 A Unfortunately, I have limited knowledge on that
20 side. I only know that they've gone through the
21 studies, they have an interconnection agreement.
22 Since they were trying to interconnect before the
23 solar facility was trying to interconnect, they
24 had to get a provisional service to allow them to

1 do that. That came with very minor costs.

2 Otherwise, yep, they've completed their
3 interconnection study process as well.

4 Q Okay. So as proposed, it's a 17 megawatt
5 four-hour battery. Is that correct?

6 A Correct.

7 Q Would that be the largest stand-alone battery on
8 DEP's system if it were placed in the service?

9 A I do not fully have a list of their projects. I
10 know compared to what we've done in Western
11 Carolinas, I believe the answer is yes.

12 Q Okay. And so are you aware of whether any
13 network upgrades, outside of the fence upgrades,
14 are necessary, are made necessary by the Julian
15 interconnection, Lake Julian interconnection?

16 A Subject to check, I haven't seen their
17 interconnection agreement, but I believe my
18 understanding is no, they didn't have any major
19 upgrades that were needed.

20 Q Okay. So Public Staff Witness Thomas testifies
21 regarding the -- sort of the -- DEP's load, and
22 he makes the point, at least as I understand it,
23 that there is some load growth anticipated in
24 DEP-West, and you-all are experiencing increases

1 in the peaks, both the summer and the winter. Do
2 I understand his testimony -- do you understand
3 his testimony the same way I do?

4 A Yes, ma'am.

5 Q Okay. Do you agree with his testimony?

6 A Largely, correct.

7 Q Okay.

8 A Well, let me take that back. I agree with those
9 portions of it, some of the cost comparisons. We
10 provided some separate facts, but yes.

11 Q I understand. My question was just limited to
12 his testimony on what's happening with the peaks.
13 Mr. Thomas also testified regarding a -- let's
14 see, what did he call it, a transmission --
15 reservation of transmission capacity. Let me get
16 my notes up here.

17 A It might have been in reference to the
18 replacement generation.

19 Q No, it's point-to-point.

20 A Oh.

21 Q Let me see. Hang on one second. Yes, a
22 transmission service request for 100 megawatts of
23 firm point-to-point service from DEP-East to
24 DEP-West. Do you remember his testimony?

1 A What page are you referencing?

2 Q I will tell you. Hang on, let's see. It's
3 page 19 of his testimony down at the bottom.

4 A Yep, I see it. Um, no, I'm not intimately
5 familiar with that, that study. That would be
6 some more of the transmission group, but I think
7 the point is that, yeah, we need more energy to
8 serve the load in DEP-West that's not coming from
9 DEP-West.

10 Q Okay. Based on what you understand about
11 DEP-West load and load characteristics, when does
12 the Company need more energy?

13 A Can you clarify a time of day or --

14 Q Time of day, time of year.

15 A Unfortunately, that is outside of my area of
16 expertise.

17 Q Okay. But is it -- but you do understand that
18 the summer and the winter peaks are growing?

19 A Correct.

20 Q Okay. So is it a fair assumption to make that
21 the Company is going to need more energy at
22 summer peak and winter peak?

23 A Correct, yep. I think that aligns with our
24 forecast.

1 Q Okay. Let's say Lake Julian goes -- the Lake
2 Julian battery goes into service and its export
3 capabilities are such that it could export what
4 the solar generating facil -- its exports could
5 match that of the Solar Generating Facility. Is
6 that even a possibility that the battery's export
7 capabilities could match that of the solar
8 generation?

9 A Yes, and the battery is actually -- is larger
10 than the Solar Facility. So yes, in theory, we
11 could be charging that battery directly.

12 Q Okay. And the battery could charge from the
13 grid?

14 A Correct.

15 Q Okay. All right. Let's see. Anything else that
16 you want to tell us or explain about lessons that
17 the Company can learn from developing this
18 Asheville facility, given that it's proposed to
19 be located at the site of a former generating
20 facility?

21 A Yeah. We've sited other solar facilities at
22 existing generation facilities, and some
23 substation properties in the Carolinas as well as
24 in Florida, so we're well with the parameters

1 that it's near now working on an existing
2 generation site, so those are all built into the
3 plans. Otherwise, it's nothing really special
4 with it. We recently built solar facilities and
5 we're actually into the portfolio to execute.

6 Q Well, thank you, Mr. LaRoche. That's all for me.
7 Let me see if there are questions from other
8 Commissioners. Commissioner Duffley.

9 EXAMINATION BY COMMISSIONER DUFFLEY:

10 Q Good afternoon. I'm going to follow up first
11 with your discussion with Chair Mitchell
12 regarding future energy needs, and are you
13 familiar with the progress reports that are filed
14 in Docket E-2, Sub 1089?

15 A I know it's the annual Western Carolina's
16 Modernization Report?

17 Q Correct.

18 A Yes, I have seen those.

19 Q So could you talk to me a little bit on the
20 second page of the report that was filed on
21 March 24th of 2023, the first section talks about
22 community engagement for Demand-side Management
23 and Energy Efficiency. And in that first
24 paragraph, it talks about the Company has

1 successfully pushed the contingent CT out beyond
2 the mid-2030s in part through its community
3 collaboration in Buncombe County, and that you've
4 worked with the county about reducing peak load
5 through Demand-side Management Energy Efficiency
6 and other measures. Could you just talk a little
7 bit about that process and talk a little bit
8 about what the Company's doing with the community
9 with respect to Demand-side Management Energy
10 Efficiency and other measures?

11 A I would love to. Unfortunately, that is not my
12 scope of responsibility --

13 Q Okay.

14 A -- other than guarding the community support for
15 the Solar Facility. The Demand-side Management
16 and EE measures are not my responsibility.

17 A Okay, fair enough. And then moving to your
18 testimony, in your rebuttal, you indicated that
19 the Public Staff made an inappropriate comparison
20 with respect to the cost, comparing the cost of
21 the Asheville project with eastern North Carolina
22 projects, and you stated that the proper
23 comparison would be to compare the project with
24 western Carolina projects, solar projects. So

1 did you actually -- has anyone actually
2 compared -- done that comparison?

3 A So you're right, and I think it's a little bit of
4 an apples and oranges comparison. And to my
5 knowledge, the only other solar facilities being
6 built in western Carolinas that are somewhat
7 apples to apples are our other western Carolina's
8 modernization project, solar projects. So I did
9 compare it back to Woodfin, and from LCOE
10 perspective, we're pretty darn close to where
11 that was.

12 Q Okay. So there's no other comparison that it
13 would be outside of --

14 A I looked at the database that Jeff used, and the
15 way you can filter the data, it didn't -- kind of
16 drove into that relevant project size or
17 geographic reason or region. Yeah, I couldn't
18 find a good comparison.

19 Q And in your discussion with Chair Mitchell, I
20 heard the main reason why the cost is so high,
21 even with all of the benefits, really, is the
22 size of the project? Is that accurate?

23 A Correct. There's still a certain level of fixed
24 costs that go into developing a project. If you

1 spread that out over nine-and-a-half versus
2 eighty, or it's going to be higher on a smaller
3 project, interconnection being one of those big
4 ones as well from a dollar per kW standpoint, a
5 smaller project's going to have a higher relative
6 interconnection cost compared to any megawatt
7 facility. Rest assured, though, that the other
8 components that we can control will be
9 competitively procured. Our modules are EPC
10 cost, which certainly will leverage this facility
11 as part of our broader portfolio projects that
12 we're building to drive these costs down as low
13 as we can for customers.

14 Q Okay. And then there was discussion about the
15 merger between DEC and DEP, and you may not be
16 the proper person for this, but what are the
17 estimated wheeling charges, annual wheeling
18 charges to wheel power from DEP-West into -- or
19 DEP-East into DEP-West?

