

STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH

DOCKET NO. E-2, SUB 1289

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of)
)
Application of Duke Energy Progress, LLC)
For A Certificate of Environmental)
Compatibility and Public Convenience and)
Necessity Pursuant to N.C. Gen. Stat. § 62-)
100 et seq. to Construct Approximately 2.1)
Miles of New 230kV Transmission Line in)
Wake County, North Carolina)
)

DIRECT TESTIMONY OF
MICAH E. RETZLAFF
FOR
DUKE ENERGY PROGRESS,
LLC

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

2 A. My name is Micah E. Retzlaff, and my business address is 410 S. Wilmington
3 Street, Raleigh, North Carolina 27601.

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

5 A. I am employed as Lead Siting Manager, Transmission Siting, Permitting, and
6 Engagement by Duke Energy Progress, LLC (“DEP”).

7 **Q. WHAT ARE YOUR RESPONSIBILITIES AS LEAD TRANSMISSION
8 SITING SPECIALIST?**

9 A. As Lead Transmission Siting Manager, Transmission Siting and Permitting, I
10 am responsible for both the siting/due diligence of substation sites to be
11 purchased in fee, as well as the selection of preferred/least impactful routes for
12 transmission lines which require easement and/or right of way (“ROW”)
13 acquisition for DEP territories.

14 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL
15 BACKGROUND.**

16 A. I have a Bachelor of Science in Environmental Health from East Carolina
17 University. I have over 20 years of experience developing public infrastructure,
18 in the telecommunication and utilities industries. I began my career in the
19 wireless telecommunication as a Senior Real Estate Specialist with American
20 Tower Corporation, the largest owner and operator of multi-use tower sites in
21 the United States, then as a Project Manager with SpectraSite Communications,
22 an owner and developer of over 8,000 tower facilities. Starting in 2006, I was
23 a Senior Program Manager with Excell Communications, a turn-key site

1 development consultant firm, managing wireless and wireline/fiber optic
2 deployment projects for clients throughout the southeastern United States.
3 After 18 years in the wireless telecommunication industry and having
4 developed more than 350 greenfield tower facilities, I joined Duke Energy
5 Progress in my current role as Lead Siting Manager, Transmission in 2017. I
6 hold a Project Management Professional (PMP) certificate from the Project
7 Management Institute and have Real Estate Brokers (or equivalent) licenses in
8 North Carolina, South Carolina and Virginia.

9 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NORTH**
10 **CAROLINA UTILITIES COMMISSION?**

11 A. Yes, I filed direct testimony in Docket No. E-2, Sub 1215 for DEP's
12 Application for a Certificate of Public Convenience and Necessity for a new
13 transmission line in New Hanover County, North Carolina. The Commission
14 granted that certificate on January 10, 2020. Recently, I filed direct testimony
15 in Docket No. E-2, Sub 1288 for DEP's Application for Certificate of Public
16 Convenience and Necessity for a new transmission line in Chatham County,
17 North Carolina.

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

19 A. The purpose of my testimony in this proceeding is to support DEP's Application
20 for a Certificate of Public Convenience and Necessity to construct 2.1 miles of
21 new 230kV transmission line near Holly Springs in Wake County, North Carolina,
22 which I will refer to as the "Holly Springs Utley Creek line" or "Project".

1 **Q. WERE YOU INVOLVED IN PREPARING DEP’S APPLICATION IN**
2 **THIS DOCKET?**

3 A. Yes.

4 **Q. TO YOUR KNOWLEDGE, WILL DEP FILE AND PROVIDE ALL**
5 **INFORMATION, BEGIN PUBLIC NOTICE REQUIRED BY THIS**
6 **COMMISSION, AND OBTAIN ALL FEDERAL AND STATE**
7 **LICENSES, PERMITS, AND EXEMPTIONS REQUIRED FOR**
8 **CONSTRUCTION AND OPERATION OF THIS TRANSMISSION**
9 **LINE?**