20 A Yeah. Unfortunately, I do not have those cost
21 numbers and is outside my purview.

22 Q Okay. Thank you.

23 CHAIR MITCHELL: Commissioner Hughes.

24 EXAMINATION BY COMMISSIONER HUGHES:

1 Q Thank you. I'd like to talk a little bit about
2 the carbon emission characteristics of this as an
3 energy source. If I understand and read the
4 testimony, a lot of the discussion about energy
5 need was not necessarily a low carbon energy
6 need, but there's some general, kind of,
7 illusions to we need low carbon. But, again,
8 today, there was also an analysis of just what is
9 the energy needs in this region. I want to get
10 back to the low carbon energy needs here, and I
11 wish -- I kind of wish the County was here
12 because some of these questions are probably more
13 for Buncombe County, but Buncombe County, as part
14 of their support for this project, have
15 highlighted their ambitious carbon reduction
16 goals, which if I'm understanding it correctly is
17 more ambitious and more accelerated than HB 951
18 and the Carbon Plan. So you have a situation
19 where there's a least county government and maybe
20 the city government that have a need for low
21 carbon energy faster than normal, and this is
22 going to play well to that. My question is from
23 an accounting standpoint, as far as Duke is
24 concerned, this is going to go into the grid and

1 into your energy, general energy mix. So when it
2 gets to the County, are they going to be able to
3 say that this project alone meets their
4 accelerated carbon reduction goals or are they
5 going to have to essentially share the output,
6 even though it's close to them, share the output
7 with all of DEP-West or all of DEP? Does that
8 make sense?

9 A Yeah. So I think there's two points there. One,
10 the other main reason why we're proposing the
11 project is to satisfy the commitment in the
12 Western Carolinas Modernization Program to site
13 15-megawatts in that DEP-West region,
14 specifically in Asheville or an Asheville plant,
15 which recognizes -- and that was a part of a huge
16 modernization of that site, to retire coal and
17 replace it with new technology and carbon-free
18 resources being the renewable's aspect of that,
19 so that helps the City in their more aggressive
20 targets. You're absolutely right. They can't
21 take credit for every megawatt-hour command out
22 of this facility, but it does help DEP's
23 generation portfolio, which then serves the
24 County and the City. So by supporting that, it's

1 still supports their proportion, right, that
2 serves their needs. You're exactly right.
3 They're still going above and beyond, though,
4 with other resources and measures to meet their
5 goals. That is just one piece of it.

6 Q So thank you for that. So it's become fairly
7 common for organizations that have more
8 aggressive goals to both rely on what's coming
9 from the electric provider and their general mix
10 but also to take other initiatives. And I just
11 can't help but wonder with the County and the
12 City being so interested in carbon-free so
13 quickly, if there's some role that they could be
14 playing in projects like this. I mean, I think
15 one issue of Public Staff, if I can see, would be
16 that the cost for all of DEP customers is maybe
17 higher compared to the cost of other sources, but
18 I think the County and the City have gone on
19 record saying for them, they want a very specific
20 type energy and they want green energy. So -- or
21 carbon-free energy. So I just -- has Duke
22 explored, and how would it even work for you to
23 have an arrangement with either the County or the
24 City or in the future just someone else where you

1 could allocate all of the greenness, you know,
2 all of the low carbon from this facility to them?
3 I just did a, kind of, back in the Anvil
4 calculation. I think what the County needs is
5 very similar to the output of this facility, if
6 they got all of it, but you're saying that they
7 only get a very small percentage of it, and I'd
8 be curious if that percentage -- like 3 percent,
9 2 percent. I mean, how much are they going to be
10 able to save? But, so, they continue to be very
11 aggressive about a goal that they really want to
12 meet. This is a facility that's close by, and
13 I'm just really curious whether, you know, you
14 could sell the RECs, if that's even possible,
15 under our framework, if there's been any
16 discussions. I know Woodfin's a little bit
17 different because they own the land and I think
18 they were able to keep the RECs as part of that
19 arrangement. But with this, like you said, they
20 don't seem to have any special claim to the low
21 carbon.

22 A That is correct, and we do offer REC purchasing
23 programs as a company but they're not specific to
24 a facility. So as of today, we don't have an

1 approved program, a community solar program or a
2 green source advantage program that rides on
3 utility-owned assets. But it's my understanding
4 that it's part of the pipeline of products that
5 we're currently working on, so something that we
6 can offer to governments and cities in the
7 future.

8 Q Okay. So for this project, there's no options
9 other than it just going into the general mix?

10 A Not today, exactly. Yep. They'll get their
11 proportion like any other DEP customer would
12 that's served by this facility, yep, as of
13 options today.

14 COMMISSIONER HUGHES: Okay. That's helpful.
15 Thank you.

16 CHAIR MITCHELL: Commissioner Brown-Bland.
17 EXAMINATION BY COMMISSIONER BROWN-BLAND:

18 Q So just generally - and I apologize as this
19 causes you to retread all ground here - but in
20 your testimony, you indicated that what you're
21 trying to do is address a dearth, a renewable
22 energy sources in the western region and that the
23 people who live in the western region don't want
24 to be left out of the transition and this change

1 to renewable; they want to participate, they want
2 to be part. And generally, I think that they
3 wanted to have a role in lessening the Company's
4 reliance on fossil and certainly reliance on
5 fossil in their area. But given what we have
6 learned since 2016 when the Order, the first
7 Order went out that was related to this, just
8 given what we know now, is that -- because their
9 concerns or do you think their concerns from what
10 you know would be capable of being addressed by
11 these other methods such as moving, shifting
12 power from east to west? Would that -- would
13 that, in itself, mean that they're not left out
14 of the transition, and also they would be using
15 more energy from more renewable sources?

16 A Yes. I think one of the big aspects of the
17 Western Carolinas Modernization Project was the
18 locational, right, as suspect of the Generation
19 being sited in DEP-West in Asheville as opposed
20 to wheeled in. And in terms of the cost, the '22
21 RP is still ongoing, right. Bidders were just
22 notified on Friday for final bidders, so that
23 information's not available of those costs, but
24 from what I've seen, I don't think the cost is

1 absorbed in it compared to what we're procuring
2 in DEP-East, and certainly on par with even
3 projects we're foreseeing in DEC.

4 Q From the Company's point of view, and I assume
5 the Company's mostly neutral about this decision
6 in terms of being able to serve customers, but is
7 there a company point of view where it is
8 important that there be a renewable source such
9 as this in the region, physically in the region?

10 A Certainly. We think, right, there's a strong
11 poll from the community and desire to fulfill the
12 needs and expectations set in 2016. It still is
13 a good site, certainly compared to alternatives.
14 And then given that it's a really neat, right,
15 transition of the site itself, going from a
16 Brownfield Coal Facility that's going to take
17 advantage of an IRA tax enhancement, right, those
18 are just certainly a limited number of sites in
19 the Carolinas, so we're excited to see this
20 transition at this site. It's already progressed
21 a lot from the coal facility. This is just the
22 added cherries on top, so yeah.

23 Q I mean, same answer, does your answer change any
24 when you're just looking from a, you know, pure

1 energy service perspective?

2 A As the discussion before, with being corrected,
3 the energy needs and capacity is there. Granted
4 9.5 megawatts isn't going to serve, right, it's
5 not going to solve the problem in itself, but
6 every little bit certainly helps.

7 Q And there's a reason -- maybe you answered me but
8 let me ask you here. Is there a reason that the
9 Company thinks it's important to have a facility
10 like this located in the West?

11 A So we seek to fulfill the commitments set out
12 previously to us, and we think this is great site
13 to meet that.

14 COMMISSIONER BROWN-BLAND: Thank you.

15 CHAIR MITCHELL: Commissioner McKissick and
16 then Commissioner Kemerait.

17 EXAMINATION BY COMMISSIONER MCKISSICK:

18 Q Just one or two questions in follow-up to what
19 Commissioner Brown-Bland was asking. I mean, in
20 terms of the -- you know, the Western Carolinas
21 Modernization Plan, I mean, do you feel that DEP
22 has an obligation to move this particular project
23 forward at this time? I mean, an actual
24 obligation as opposed to it being perhaps

1 aspirational? And I distinguish the two.

2 A Sure, yeah. I think the charges are clear in the
3 Western Carolinas Modernization Program for what
4 should happen in the transition in the DEP-West
5 region, and we seek to -- it's taking us long
6 enough to get to this point today and we would
7 like to execute on it and continue to progress on
8 our energy transition.

9 Q And I guess what I'm trying to distinguish is
10 whether you feel that is an actual obligation as
11 opposed to something that's aspirational. I
12 mean, it wasn't a requirement to move forward
13 with this particular project, at this point time,
14 or any other point in time.

15 A I believe the Order had said as reasonably as
16 possible, right, you shall seek CPCN for
17 15 megawatts, right? The first two projects
18 happened a little bit faster than this one. This
19 one is delayed a little bit, timing wise, just
20 due to the site work that needs to happen with
21 the commissioning of the coal facility and the
22 cleaning out of the ash basin. Otherwise, we
23 would have pursued it faster.

24 Q Do you believe there are any type of lessons that

1 Duke can learn from moving forward with this
2 project at this particular site? I mean, you
3 know, previously, we go back and we look at Hot
4 Springs and things like that. I mean, you could
5 theoretically look at it more as a pilot, whereas
6 here, I'm just trying to determine if you feel
7 that there's something unique about the aspects
8 of siting this particular project on this site
9 that make it something that we can learn or Duke
10 can learn from.

11 A Probably minimal. I think learning other than,
12 you know, something you learn with executing any
13 solar facility. There's no unique solution to be
14 engineered. I mean, I guess, it would be a first
15 of its kind of the racking system on the
16 landfill. Otherwise, if it's still, you know, a
17 racking facility that we've -- is in our first
18 time building, then we certainly apply our
19 lessons learned from prior projects to this from
20 a contracting standpoint, from an equipment
21 selection standpoint or an execution. But
22 otherwise, you know, I think that it's just a
23 great site within the region to site solar, given
24 that we own it, given of the infrastructure

1 existing on-site for transmission, the ability to
2 zone, right, and get a project permitted in
3 DEP-West that doesn't impact residential
4 neighbors is a big benefit. We just got the
5 accounting to issue the permit last week on that.

6 Q And when it comes to the actual construction cost
7 of actually, you know, moving this project
8 forward, getting it built, looking at the cost of
9 power later, I mean, I gather that the cost of
10 this project, notwithstanding the location, is
11 substantially higher than what it would be, let's
12 say, if you built it in DEP eastern territory
13 rather than the west?

14 A Correct. I think the attributes are primarily
15 where it's sited, not just the cost to build in
16 DEP-West. And then it's relative size. Again,
17 it's going to be a very similar fixed
18 interconnection cost, and you're going to connect
19 to any project to the transmission system for no
20 less than 4 or \$5 million dollars when you have
21 to build a brand new tap station. And if you
22 spread that over a larger project, right, it's
23 going to be more economic compared to a smaller
24 project. It is not 4 to \$5 million dollars

1 interconnection here. It's, I think, 1.7, if I'm
2 correct, but it's relatively a small project, so
3 you're spreading those costs over fewer
4 megawatt-hours.

5 Q Got it. And in terms of -- I mean, you got to
6 site this relatively level. I mean, they'll have
7 to be some site work done, but, you know, it's
8 already clear. So what's driving the cost to be
9 so much higher in terms of -- and maybe I misread
10 something, but it looks like the actual cost of
11 building that infrastructure, putting it in
12 place, putting it into position is actually
13 uniquely higher for this particular site.

14 A Yeah. So you definitely get not as well
15 economies of scale, right, when you go to get an
16 EPC contractor, the price to build, yep, a 10
17 megawatt versus an 80 is not going to be the same
18 dollar per watt just based on pure buying power,
19 economies of scale, mobilization costs, right,
20 back office cost, the cost of engineering. It
21 still takes about the same time and resources to
22 engineer a 10 megawatt facility as it does an 80
23 megawatt facility. And then the other big driver
24 is, again, just that interconnection costs. When

1 you look at it from a pure dollar per watt or kW
2 standpoint, a smaller project tying into
3 transmission is going to have a higher relative
4 dollar per kW comparison.

5 Q And let me ask you this. If it were not for the
6 Western Carolinas Modernization Plan, would DEP
7 be proposing to build this project, in this
8 location, at this time?

9 A Great question, and likely we would not be
10 proposing it. Absent the Western Carolinas
11 Modernization Project requirement and commitment,
12 solar's being procured competitively through our
13 annual competitive process, and we've established
14 a 20 megawatt minimum project size in that. So
15 from that standpoint, we probably -- the site
16 wouldn't be big enough. We'd have to try to
17 expand it, but there's geographic, right,
18 limitations for that. So it's unlikely that this
19 site would be able to be competitively developed
20 and vetted and procured into a different
21 resource.

22 Q Were it not for the Plan, Modernization Plan.
23 And what do you think DEP would be doing
24 otherwise were it not for the Plan, as you

1 articulated, you know, establishes certain goals,
2 as I will put it?

3 A Yeah. So outside my purview a little bit in
4 system planning --

5 Q Sure.

6 A But, right, load is going up. We need resources,
7 and it's coming in from DEP-East. I can't speak
8 to what other generations are being sited in
9 DEP-West, though, to meet that customer load.

10 Q And when you speak about load increasing, you're
11 thinking like the winter peaks or just generally
12 load increasing?

13 A I think it's both, right? I think it's going up
14 as well as annual energy consumption in the area.

15 Q And help explain to me how this would help winter
16 peak?

17 A It's minimal winter peak due to the production
18 profile, right, and capacity factor ascribed to
19 solar. But from an annual energy standpoint, it
20 certainly helps with those needs.

21 COMMISSIONER McKISSICK: Thank you, sir. I
22 don't have any further questions. Yes.

23 THE WITNESS: Certainly, the battery storage
24 facility helps with that as well as being 17 megawatts

1 of firm dispatchable. Yeah.

2 COMMISSIONER McKISSICK: Thank you very
3 much. It helps provide some insight.

4 CHAIR MITCHELL: Commissioner Kemerait.

5 EXAMINATION BY COMMISSIONER KEMERAIT:

6 Q Good afternoon. I just have a couple of
7 follow-up questions for you. The first is just
8 to clarify the record or make sure that the
9 record is complete. DEP has provided quite a bit
10 of information about -- position about the need
11 for the facility, but to complete the record, can
12 you talk about the public convenience for this
13 facility as well so that we can have that as part
14 of the record.

15 A Can you elaborate on that for me as something for
16 me to address?

17 Q Yeah, the second prong of the Public Convenience
18 and Necessity showing that this project is in the
19 public interest. Just elaborate on how allowing
20 this project to be constructed and operated would
21 be in the public interest.

22 A Sure. I think it can be demonstrated through a
23 couple of ways. One, through the multitude of
24 letters and support that were entered into the

1 record. I believe we had six or seven or so,
2 consistent with the ones in previous Western
3 Carolinas Modernization Project efforts, as well
4 as a lack of opposition from the community. We
5 had our hearing with the County just last week
6 with adjacent property owners notified, and
7 nobody from the public came to oppose or support
8 in that docket as well.

9 Q Okay. And then just to follow up about Public
10 Staff's position about alternative locations or
11 sites for a facility to provide a solar facility
12 in the region, I believe on pages 4 and 5 of your
13 rebuttal, you touch on this a little bit more,
14 and you discuss challenges in regard to - and I'm
15 just paraphrasing - topography, and then a few
16 parcels of sufficient size for a solar facility.
17 And I think the Public Staff's position would be
18 is if DEP had been able to locate a parcel, a
19 larger parcel, there could be a greater economy
20 of scale so that the costs would be lower, and
21 you talked about the limitations of those types
22 of parcels. Did DEP actually do any site
23 acquisition to try to determine whether there
24 were parcels in the region that would be of

1 sufficient size so that it could be more
2 cost-effective?

3 A Yes.

4 Q Okay.

5 A And I believe this was gone through in a little
6 bit greater detail in the Woodfin CPCN docket in
7 discovery process where Public Staff -- where we
8 did provide the list of parcels that were
9 identified and targeted through that siting of
10 the initial 15 megawatts and rationale given for
11 each one as to why that didn't pan out. A lot of
12 them, several of them were rooftop systems that
13 didn't have landowner interest or had its own
14 technology and siting challenges. For the ones
15 that were ground mount systems, they were either,
16 yep, too small or topography-challenged sites
17 and/or the prices that the landowners wanted were
18 above market and further not in the best interest
19 of customers. That's why we then came with the
20 actual site as the third one to wrap up the 15
21 megawatts, which takes all that, kind of, off the
22 table since we own the property.

23 Q Okay. Thank you. And then my last question goes
24 to Public Staff's testimony, I believe, on

1 page 10, and this relates to the need for the
2 facility in DEP-West. And the Public Staff
3 states, at the bottom of page 10, it says, "The
4 Public Staff is concerned about high cost of the
5 facility. In addition, power flows into DEP-West
6 have steeply declined since the Asheville CC
7 plant came online particularly during daytime
8 hours when solar and DEP-East is overproducing
9 and must be exported or curtailed." Can you just
10 respond to that statement, because your testimony
11 before, I believe, was that additional generation
12 resources were, in fact, needed in DEP-West.