10 A. Yes.

11 **Q. PLEASE DESCRIBE THE PROCESS UTILIZED TO ROUTE THE**
12 **HOLLY SPRINGS UTLEY CREEK LINE.**

13 DEP retained JacobsCH2M Hill North Carolina, Inc. a subsidiary of Jacobs
14 Engineering Group Inc. (“Jacobs”), an American international technical
15 professional services firm with substantial utility and infrastructure siting
16 experience, to assist the Company with the line routing and public input for the
17 Project. Jacobs conducted a comprehensive routing study and prepared a
18 Routing Study and Environmental Report (the “Routing Study”), which is
19 attached as Exhibit A to the Application. My role was to oversee Jacobs’
20 performance of DEP’s routing study scope of work from preliminary route
21 alternative identification through the selection of the preferred route.

22 The following is an overview of the steps involved in the identification
23 of the route alternatives and the selection of a preferred route for the Project:

1 The limits of the study area were established based on the proposed location of
2 the Holly Springs Utley Creek Substation south of the intersection of Holly
3 Springs New Hill Road and Green Oaks Parkway in Wake County on an
4 undeveloped portion of the lands related to the Harris Nuclear Plant; the
5 location of the Harris Plant – Wake 230kV transmission line; and a preliminary
6 review of potential routing opportunities and constraints in the area. The study
7 area, which encompasses approximately 9.5 square miles, is shown in Figure 2
8 of the Routing Report. The study area was defined to incorporate potential
9 Project tap points while offering an area large enough to provide a set of
10 reasonable and geographically distinct route alternatives.

11 After establishing the study area, data was collected from publicly
12 available sources, including Federal, State, county, and local agencies, for
13 constraints and environmental concerns that could result in challenges for the
14 siting of a transmission line. The collected data were used to create a raster-
15 based suitability surface within a GIS framework. The purpose of the suitability
16 surface, and subsequent analysis, was to aid in the identification of areas more
17 likely suitable for the placement of a transmission line route. Since all of the
18 transmission line segments are located predominantly on DEP-owned property,
19 DEP communicated directly with owners of nearby properties to introduce the
20 project and receive input from these stakeholders and local public officials.

21 Collected data were grouped into one of three categories: Technical,
22 Ecological and Land Use/Cultural. Each category was further divided into
23 individual criteria and assigned a weight from 1 to 10 according to each

1 criterion's potential sensitivity to a transmission line, as determined by
2 members of DEP's Project team and feedback obtained from stakeholder
3 comments. The weight scale of 10 representing the highest consideration
4 during the evaluation.

5 The suitability surface was created using the weighted criteria. Using
6 GIS, criteria were combined through a process called overlay analysis, which
7 results in a cumulative suitability rating by adding the weighted criteria together
8 for each cell within the suitability raster. This results in a single suitability
9 surface that can be reviewed by the siting team as a means of identifying
10 preferred siting areas. GIS can then use color-coding to help visually display
11 areas of lesser potential impact (see Figure 5 of the Routing Study Report.).

12 After completion of a suitability analysis, potential routes were
13 identified. The objective was to identify economically feasible routes that
14 connected the proposed Holly Springs Utley Creek Substation to the Harris
15 Plant – Wake 230kV transmission line while avoiding or minimizing impacts
16 to both community and natural resources. Data sets from Local, State, and
17 Federal government agencies were reviewed to obtain information on resources
18 of particular concern that were relevant to the routing process. The potential
19 route alternatives were shared with the public and local officials throughout the
20 route identification process to obtain input for the evaluation of the alternatives.
21 The study team then quantified the engineering, land use, social, and
22 environmental resources that would be impacted by each feasible route.

1 Quantitative data and public input were used to evaluate the alternatives and to
2 select a preferred route for the proposed transmission line.