13 A Correct. And I'm not the load forecast guy, but
14 I think when we look at the data supply to Public
15 Staff, there is a small short-term dip, but over
16 time, it actually goes back up and exceeds where
17 it was originally when the coal plant was
18 retired. So short-term, right, that is all yes,
19 but in the longer term, it's actually rebounding
20 up in the other direction, meaning that we need
21 more resources to feed DEP-West.

22 COMMISSIONER KEMERAIT: Okay. Thank you
23 very much.

24 CHAIR MITCHELL: Let's take questions on

1 Commissioners' questions, and we'll start with you,
2 Ms. Keyworth.

3 MS. KEYWORTH: Public Staff has no
4 questions.

5 CHAIR MITCHELL: Okay. Company?

6 MR. HIGGINBOTHAM: No questions, Chair.
7 Thank you.

8 CHAIR MITCHELL: All right, Mr. LaRoche, you
9 may step down and be excused. Thank you very much for
10 your testimony today.

11 THE WITNESS: Thank you.

12 CHAIR MITCHELL: You may call your witness.

13 MS. KEYWORTH: The Public Staff would call
14 Jeff Thomas to the stand.

15 CHAIR MITCHELL: Good afternoon, Mr. Thomas.

16 MR. THOMAS: Good afternoon.

17 CHAIR MITCHELL: Raise your right hand,
18 please, sir, left hand on the bible.

19 JEFF THOMAS;
20 being duly sworn,
21 testified as follows:

22 CHAIR MITCHELL: Mr. Thomas, we will go
23 ahead and get started with questions from
24 Commissioners, since we've already admitted your

1 testimony into the record.

2 THE WITNESS: Okay. Sounds good.

3 CHAIR MITCHELL: I will kick us off.

4 EXAMINATION BY CHAIR MITCHELL:

5 Q Mr. Thomas, you've heard -- I want to ask you a
6 number of the questions that I asked Mr. LaRoche,
7 but I want to start with the 100 megawatts
8 point-to-point transmission service.

9 A Yes.

10 Q Can you just help me understand exactly what that
11 transaction looks like. Is that a time-limited
12 transaction?

13 A Yes. So it was an informational filing here.
14 I'm not entirely sure it's been filed in the
15 Docket but it is informational. This is a FERC
16 request that they make. But, yes, those
17 typically have some time frame on them, but I
18 couldn't tell you off the top of my head the time
19 horizon. I believe it starts in 2024, but I
20 don't know when it would end.

21 Q So understanding that you don't know the specific
22 time horizon, is it a reasonable assumption to
23 make that it spans years?

24 A Yes.

1 Q Okay. And how did those -- how are those types
2 of -- so to the extent that DEP incurs cost --
3 let me see how to ask me question. Help me
4 understand, sort of, the way that costs are
5 incurred and then recovered in that context,
6 because it's a DEP-to-DEP transaction.

7 A So I believe that the request is because it's
8 going from DEP-East to DEP-West. It's
9 essentially reserving the transmission rights
10 through DEC.

11 Q Okay.

12 A And then, you know, we've heard testimony that
13 DEP essentially operates their east and west as a
14 combined system. But if there are needs to move
15 power from east to west, they would have to wheel
16 that, generally, through DEP -- I'm sorry, Duke
17 Energy Carolinas.

18 Q Okay.

19 A As far as the cost of that or the cost to recover
20 those wheeling charges, I think they'd be treated
21 similarly to any wheeling charges. And subject
22 to check, I believe any revenue, if there were
23 wheeling charges paid to DEC, would benefit DEC
24 customers.

1 Q Okay. Thank you for clearing that up for me. Do
2 you know what need is driving this request?

3 A So they said in the docket that it was looking
4 for just to provide access, to provide capacity
5 when the demand exceeded the availability of
6 resources in that region or if there's a
7 generator outage, but nothing really beyond that
8 was in that filing.

9 Q Okay. All right. Thank you. You've testified,
10 I believe you've testified that this project, the
11 Asheville Solar Project wouldn't be eligible for
12 certain tax benefits associated with recent
13 federal legislation. Is that correct?

14 A Yes.

15 Q Did you hear Mr. LaRoche's testimony this
16 afternoon on that issue?

17 A Yes.

18 Q Do you agree with his approximation of the -- at
19 least the annual tax benefit that might accrue to
20 this project?

21 A I think that's about right. I tried to go back
22 and look at the numbers, but the specific total
23 amount, I think, was confidential but I think the
24 tax, the production tax credit starts at north of

1 \$30 a megawatt-hour and then that escalates, and
2 that goes for 10 years. But, you know, there's
3 also assumption that some of the transfer, the
4 production tax credit may be transferred and not
5 be totally claimed by Duke, so there may be
6 losses associated with transferring the tax
7 credit, so...

8 Q Can you help me understand what you mean by
9 transferred?

10 A So essentially, you can sell the rights to your
11 tax credit to an entity that has the ability to
12 realize that tax credit faster than Duke Energy
13 may. They may have limits on the amount that
14 they can claim in any year because of their tax
15 liability. And so my understanding -- and this
16 is -- some of this is coming from discussion
17 we've had in their ongoing Multi-year Rate Plan,
18 but there may emerge or is emerging a market to
19 allow for the transfer of production tax credits
20 and investment tax credits, and to facilitate,
21 kind of, that movement of those tax credits a
22 little bit faster to certain rate payers.

23 Q I mean, does that amount to tax -- is that like a
24 tax equity finance? I mean, are you -- are they

1 getting cash for a tax credit? Is that what
2 you're explaining?

3 A We're quickly getting out over my skeeze here on
4 tax stuff, but I think that's essentially how it
5 is. It's a tax payment, yes.

6 Q It's cash for --

7 A A cash payment for the tax credit, which is then
8 transferred. But like I said, I think --

9 Q Okay.

10 A I'm a little out of my skeeze, but I believe
11 that's a general concept.

12 Q Understood. I understand. Okay. Can you tell
13 me everything you know about Lake Julian Battery
14 and Energy Storage System.

15 A Sure. Yep. So it's located on the same site as
16 the coal sites right next to the yard, the switch
17 yard. I think it's about 17 megawatts, and I
18 want to say it is a 4 -- yeah, a 17 megawatt
19 four-hour battery, so it's providing quite a bit.
20 And we did agree in our stipulation with DEP in
21 the rate case to include that for a recovery in
22 the Multi-year Rate Plan, so that would be coming
23 online, I believe, in -- as Mr. LaRoche --
24 Witness LaRoche said, that in March 2025 or --

1 yeah, in March 2025, I think, or in early 2025,
2 it was shifted a little bit in the update, but it
3 would be coming online a little bit before the
4 Solar Facility.

5 Q In the Multi-year Rate Plan Docket, the rate case
6 docket, you provided testimony regarding export
7 limitations for a certain number of facilities in
8 DEP service area?

9 A Um-um.

10 Q Do you have that same concern for Lake Julian?

11 A I do not, at this time. I found nothing in my
12 Multi-year Rate Plan investigation to indicate
13 that the Lake Julian Battery would be throttled
14 or limited in any way.

15 Q Did you look for that?

16 A Yes. And it is connected through its own
17 inverterant zone interconnection request. So to
18 my understanding is that theoretically, both the
19 solar and the battery could output their full
20 capacity to the grid at any given time. And, you
21 know, I'll just kind of note that the location of
22 the battery, even though it wasn't, you know,
23 specifically mentioned in the CPCN, the
24 Application was a large part of our consideration

1 for how this facility, combined with the battery,
2 would be able to meet load, say, in the early
3 morning winter peak, which is where DEP-West is
4 seeing the fastest slow growth.

5 Q Okay. But explain that, because -- so you're
6 saying only -- explain what you mean there
7 because I'm not sure I understand the testimony
8 you just provided from the stand relative to the
9 testimony you provided in the prefiling.

10 A Sure. So I think it was just -- it was just --
11 I'm just saying it was part of our review as to
12 look for that battery. The finding that battery
13 in the Multi-year Rate Plan and then tying that
14 to this CPCN Application kind of considered it as
15 capable of -- that battery would facilitate
16 behavior of that solar facility that would maybe
17 not -- not something we can see with, say, the
18 Woodfin Solar, which is stand-alone solar that is
19 not tied to a battery.