3 **Q. WHO DEVELOPED THE COMPREHENSIVE TRANSMISSION LINE**
4 **SITING AND ASSISTED WITH THE PUBLIC INPUT PROCESS FOR**
5 **THIS PROJECT?**

6 A. In addition to the experienced team from Jacobs, a multi-disciplinary team
7 consisting of representatives from various DEP functional departments was
8 assembled to participate in the routing study and analysis. This included subject
9 matter delegates from DEP's engineering groups, specifically Line, Substation
10 and Civil Design engineering, real estate land agents, environmental permitting
11 specialists, public engagement staff and other experts from a variety of
12 disciplines across the DEP organization. The Jacobs team relied on DEP's line
13 engineers for direction on design and operation standards and feedback when
14 developing and analyzing route alternatives. Based on the constraint data
15 collected during the study and known existing conditions in the project study
16 area and public input, the DEP project team was satisfied that route alternatives
17 were reasonable and diverse.

18 **Q. HOW DID YOU DEVELOP FIVE (5) ALTERNATE ROUTES FOR THE**
19 **HOLLY SPRINGS UTLEY CREEK 230kV LINE?**

20 A. The objective of the routing analysis was to identify an economically feasible
21 route that offered the most benefits in terms of providing reliable electric

1 service, but also limited adverse impacts to the social and natural environment
2 within the study area. This effort included leveraging four main sources of data:

- 3 • Field reconnaissance of the study area from publicly accessible
4 roadways and direct access to Duke Energy-owned lands
- 5 • Review of USGS topographic maps and recent aerial photography
- 6 • Review of local planning and zoning documents and available GIS
7 data
- 8 • Contacts with local, State, and Federal agencies

9 Based on the information gathered, a set of feasible routes were identified that
10 connect the proposed Holly Springs Utley Creek Substation to an available
11 transmission line. The primary goals regarding routing were to:

- 12 • Minimize overall impacts by paralleling existing ROWs, including
13 transmission lines, highways, and roads, where possible
- 14 • Maximize the distance of the line from existing residences and other
15 land use sensitivities
- 16 • Minimize the overall length of the route

17 The route alternatives consist of individual segments that can be combined in
18 different arrangements to form a continuous path from the proposed substation
19 site to a transmission line. Each segment begins and ends at intersections with
20 other segments. Preliminary segments located in more intensely developed
21 areas in Holly Springs, North Carolina, such as nearby a school, were
22 discarded in favor of other segments without extensive land use impacts. The
23 set of route alternatives for this Project consisted of seven (7) individual

1 segments. The alternatives were identified to avoid and/or minimize, to the
2 extent practicable, impacts to environmentally sensitive features and
3 residential areas while providing a direct route alignment. Ultimately, five (5)
4 distinct routes were developed using a combination of the seven (7) segments.

5 **Q. DID DUKE ENERGY PROGRESS SEEK PUBLIC INPUT AS PART OF**
6 **THE HOLLY SPRINGS UTLEY CREEK LINE ROUTING PROCESS?**

7 A. Yes. Due to the COVID-19 pandemic and because only one private property
8 owner would be directly impacted by any of the alternative route segments,
9 DEP determined the most effective tool for communicating information about
10 the project was a project website. The website allowed visitors to review a map
11 of the project area, alternative segment locations and status of the project.
12 Additionally, DEP mailed notifications to property owners directly impacted or
13 within 500 feet of any study segment informing each of the project, providing
14 project related information and inviting to meet with DEP representatives to ask
15 questions about the project, provide feedback and data about properties within
16 the study area and learn about project updates.

17 State and Federal agencies were contacted in March 2021 by DEP or
18 Jacobs to provide input on threatened and endangered species, wetlands,
19 wildlife resources, stream sensitivity, hydric soils, and other potential
20 permitting issues within the study area. The following agencies were contacted:
21 the U.S. Army Corps of Engineers (“USACE”), U.S. Fish and Wildlife Service
22 (“USFWS”), NC Wildlife Resources Commission (“NCWRC”), NC Natural
23 Heritage Program (“NHP”), and N.C. Department of Environmental Quality

1 (“NCDEQ”), including the N.C. Division of Water Resources and N.C.
2 Division of Land Quality. Due to the ongoing COVID-19 pandemic, the State
3 clearinghouse suggested that no in-person project scoping meeting take place
4 as has been customary on previous projects; all agency solicitations were
5 submitted via mailing or e-mail inquiry.

6 **Q.AFTER COMPILING DATA FROM VIRTUAL OPEN HOUSE**
7 **MEETINGS, PROPERTY OWNERS IN THE AREA AND DATA FROM**
8 **OTHER SOURCES, HOW DID YOU EVALUATE THE FIVE**
9 **ALTERNATE ROUTES?**

10 A. The analysis of alternatives was based on technical, land use, social, ecological
11 factors. Data for each factor were quantified for each segment and summed for
12 each route.

13 The evaluation of the proposed routes included a systematic comparison
14 of the alternatives based on the social, ecological, land use, and technical factors
15 that represent the potential adverse effects on resources in the study area. The
16 routing factors include the following:

17 Technical:

- 18 • Total length (Feet)
- 19 • Slopes greater than 20% (Number)
- 20 • Heavy angles (>30 degrees) (Number)
- 21 • Amount of right-of-way at or below the 265’ elevation (future Harris
22 Lake constraint) (Acreage)

23 Land Use:

- 1 • Planned or approved developments within 250' of centerline (Number)

2 Social:

- 3 • Property owners impacted (Number)
- 4 • Archeological/Historical sites within 1000 feet (Number)
- 5 • Institutional uses (churches, hospitals, schools) within 1000 feet
- 6 (Number)

7 Ecological:

- 8 • Woodlot areas within ROW (Acres)
- 9 • NWI wetlands within ROW (Acres)
- 10 • Stream crossings (Number)
- 11 • Length of floodplain crossed (Feet)

12

13 The next step in this process was to weigh the criteria within each

14 category (ecological, social, land use, and technical) and across the four

15 categories. Weighting recognizes that under certain circumstances, one

16 evaluation criterion is more important or relevant than another in determining

17 an outcome. The criteria weighting values were determined by consensus of the

18 siting team and based on the specific project area setting, planned future

19 development, and professional judgment of the siting team members'

20 experience routing projects in a similar setting.

21 The area of woodlots within the right-of-way was weighted the highest

22 for the ecological category because the Project would need to clear woodlots,

1 especially located on the Duke Energy-owned Harris Plant properties. Area of
2 NWI wetlands within the right-of-way, NHD stream crossings, and length of
3 floodplain crossed were weighted less because these features can usually be
4 spanned by the transmission line, reducing the environmental impact the Project
5 may have on them.

6 For the social category, known archeological sites within 1,000' were
7 weighted the highest to ensure avoidance by any line alternative within the
8 project area. Few schools and other institutional land uses are present within the
9 study area, and schools and hospitals are not in proximity to the proposed
10 routes. Therefore, these criteria were weighted less.

11 Within the land use category, planned or approved developments
12 crossed by the right-of-way were weighted the highest because of the rapid
13 nature of development within the study area. This higher weighting
14 incorporated the recognition that residences and occupants of future residential
15 or commercial developments could be close to, yet at a safe distance from (in
16 accordance with DEP's standards) the proposed transmission line. As part of
17 this category, conservations lands were also evaluated and were weighted lower
18 than planned or approved developments.

19 Within the technical category, routes with significant slopes (greater
20 than 20 percent grade) were weighted the highest to capture any access issues
21 presented by steep slopes during construction and maintenance. The amount of
22 right-of-way at a 265-foot elevation and below is also of a higher weight in case

1 the DEP Harris Nuclear Plant expands with an additional reactor and increases
2 the reservoir flood elevation in the future, resulting in some structures below
3 the flood elevation or a need to relocate a portion of the transmission line. The
4 number of turn angles greater than or equal to 30 degrees was weighed third
5 highest because structures may be costly and present minor engineering
6 challenges. Length of the route was weighted the lowest of the criteria that were
7 evaluated because all of the route alternatives are of similar length.