20 Q So does that inform your opinion as the battery
21 system or to the Solar Facility?

22 A I think when I testified to the difficulty that
23 the Solar Facility alone would have in meeting
24 the winter peak and how DEP's winter peak is

1 growing fastest, I think that was one
2 consideration we made, was, you know, this energy
3 that's coming out may be able to be used to
4 interact with that battery in a way that could
5 benefit repairs.

6 Q Okay. All right. Thank you for that
7 clarification. So there's been some discussion
8 today, in prefiled testimony, about the system
9 needs, DEP-West system needs, both, sort of, a
10 longer term need for energy, and then the
11 peakiness or the increasing peaks, both the
12 summer and the winter that DEP-West is
13 experiencing. I guess I'm still not clear. Does
14 DEP-West actually need energy?

15 A So on an annualized basis, they do, and I
16 think -- let's flip to the chart I think I put on
17 page 20 of my testimony. So since the Asheville
18 Combined Cycle came online, the net imports, the
19 percent of load, met from imports, have fallen
20 significantly.

21 Q And so are you looking at that table on page 20
22 of your testimony?

23 A Yeah, the chart.

24 Q Figure?

1 A Um-um. Hopefully, I have it in color.
2 Otherwise, it might be confusing. And so we
3 found that in certain months relative to others,
4 the amount of imports drop. And in some cases,
5 DEP-West is actually exporting power. You can
6 see, kind of, in that last section there, which I
7 believe would be spring of 2023. DEP-West was an
8 exporter throughout that monthly time period, but
9 it all depends on the hourly basis. And some of
10 the data that I have is confidential, so I don't
11 want to get into -- it's not -- I didn't put it
12 in my testimony, the analysis of the hours, but
13 there are hours particularly in the certain times
14 when they have the peak energy where they are
15 importing quite a bit of their energy from --

16 Q So are those hours outside of peak times?

17 A There are some. I'd have to go back and look,
18 but I know that during peak, particularly winter
19 morning peak, they are imported.

20 Q Okay. So we've, kind of, beaten this horse a
21 whole lot today, but the cost of this facility --
22 I mean, this is -- you know, this is a site
23 that's already been cleared, transmission is
24 readily accessible, you know, doesn't take much

1 work to interconnect this facility to the system
2 at transmission, and yet it's still -- it's still
3 an expensive system relative to other solar
4 generation we're seeing developed or at least
5 proposed to be developed in North Carolina. The
6 way I understood Mr. LaRoche's testimony is that
7 there are certain costs that are -- he described
8 them as fixed because this facility is small or
9 proposed facility is small. There are fewer
10 megawatts or megawatt hours over which to spread
11 costs, and so just -- it reduces the
12 cost-effectiveness of the system. Do you
13 agree -- do you hear his testimony or understand
14 his testimony the same way I do?

15 A Yes. And, you know, the Lawrence Berkeley Report
16 that I reviewed, I mean, those same trends show.
17 They bucketize size, and the 5-20 megawatt bucket
18 is the most -- generally the most expensive on a
19 dollar per kW basis than larger projects.

20 Q Okay. Let me just go through my notes and make
21 sure I have nothing else for you.

22 (Pause)

23 Q Mr. Thomas, what do you know about emphasis on
24 DSM and EE and DEP-West? I mean, your testimony

1 says it's unclear the extent -- it's unclear to
2 what extent the need for the facility could be
3 met or reduced through an increased emphasis on
4 EE and DSM measures in the west, DEP-West, and
5 that's on page 19 of your testimony. Is there
6 anything else you can say to us about DSM and EE
7 and the West?

8 A Yeah. So we -- well, I did dig into this in my
9 investigation. I, you know -- I tried to find
10 out if there was any specific DSM/EE programs
11 that have been proposed in DEP-West or any
12 incremental gains over the rest of DEP in terms
13 of DSM/EE. We didn't have a lot of that data. I
14 went so far as to sit in on a Blue Horizons
15 meeting, which is the group out there that's been
16 working on these projects to kind of understand
17 what they're working on and kind of get a view of
18 how they operate. So, you know, we looked at the
19 last WCMP update as well where they -- you know,
20 DEP essentially said because of the EE and DSM
21 and the other measures of the WCMP, we've
22 deferred the need for certain generation natural
23 gas-fired generation units in that area and
24 tried to dig in and understand it a little bit

1 better, but from my review, I did not see that
2 there was a significant or measurable,
3 incremental increase in DSM/EE and DEP-West
4 compared to the rest of the DEP region, or at
5 least Duke did not have that data that could
6 support that hypothesis.

7 Q All right. Last question for me. The Public
8 Staff's recommendation, you've sort of given us
9 two choices: deny it or approve it conditionally.
10 Is your denial recommendation, does that
11 recommendation take into consideration any tax
12 benefits that might flow to this project?

13 A I think that -- so I made that recommendation
14 based upon the totality of evidence that I had
15 seen, so that would include the tax benefits.
16 And so it was really, you know, taking into
17 account not only this application by itself as a
18 stand-alone application, but as a part of the
19 WCMP and looking at the Commission's prior
20 interpretation and review of WCMP-related CPCNs,
21 of which I've worked on too, testified on two of
22 those. So just trying to better understand that
23 and making sure that, you know, the WCMP Order
24 and the expectation was passed, I believe, in

1 2016. Quite a bit has changed since then. So,
2 you know, from the Public Staff's perspective, we
3 just want to make sure that even with, you know,
4 589 and 951 and the many of the changes to the
5 energy landscape, that the WCMP was still
6 something that the Commission wants to see
7 completed, and even with this facility being most
8 likely the last solar facility that would come
9 through with this WCMP.

10 Q Okay. This is really my last question for you.
11 Since you mentioned the WCMP, you know, that
12 Commission Order from 2015 or '16, or whenever it
13 was, mentions 15 megawatts of solar and 5
14 megawatts of storage. Is that correct?

15 A That's correct.

16 Q And how much storage is the Lake Julian?

17 A 17

18 Q 17 megawatts of storage?

19 A Yes. And there's two other battery projects in
20 the DEP's Multi Rate Plan in DEP-West, and it's
21 the Craggy. It's 30, and the Riverside, I think,
22 is 4 or 5 megawatts.

23 Q Craggy is 30?

24 A Yes.

1 Q And Craggy is the 26?

2 A Yes.

3 Q In-service -- proposed in-service date of 26?

4 A Yeah. I believe it's 26. And then there's the
5 Asheville, Rockhill battery which was also
6 recently close to -- completed in DEP's-West
7 territory.

8 Q And Asheville, Rockhill's what, about 9
9 megawatts?

10 A Yes. Top of my head, yes.

11 CHAIR MITCHELL: All right, Mr. Thomas. Let
12 me see if there are questions from other
13 Commissioners. Commissioner Brown-Bland.

14 EXAMINATION BY COMMISSIONER BROWN-BLAND:

15 Q Yes, Mr. Thomas. Is there any real benefit if,
16 as a member of the public advocate staff, you
17 could take your cost concerns out it? Is there
18 any real benefit that you can see to this
19 proposed facility, benefit to customers?

20 A Taking aside, putting aside for a second my cost,
21 those concerns about cost, yes, so I think --
22 yeah. I think that there is, right. We've heard
23 a lot about the difficulties in siting solar.
24 And I think even when -- in LaRoche's rebuttal, I

1 think it's clear that projects, solar projects in
2 DEP-East would be less expensive to procure, but
3 there is challenges to siting and transmission
4 upgrades, long-term projects over there that are
5 a bit longer. So siting somewhere in DEP-West
6 where there are not a lot of transmission
7 upgrades is certainly a benefit in terms of
8 timing and getting it connected. And then,
9 obviously, you know, I think there is a push, not
10 only by Duke but, you know, the Department of
11 Energy and other organizations to look at old
12 coal sites, retired coal sites or retired coal,
13 ash basins to locate solar that could potentially
14 could use up land that's not, you know, needed
15 for other purposes, other development, which
16 could drive up the price. So I think there is a
17 benefit there. And obviously, the coal tax
18 credits is a benefit. So certainly, it's a small
19 project and we are concerned about the cost, but
20 I can admit that there are other benefits there
21 that can come from building on a coal site.