8 Across the four categories, the ecological category was weighted the
9 highest (35 percent), followed by land use (30 percent), technical (20 percent),
10 and lastly social (15 percent). The siting team gave the ecological category the
11 highest weight because the Project is in a largely undeveloped wooded area with
12 a high density of mapped sensitive environmental resources such as wetlands,
13 creeks and floodplains. The land use category was given the second highest
14 weight to appropriately consider potential impacts to planned residential or
15 commercial developments with the potential for visual impacts associated with
16 transmission line construction.

17 The technical category was given the second highest weight to capture
18 potential access issues, constructability and maintenance challenges. The social
19 category was given the lowest weight because the area where all alternatives
20 are located is DEP-owned property.

21 **Q. WHAT WERE THE RESULTS OF THE COMPREHENSIVE**
22 **EVALUATION?**

1 A. Alternative Route D scored the best in the quantitative analysis and the DEP
2 team found this route to be the least impactful overall route.

3 **Q. WHY?**

4 A. Alternative Route D was selected as the best route for the following reasons:

- 5 • The route maximizes separation from existing and planned residential
6 developments in the study area;
- 7 • The route has the least amount of right-of-way acreage in below the 265-
8 foot elevation minimizing the need for structure replacements should
9 Harris Lake levels be increased due to additional reactor(s);
- 10 • Minimizes impact to identified ecological sensitivities in the area
11 including wetlands and waterbodies;
- 12 • The route is limited to property currently owned by Duke Energy
13 Progress with the exception of a small section on a single, privately-
14 owned property.

15 The preferred route was the least overall impacting route in the
16 numerical evaluation performed for the proposed Project. For this and the above
17 reasons, and by using standard construction procedures and mitigation
18 techniques when coordinating the Project with State and Federal agencies to
19 comply with necessary regulations, the construction, operation, and
20 maintenance of the proposed Project will have limited effects on the natural and
21 social resources within the study area. DEP will continue to work with
22 environmental stakeholders and nearby landowners to reduce impacts of this
23 proposed Project.

1 **Q. PLEASE DESCRIBE THE PREFERRED ROUTE OF THE PROPOSED**
2 **TRANSMISSION LINE.**

3 A. The preferred route originates at a tap location adjacent to Str 22 on the Harris
4 Plant – Wake 230kV transmission line. From the tap location, the route travels
5 southeasterly paralleling the stream towards the southeast for approximately
6 0.40 mile, runs east for approximately 0.58 mile, and then crosses the northern
7 side of White Oak Creek and its associated floodway. The route then angles
8 south for approximately 0.20 mile, crossing Utley Creek and its associated
9 floodplain, and extends east for 1 mile to the proposed substation location.
10 Subsequently, DEP’s line engineering team has made minor adjustments to the
11 route to reduce sharp angles and impacts to wetlands that will decrease the
12 overall construction costs. These adjustments are explained in the direct
13 testimony of witness Josh Bledsoe.

14 **Q. HOW MANY LANDOWNERS WILL BE DIRECTLY AFFECTED BY**
15 **THE PROPOSED TRANSMISSION LINE, AND HAS DUKE ENERGY**
16 **PROGRESS CONTACTED THOSE LANDOWNERS?**

17 A. Only one (1) private property owner will be directly affected by the proposed
18 125-foot wide right-of-way for approximately 980 feet in length on their
19 property. DEP has communicated with the property owner throughout the
20 siting process and has notified the company of the preferred route decision.
21 The remaining length, approximately 10,530 feet (or 2 miles) of the preferred
22 route will be located on DEP-owned property.