22 Q And the reclaiming or, you know, repurposing of
23 this coal site area, do you see that as a - if
24 you have an opinion - as an environmental

1 benefit?

2 A So I couldn't speak to what the environmental
3 benefits of that is. I mean, it's a landfill, so
4 much like the Woodfin Solar, it's just going to
5 be topping the landfill. But, you know, Duke
6 does have other coal sites. But obviously, the
7 limitation even with other coal sites is what
8 kind of replacement generation might be going
9 there because you can't replace a coal site, you
10 know, one for one just with by building solar
11 panels on the land. They're just too intensive,
12 so I think there are plans, you know, in the --
13 coming out of the Carbon Plan in order to locate,
14 you know, new gas or potentially new nuclear
15 resources at old coal sites, which could limit
16 the ability of Duke to cover the landfills with
17 solar panels, but it could be an option and would
18 need to be explored at that time.

19 Q If this proposed facility just happened to be in
20 the least-cost option, would you favor it and
21 find it beneficial?

22 A Yeah. I think if this facility was coming in at
23 a cost that was competitive with what we've been
24 seeing out of the 2022 Solar Procurement in

1 DEP-East and DEC, then yeah, I think we would
2 probably have recommended approval for given
3 what's going on.

4 Q And last question. If the Commission sees an
5 obligation or sufficient value in having a
6 facility like this in the region, would you
7 think -- if you considered they were adding the
8 9.5 megawatts and we saw value in that, would
9 this project be the least-cost way to achieve
10 that purpose?

11 A If I could just restate that. You're saying if
12 the Commission had found a need to -- that the
13 project need was satisfied solely by the virtue
14 of it being located on the coal site, would this
15 be the least-cost option of achieving that? Did
16 I restate that right?

17 Q Not necessarily for it to be on the coal site,
18 but if we see that a facility, such as this, if
19 we thought either our previous orders created
20 some commitment or obligation to have something
21 in the area, in that region, or if we saw just
22 value in having this amount of megawatts or some
23 solar facility presence in the region area, if
24 that was the restriction that we were working

1 with, under that parameter, would you view this
2 as a least-cost option way to do it?

3 A That's a good question. I don't think that I've
4 spent enough time kind of studying alternatives
5 to where this site is to truly know if there's a
6 less expensive option. I do know that in their
7 WCMP Application for the CPCN for the Combined
8 Cycles in Asheville, you know, DEP did make
9 mention of, you know, either doing utility scale
10 or community -- utility scale solar, community
11 solar, even rooftop solar, so, I mean, there's --
12 it's entirely possible that there's a cleverly
13 designed solar rebate program out there that
14 could put 9.5 megawatts of solar on rooftops with
15 a combination of DEP ratepayer money and private
16 capital that could be more cost-effective than
17 this. I don't know, and I think that's something
18 that I would -- that I think is certainly
19 something that can be explored. We have a Solar
20 Plus Storage pilot that's being -- that may
21 answer some of those questions, but I couldn't
22 say whether this facility, in and of itself,
23 would be the most cost-effective, you know, given
24 those parameters.

1 Q Given the recent developments in where the State
2 is moving in regards to rooftop solar, are there
3 challenges that make rooftop difficult in that
4 area, in the mountain area or in the western
5 region?

6 A I don't believe so in terms of just citing it.
7 And, you know, rooftop solar is obviously much
8 more expensive than utility scale but, you know,
9 a combination of utility and private capital
10 could always lower those costs for DEP
11 ratepayers, and I think that's the concern we
12 have, right? I didn't come out and recommend
13 that the CPCN be rejected. I think really we're
14 kind of -- my recommendation was kind of just
15 coaching it in the context of the WCMP. You
16 know, this was a -- so that's -- clarify that.

17 COMMISSIONER BROWN-BLAND: All right. Thank
18 you.

19 CHAIR MITCHELL: Commissioner Duffley.

20 EXAMINATION BY COMMISSIONER DUFFLEY:

21 Q So it was cold comfort what you said about the
22 Blue Horizons issue. So does Public Staff --
23 historically, Public Staff has not been involved
24 in these meetings between -- of this Blue

1 Horizons council.

2 A Not that I'm aware of, no.

3 Q Okay. But do you know -- what did you do in your
4 investigation to figure out what the Energy
5 Efficiency and Demand-side Management programs
6 that were being instituted -- what I thought I
7 heard you say is you did an investigation but you
8 couldn't really put your finger on how these
9 items were pushing out that CT. Did I hear your
10 testimony accurately?

11 A Yes. Essentially -- and we've got a region
12 that's growing. There's energy needs growing
13 there and there's the generation from the new
14 facility and new equipment being sited. So what
15 we tried to do, really, was -- really just, you
16 know, through discovery, we said to Duke is there
17 any -- you know, what can you show us in terms
18 of. the DSM/EE as being adopted by customers in
19 DEP-West versus customers in DEP-East, and we
20 were looking really for a differential there.

21 Q Okay.

22 A And so what -- you know, DEP came and -- so it
23 was essential but we don't track -- we don't
24 track it by that granular levels. We don't have

1 that data to bring to you right now. And so we
2 also tried to look at some of the hourly load
3 forecast and EE impacts that were in the Carbon
4 Plan to try to tease out the difference between
5 DEP East and West but it proved to be near
6 impossible to kind of tease out any kind of
7 meaningful difference or increment, so we -- you
8 know, I think that that -- we would like to see
9 that, to see that -- you know, because I don't
10 know that -- if there was a need for several
11 hundred megawatts of dispatchable natural gas. I
12 don't know that that's being displaced by 9.5
13 megawatts of solar and 17 megawatts of battery,
14 and then -- they would have to be a significant
15 amount of DSM/EE there in a demonstrable
16 measurement there to show us that. But the load
17 forecast have changed over time and we've seen
18 that load forecast for DEP-West even though it's
19 growing faster than DEP. It's all kind of come
20 down, I'm sure you've heard during many of the
21 higher peak hearings, is that that load forecast
22 sometimes have been overestimated. But things are
23 changing now, and what was true then may not be
24 true going forward.

1 Q Okay. Thank you. And this Blue Horizons Council
2 did a -- are there minutes of this Council? What
3 type of -- how is it structured?

4 A I believe there are minutes to the Council
5 online. It's open to the public, so I just
6 joined and listened, and they were just debating.
7 I think, at that time, they were debating Green
8 Source Advantage and some other community efforts
9 for weatherization or winterization, but, yeah,
10 if there are minutes, I think they'd available on
11 their website.

12 Q Okay. Thank you for that. And then with respect
13 to the wheeling charges, did you hear my question
14 to Mr. LaRoche about wheeling? Do you know what
15 the average of yearly wheeling charges to wheel
16 power from DEP-East to DEP-West?

17 A So I don't know the exact amount. They have --
18 we tried to calculate it based upon some of the
19 FERC, the Open Access Transmission Tariff, and I
20 believe those numbers would have been public but
21 I think it was -- it was not an insignificant
22 amount of money to move that power across DEC,
23 but I also want to make sure that I'm
24 interpreting that right. So I think it was there

1 but we weren't confident enough in our estimation
2 of what that view would be to put it in the
3 testimony.

4 Q Okay. Thank you. But not insignificant?

5 A Not insignificant.

6 Q Okay. Thank you. And then with respect to the
7 other the question that I asked was the
8 comparison, and Mr. LaRoche stated that, you
9 know, he compared it to the Woodfin Solar, but
10 can you think of any other projects that were
11 within that area that you could compare the cost
12 of this project to a similarly situated project
13 in DEP-West?

14 A So it's pretty tough. There aren't that many. I
15 think even when we looked at this, we dived into
16 that a little more looking at pop-up facilities
17 in the Woodfin proceeding, and there really
18 aren't that many large utility scale facilities
19 out there, right? I think Hot Springs, the solar
20 portion, Woodfin, and Asheville, these are the
21 largest components of solar out there. And I
22 can't speak to what might be, you know,
23 initiatives that companies might be putting on
24 the rooftop for like, you know, net metered solar

1 at commercial or industrial facilities. That may
2 be changing. I understand that the 1 megawatt
3 cap is maybe lifted for some customers out there,
4 depending on the Multi-year Rate Plan
5 determination. So we may see more of that in the
6 future but I couldn't give a good idea right now
7 of what is out there.