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

1 A. Yes.

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Necessity Pursuant to N.C. Gen. Stat. §§ 62-)
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Wake County, North Carolina)
)

**DIRECT TESTIMONY OF
BILL QUAINANCE FOR
DUKE ENERGY PROGRESS, LLC**

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

2 A. My name Bill Quaintance, and my business address is 411 Fayetteville Street,
3 Raleigh, NC 27601.

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

5 A. I am employed as a Principal Engineer by Duke Energy Progress, LLC
6 (“DEP”). DEP is a wholly owned, indirect subsidiary of Duke Energy
7 Corporation (“Duke Energy”).

8 **Q. WHAT ARE YOUR RESPONSIBILITIES AS PRINCIPAL ENGINEER?**

9 A. I am responsible for the planning of the electrical transmission infrastructure
10 necessary to serve new growth and development in the DEP territory of North
11 and South Carolina. This includes planning transmission line connections
12 associated with transmission-served industrial substations.

13 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**
14 **BACKGROUND.**

15 A. I graduated from North Carolina State University with a Bachelor of Science in
16 Electrical Engineering and from Clemson University with Master of Science in
17 Electrical Engineering, specializing in Power Systems. I have worked for DEP
18 for 8 years, all in the area of Transmission Planning. I also worked 15 years as
19 a Transmission Planning Consultant and 7 years in Transmission Planning at
20 Duke Power Company. I am a licensed Professional Engineer in the States of
21 North Carolina and South Carolina.

22 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NORTH**
23 **CAROLINA UTILITIES COMMISSION?**

1 A. Yes, I testified in Docket No. EMP-116, Sub 0 in the Matter of Application of
2 Juno Solar, LLC for a Conditional Certificate of Public Convenience and
3 Necessity to Construct a 275-MW Solar Facility in Richmond County, North
4 Carolina, and I was a participant in the technical conference in Docket Nos. E-
5 2, Sub 1159 and E-7, Sub 1156 for the Competitive Procurement of Renewable
6 Energy Program.

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

8 A. The purpose of my testimony in this proceeding is to describe the need and
9 necessity for the construction of the proposed 2.1 miles of new 230kV
10 transmission line for the Fujifilm Diosynth biopharmaceutical manufacturing
11 facility in the town of Holly Springs, North Carolina.

12 **Q. ARE YOU FAMILIAR WITH DEP'S APPLICATION FILED IN THIS**
13 **DOCKET?**

14 A. Yes.

15 **Q. WHY IS DEP REQUESTING THIS COMMISSION GRANT THE**
16 **CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY?**

17 A. DEP's assessment of electric energy requirements for the biopharmaceutical
18 manufacturing facility has identified the need to build a new 230kV/23kV
19 substation and a new 230kV transmission line to provide power to the
20 substation in the area that is on west side of the Town of Holly Springs in Wake
21 County, North Carolina. This area is currently served by two general
22 distribution circuits routed near the Fujifilm Diosynth site. One feeder serves
23 primarily industrial and commercial load. The second feeder serves residential

1 load in the community and surrounding developments. Approximately 3 MVA
2 of available capacity exists in each circuit, and this capacity is expected to be
3 required to address continued growth in the Holly Springs area.

4 Fujifilm Diosynth is requesting up to 28 MVA, which would require a
5 minimum of three dedicated general distribution feeders. There are no existing
6 empty feeder break positions in the area infrastructure. Typically, single
7 customer loads of at least 8 MW are served from transmission lines to address
8 both loading and power quality concerns. Therefore, construction of a new
9 transmission substation is required to satisfy this load addition.

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

11 **A.** Yes.

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Miles of New 230 kV Transmission line in)
Wake County, North Carolina)
)

**DIRECT TESTIMONY OF
JOSHUA BLEDSOE FOR
DUKE ENERGY PROGRESS, LLC**

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

2 A. My name Joshua Bledsoe, and my business address is 411 Fayetteville Street,
3 Raleigh, NC 27601.

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

5 A. I am employed as a Lead Engineer by Duke Energy Progress, LLC (“DEP”).
6 DEP is a wholly owned, indirect subsidiary of Duke Energy Corporation
7 (“Duke Energy”).