8 Q And that includes maybe mountainous regions in
9 DEC as well?

10 A Yes.

11 Q Okay.

12 COMMISSIONER DUFFLEY: Thank you.

13 CHAIR MITCHELL: Go ahead, Commissioner
14 McKissick.

15 COMMISSIONER McKISSICK: Sure.

16 CHAIR MITCHELL: Let's go to Commissioner
17 Hughes first and then McKissick.

18 COMMISSIONER McKISSICK: Yeah, that's what I
19 thought. That's fine.

20 EXAMINATION BY COMMISSIONER HUGHES:

21 Q Putting the Modernization Project aside, I'm just
22 curious, how does the Public Staff view the
23 situation when there's a subset of the Using and
24 Consuming Public that have gone on record that

1 this is really important to them? They're
2 elected officials. Democratically elected
3 officials have said this is really important to
4 them. You know, how does Public Staff view that
5 from a need standpoint?

6 A Yeah. So I think that's a great question. I
7 think we're, you know -- and we expressed some of
8 these concerns in the Woodfin docket, and that
9 was slightly different where that was built on
10 Buncombe County land and there was arrangement
11 for them to obtain those RECs to meet their
12 goals, but, you know, I think the Buncombe County
13 government filed a letter of support for the
14 project, and many did, right? They wanted to see
15 more renewable energy, access to the cleaner
16 energy sources. And certainly that's necessary,
17 but I think Buncombe County also said something
18 that was -- you know, caught our eyes, you know,
19 saying that in describing their significant
20 commitments and their goals and then say, you
21 know, these aggressive goals require significant
22 investment from a variety of stakeholders,
23 including the Utility. And I think that makes us
24 nervous if there are local governments, if there

1 are organizations that have very aggressive
2 renewable energy goals and they want those goals
3 to be subsidized by DEP ratepayers entirely. And
4 I think there are avenues, certainly there are
5 avenues for these companies, Buncombe County in
6 the City of Asheville, have signed a deal with a
7 private third-party power producer, Pine Gate
8 Renewables, to build and construct and purchase
9 the output from a 35 megawatt solar project under
10 the Green Source Advantage Program. We've seen
11 the City of Charlotte as a similar project
12 ongoing, Wells Fargo, Bank of America, Duke
13 University. There are avenues, and there's
14 currently a debate going on about expanding that
15 that program, making kind of a new program, but
16 certainly there are avenues there. That program,
17 that PPA that Buncombe County is going to enter
18 into, no cost associated with that project would
19 be borne by North Carolina ratepayers above
20 avoided cost. This project, if it is much like
21 Woodfin, if it is being used to meet local
22 government goals, I feel that there should be
23 some skin in the game, as it were, to make sure
24 that they're paying for their goal or

1 contributing to that. And so we are a bit
2 apprehensive when we see these types of projects
3 where local government goals have been met by
4 Duke Energy investments.

5 COMMISSIONER HUGHES: Thank you for that.
6 No further questions.

7 CHAIR MITCHELL: All right. Commissioner
8 McKissick.

9 EXAMINATION BY COMMISSIONER MCKISSICK:

10 Q Let me begin where Commissioner Hughes ended. I
11 mean, when I sit here and read what Public Staff
12 has recommended, they basically say if the
13 Western Carolinas, you know, Plan, Modernization
14 Plan is a plan that's essentially an official
15 plan that's been adopted, what we should do is
16 look at it and see if that's it and it's
17 dispositive in terms what our decision might be
18 as a Commission as it relates to this project.
19 On the other hand, you say that it looks as if, I
20 guess in the Public Staff's opinion, it perhaps
21 is not dispositive, so help me out with this to
22 get me to understand where Public Staff sees and
23 evaluates this project. And you say we could,
24 you know, prove it with conditions, but, I mean,

1 as I recall, conditions were pretty straight
2 forward that DEP construct and operate the
3 facility in strict and conform to all applicable,
4 laws and regulations according to provisions of
5 all permits issued by the North Carolina
6 Department of Environmental Quality. I would
7 think they would do that anyway. I don't
8 consider that a condition that has much. With
9 any skin in the game, they're required to do that
10 as a matter of law. And then it says that the
11 issuance of the CPCN does not constitute approval
12 of a final cost associated with the construction
13 of the facility for ratemaking purposes. Any
14 orders without prejudice the right of any party
15 to take issue with the ratemaking treatment of
16 the final cost in the future. Are there any
17 other conditions that you would perhaps say ought
18 to be imposed in light of your response to
19 Commissioner Hughes' question? And likewise,
20 where do you really stand in term of this plan?
21 I mean, do you think of it as a plan that's
22 obligatory or is it aspirational when I tried to
23 raise that question with Mr. LaRoche, make a
24 distinction between the two. But help me with

1 that. I know it's a bit of a compound question,
2 but I'm trying to sort through these facts and
3 details and weigh them appropriately.

4 A Yeah. So I'll try to make sure I get through
5 that and answer your question. If I don't, let
6 me know.

7 Q Sure.

8 A So I think the WCMP, as the Commission noted in
9 that Order, at that time, and the subsequent
10 orders, it was not -- they did not grant Duke a
11 CPCN for 50 megawatts of solar and direct them to
12 build and recover 5 megawatts of storage. It was
13 a plan, an expectation that Duke would file the
14 CPCNs. And as we know, if they -- any CPCN is
15 then subject to the standard process of review
16 that is unique to the CPCN process. So it's
17 Public Staff's view that the WCMP sets an
18 expectation and that we review the subsequent
19 CPCNs with the same level of rigor that we review
20 other CPCN applications. And I think in our
21 Woodfin Order, in our Woodfin testimony, I think
22 we came and said maybe based upon what had been
23 filed and reviewed at that time, up until that
24 date, that we did not see the WCMP as

1 controlling, and we were very concerned about the
2 cost of that project and the potential subsidy
3 for a local government and that there are other
4 many concerns about that project. In this
5 proceeding, you know, I think we still applied
6 the same level of review, and we understand that
7 the Woodfin Order was not precedential, but we
8 also want to take into consideration the entirety
9 of the WCMP and all the orders that have come
10 related to that project when we make our
11 determination here. And I think that's partly
12 why we looked at this and said essentially,
13 right, that if the Commission still believes that
14 WCMP is controlling here and sets a firm and, you
15 know, expectation to actually build the solar,
16 kind of, regardless of the costs that it may
17 impose, then certainly we would support the
18 approval. And if not, if the energy landscape
19 has changed significantly enough, I mean, over
20 the intervening years, that maybe we need to look
21 for other options, then we also provided a
22 recommendation there. But we, taken as a whole,
23 I think if we had reviewed this project on its
24 own merits by itself without any WCMP, I would

1 almost -- we would likely not support the
2 building of the project. But taken as a whole
3 with the WCMP and the Commission's prior
4 directives and orders and the overall cost of the
5 entire WCMP project that we looked at, you know,
6 we would support this project, and that's
7 partially why we put it -- recommended it be
8 included in the revenue requirement in the
9 Multi-year Rate Plan in our stipulation there.

10 Q In terms of the conditions that were recommended,
11 are there any further conditions that you could
12 think of or would suggest or recommended?

13 Because, I mean, they're pretty much required to
14 comply with law, regulations, so, I mean, that
15 seems to be a -- that's something I assume that
16 any applicant would conform to if we were to
17 grant their request for CPCN.

18 A Yeah. And immediately, those are -- you know, I
19 think any time we recommend approval of a CPCN,
20 those are typically the conditions we put in
21 there. I think we put a lot of conditions on the
22 Hot Springs docket, and that was largely because
23 of its status as a pilot program and the
24 reporting requirements and the cost cap, and a

1 lot of other measures that we put in there. But,
2 at this time, I can't think of or, you know,
3 necessarily recommend an additional condition
4 there. You know, I think the Commission's well
5 within its rights to put other types of
6 recommendations in there, but, at this time, I
7 think I don't have another --

8 Q Nothing else that comes to mind. Does Hot
9 Springs -- it looks like you have, as I recall,
10 about a dozen of them, and --

11 A Yes.

12 Q It was a long list.

13 A That was largely, as I said, related to its
14 status as a pilot project. For example, I know
15 it's a different company but in the DEC CPCN
16 proceedings for Maven Creek and Gaston Solar to
17 facilities that procured through the Competitive
18 Procurement for Renewable Energy Program, I think
19 our conditions were similar to what we recommend
20 here. So, typically, for non-pilot type
21 projects, you know, I think we will certainly, as
22 this project gets close to plan and investigate
23 it in the next rate case, we will certainly look
24 at, you know, the cost, how much do we exceed the

1 cost estimate by, where those costs overruns if
2 any came from, what factors influence the
3 schedule, what lessons were learned by building
4 it on the coal ash landfill, and how might this
5 be, you know, parlayed into other generation
6 facilities on coal sites in the future. We'll
7 dig into that. But, at this time, I don't know
8 that I would necessarily recommend any of those
9 in the CPCN.

10 Q And to what extent was it evaluated, what the
11 options might be if they did not build this
12 particular project or facility, you know, looked
13 at doing something in DEP-West territory? I
14 mean, whatever that might be, either Duke itself
15 or perhaps entering some type of PPA, you know, a
16 private provider, I mean was that -- how closely
17 was that evaluated in terms of crunching what I
18 would call projected numbers to assess those
19 against what the cost of this project is
20 projected to be at this time?

21 A Right. So I think that, you know, the thing
22 about the Asheville Solar Facility was that the
23 WCMP Application and Order specifically said a
24 solar facility at Asheville Plant. And then if

1 you can't get 15 megawatts out of that, then you
2 can go get other stuff. And so Woodfin, Hot
3 Springs, that was the additional solar because
4 Duke said they couldn't put 15 megawatts at the
5 plant, so the WCMP has always had a clear
6 expectation of a site at the Asheville Plant.
7 And for that reason, I believe, you know, DEP did
8 not thoroughly evaluate alternative sites that it
9 might have located solar in the region. You
10 know, I think a lot of that analysis was done --
11 some of that analysis was done for the Woodfin
12 docket where they looked at other potential sites
13 but the Asheville site at the coal plant with the
14 unused land and the utility-owned land, and that
15 was kind of an expectation that they would go
16 there.

17 Q I understand. I mean, I guess I'm sitting here
18 trying to evaluate the relative merits of this
19 particular project and trying to really assess as
20 objectively as possible, you know, what's really
21 in the best interest in terms of serving the
22 entire DEP base as well as respecting, you know,
23 what has been historically respected in terms of
24 what I'll refer to as the aspirational targets of

1 the Modernization Plan, and kind of sort this all
2 through, so I appreciate your thoughts and I'll
3 leave it at that.

4 A Thank you.

5 CHAIR MITCHELL: Commissioner Kemerait.

6 EXAMINATION BY COMMISSIONER KEMERAIT:

7 Q Good afternoon, Mr. Thomas. Just two questions.
8 The first is that you've stated that less
9 expensive options are available to the Company
10 than the Asheville facility. And for those less
11 expensive options, did you consider the wheeling
12 charges from solar, from DEP-East going through
13 DEC territory? Was that part of your calculation
14 in determining that there would be less expensive
15 options?

16 A So we looked at, for example, the 2026 Solar
17 Investment Project that's being procured, and we
18 looked at other projects that are being procured
19 through that process. The Delta, in terms of the
20 levelized cost of energy, was so great that even
21 our estimates of the wheeling charges would not
22 have been enough to overcome that. So we did
23 some kind of analysis trying to interpret that,
24 make sure we're interpreting it correctly, but

1 the difference was not -- I mean, I don't want to
2 talk the confidential numbers but the spread was
3 significant, and so that was not overcome by the
4 wheeling.

5 Q Okay. And then just my last question. Duke's
6 commitment and the Commission's Order for the
7 15 megawatts of solar and the 5 megawatts of
8 storage, I heard your testimony in regard to
9 Chair Mitchell's questions that DEP -- that there
10 is significantly more storage that has been
11 constructed and that is planned in DEP-West. Do
12 you have an opinion about whether this commitment
13 and expectation could be met through the
14 additional amount of storage that has been
15 constructed and planned in the area or is it
16 confined specifically to 15 megawatts of storage
17 and 5 megawatts -- excuse me, 15 megawatts of
18 solar and 5 megawatts of storage, or can there be
19 some accommodation due to the amount of storage
20 in the area?

21 A So I think if -- I think the WCMP said -- and
22 subject to check, I think it said at least 5
23 megawatts of storage. And certainly, I think DEP
24 has already fulfilled that requirement, right,

1 but there is still more solar coming down the
2 pipeline. I will say, just to clarify, is that
3 the DEP's Multi-year Rate Plan does have more
4 solar than DEP's -- or, I'm sorry, more storage
5 than DEP's, but there's still, you know, a decent
6 amount, about 50 some-odd megawatts in DEP-West.
7 But I think that certainly the solar, the storage
8 that they've built and the storage in the MYRP
9 would satisfy that. I think from the Public
10 Staff's perspective, if the Commission does
11 approve this CPCN for the actual facility, you'll
12 have more than 15 megawatts of solar and far more
13 than 5 megawatts of storage. And I believe that
14 that would essentially complete the objectives of
15 the WCMP and we would probably not anticipate
16 further CPCNs for solar in the region that rely
17 solely on the WCMP, kind of -- or rely on the
18 WCMP as heavily as this one, but that would be, I
19 think -- the Commission may make that
20 determination if it's complete or closed, or we
21 may have further discussions with the Company on
22 that.

23 Q Well, I don't want to belabor this, but I think
24 what I'll try to get at is because there's more

1 storage than had been anticipated, does that
2 offset the amount of solar that is required?
3 What's the Public Staff's position about that?

4 A I understand. That's a good question. I think
5 ultimately, you know, if you just put batteries
6 out there, you're not actually getting any of
7 that, that clean generation, and certainly you
8 can store it up at night by running the
9 combustion cycle a little more than you otherwise
10 might, but I think that if not the letter,
11 certainly the spirit of the WCMP. I don't know
12 they'll be offset with that kind of trading, but
13 yeah, it's a good question but I'm not sure I
14 would have answered it sort of --

15 Q You have. Thank you very much.

16 CHAIR MITCHELL: Mr. Thomas, one last
17 question before we let you go. Mr. LaRoche's rebuttal
18 testimony revised the numbers for the 2026 Solar
19 Investment Project, the LCOE. Did you see those
20 numbers?

21 A I did.

22 Q Do you agree with the revised number?

23 A I do agree that that was the update that they did
24 provide with their supplemental, and I've dug

1 into it a little bit. Some of the changes were,
2 you know, publicly, the capacity and the dollar
3 amount changed, but there was some other changes
4 to the revenue requirement spreadsheet that I'm
5 still kind of looking at, but I will agree that
6 they did provide that number.

7 Q When you say the capacity changed, did the
8 project --

9 A It went from -- between direct and supplemental,
10 it went from an 82 megawatt project to an 80
11 megawatt project, and the cost went up a little
12 bit as well.

13 Q Okay.

14 CHAIR MITCHELL: Let me see if there are
15 questions on Commissioners' questions.

16 MR. HIGGINBOTHAM: No questions.

17 CHAIR MITCHELL: Ms. Keyworth?

18 MS. KEYWORTH: No questions.

19 CHAIR MITCHELL: All right, Mr. Thomas, you
20 may step down. You're excused. Thank you for your
21 testimony.

22 THE WITNESS: Thank you.

23 CHAIR MITCHELL: All right. With that,
24 we've come to the end of the hearing. Mr. Kaylor.

1 MR. KAYLOR: One question for the
 2 Commission. There was many references to the Woodfin
 3 Order, and I know we're not supposed to take
 4 precedent. It's not supposed to take precedent, but
 5 would it be appropriate to mention that that Order is
 6 E-2, Sub 1257 in case the Commission wants to cite it
 7 in the previous Order.

8 CHAIR MITCHELL: We will take judicial of
 9 the Order, the final Order issued in the E-2, Sub 1257
 10 Docket.

11 MR. KAYLOR: Thank you.

12 MR. HIGGINBOTHAM: That completes the case.
 13 Thank you.

14 CHAIR MITCHELL: Well, with that, we will be
 15 adjourned. Thank you very much, everybody.

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17 WHEREUPON, the hearing is adjourned.

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C E R T I F I C A T E

I, TONJA VINES, DO HEREBY CERTIFY that the proceedings in the above-captioned matter were taken before me, that I did report in stenographic shorthand the Proceedings set forth herein, and the foregoing pages are a true and correct transcription to the best of my ability.

Tonja Vines

Tonja Vines