8 **Q. WHAT ARE YOUR RESPONSIBILITIES AS LEAD ENGINEER?**

9 A. I am responsible for overseeing the design of the electrical transmission line
10 infrastructure necessary to serve new growth and development in the DEP
11 territory of North and South Carolina. This includes coordinating the design
12 and construction of all transmission line projects, from line relocations to green-
13 field, cross country line routing.

14 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**
15 **BACKGROUND.**

16 A. I graduated from the University of North Carolina at Charlotte with a Bachelor
17 of Science in Civil Engineering and a Masters of Science in Civil Engineering
18 with a specialization in Structural Engineering. I have worked for DEP for 2.5
19 years, all in the area of Transmission Line Engineering. I have worked for 4
20 years as a substation design engineer, 8 years as a power plant design engineer,
21 and 2 years as a bridge and building design engineer for several different
22 companies. I am a licensed Professional Engineer in the states of North Carolina
23 and California and a licensed Structural Engineer in the state of Hawaii.

1 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NORTH**
2 **CAROLINA UTILITIES COMMISSION?**

3 A. No.

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

5 A. The purpose of my testimony in this proceeding is to explain the minor
6 adjustments made to the proposed route selected during the transmission line
7 siting and public input process that will serve the Fuji Film Diosynth
8 biopharmaceutical manufacturing facility in the town of Holly Springs, North
9 Carolina.

10 **Q. ARE YOU FAMILIAR WITH DEP’S APPLICATION FILED IN THIS**
11 **DOCKET?**

12 A. Yes.

13 **Q. WERE ANY ADJUSTMENTS MADE TO THE ROUTE THAT WAS**
14 **PREPARED BY JACOBS ENGINEERING STUDY THROUGH THE**
15 **TRANSMISSION LINE SITING AND PUBLIC INPUT PROCESS FOR**
16 **THIS PROJECT?**

17 A. Yes. Adjustments were made by DEP’s Line Engineering Team.

18 **Q. PLEASE DESCRIBE THE ADJUSTMENTS THAT WERE MADE.**

19 A. Beginning at the tap location, the tap point was shifted line ahead (toward Holly
20 Springs) approximately 600 feet. From there, the line was routed to the south
21 until it intersected the route that was prepared in the study. At this Point of
22 Intersection (“PI”) the new line route continued in a southeasterly direction until

1 it crossed Utley Creek. From this PI, the line was routed directly to the
2 substation location.

3 **Q. WHAT ARE THE BENEFITS OF THE ADJUSTMENTS OR**
4 **DEVIATIONS THAT WERE MADE?**

5 A. The adjustments were made after a site visit was performed by the line
6 engineering team. The tap location was relocated to an easier to access location
7 to facilitate construction and to provide better locations for the line switches to
8 be installed. The line route was adjusted to reduce the total number of PIs,
9 which reduces the number of poles required, thereby reducing the cost of
10 materials and installation.

11 **Q. WHAT IMPACTS WILL THE LINE DEVIATIONS HAVE ON THE**
12 **SURROUNDING AREA THAT WAS STUDIED IN THE**
13 **TRANSMISSION LINE SITING AND PUBLIC INPUT PROCESS?**

14 A. Impacts to the surrounding area will be minimal due to the deviations made to
15 the line route. The tap point is 600' closer to a proposed subdivision off of Holly
16 Springs New Hill Rd, however there is still over 3000 feet of buffer between
17 the tap and subdivision. The deviations in the middle of the line route actually
18 bring the line more toward the center of Duke Energy owned land, thereby
19 reducing the impacts to the surrounding area.

20 **Q. IS IT A COMMON PRACTICE FOR LINES TO DEVIATE FROM**
21 **INITIAL LINE SITING AND PUBLIC INPUT PROCESS?**

22 A. Yes. It is. Changes are sometimes required as the project progresses. Although
23 the deviation in this project is insignificant, DEP proposes to include a

1 description of the deviated line in its public notice to accurately reflect the exact
2 location of the line.

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

4 A. Yes.