

1 PLACE: Via WebEx Videoconference
2 DATE: Tuesday, June 17, 2020
3 TIME: 11:00 a.m. - 12:36 p.m.
4 DOCKET NO: E-2, Sub 1220
5 BEFORE: Commissioner Kimberly W. Duffley, Presiding
6 Chair Charlotte A. Mitchell
7 Commissioner ToNola D. Brown-Bland
8 Commissioner Lyons Gray
9 Commissioner Daniel G. Clodfelter
10 Commissioner Jeffrey A. Hughes
11 Commissioner Floyd B. McKissick, Jr.
12
13

14 **IN THE MATTER OF:**

15 Williams Solar, LLC,

16 Complainant

17 versus

18 Duke Energy Progress, LLC,

19 Respondent

20 VOLUME 1
21
22
23
24

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T A B L E O F C O N T E N T S

JONATHAN BURKE

Direct Examination by Mr. Trathen..... 11
Examination by Commissioner Clodfelter..... 59
Examination by Commissioner McKissick..... 60
Examination by Chair Mitchell..... 87
Re-Examination by Commissioner Clodfelter... 94
Re-Examination by Chair Mitchell..... 98
Examination by Commissioner Duffley..... 101

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E X H I B I T S

Identified / Admitted

Exhibits JB-1 through JB-14..... 17/17

(Confidential Exhibits JB-5 and JB-14
are filed under seal)

P R O C E E D I N G S

1
2 COMMISSIONER DUFFLEY: Good morning. Let's
3 come to order, please, and go on the record. I am
4 Commissioner Kimberly W. Duffley, and with me today
5 are Chair Charlotte A. Mitchell; and Commissioners
6 ToNola D. Brown-Bland, Lyons Gray, Daniel G.
7 Clodfelter, Jeffrey A. Hughes, and Floyd B. McKissick,
8 Jr.

9 I now call for hearing Docket Number E-2,
10 Sub 1220, In the Matter of Williams Solar, LLC,
11 Complainant, versus Duke Energy Progress, LLC,
12 Respondent.

13 On October 24th, 2019, Williams Solar filed
14 a verified complaint against Duke Energy Progress, or
15 D-E-P or DEP, alleging that Respondent has failed to
16 undertake and comply with its obligations under the
17 North Carolina Interconnection Procedures in good
18 faith.

19 On November 1st, 2019, the Commission issued
20 its Order Serving Complaint.

21 On November 27th, 2019, DEP filed its Answer
22 and Motion to Dismiss.

23 On December 2nd, 2019, the Commission issued
24 its Order Serving Answer and Motion to Dismiss.

1 On December 19th, 2019, Complainant filed
2 its Reply to Answer and Motion to Dismiss.

3 On January 24th, 2020, the Commission issued
4 its Order Scheduling Hearing which set this docket for
5 hearing.

6 Due to the State of Emergency declared by
7 the Governor due to the COVID-19 pandemic, in April
8 2020, various filings were made regarding the
9 rescheduling of the hearing and extensions of time for
10 the filing of testimony.

11 On April 20th, 2020, the Commission issued
12 an Order granting the motions to extend time for the
13 filing of testimony as requested.

14 On April 28th, 2020, the Complainant filed
15 the direct testimony and exhibits for Jonathan Burke
16 and Charles F. (sic) Bolyard, Jr.

17 On May 12th, 2020, the Respondent filed the
18 direct testimony and exhibits of Kenneth Jennings and
19 Steven Holmes, direct testimony of Jack McNeil, and
20 direct testimony of Scott Jennings.

21 On May 19th, 2020, the Complainant filed
22 rebuttal testimony and exhibits for Jonathan Burke and
23 Charles F. (sic) Bolyard, Jr.

24 On June 3rd, 2020, the Commission issued an

1 Order Scheduling Remote Hearing.

2 On June 9th, 2020, both parties filed
3 letters in the docket stating they consent to a remote
4 hearing. Also on June 9th, 2020, DEP filed a Motion
5 to Excuse Witness Jack McNeil. And Williams Solar
6 filed Response to Motion to Excuse Witness.

7 On June 11th, 2020, the Commission issued an
8 Order Granting Motion to Excuse Witness and Requiring
9 Witness to Appear at Hearing to Address Certain
10 Issues.

11 In compliance with the State Ethics Act, I
12 remind all members of the Commission of our duty to
13 avoid conflicts of interest, and inquire at this time
14 as to whether any member has a known conflict of
15 interest with respect to the matters before us this
16 morning?

17 (No response)

18 Please let the record reflect no such
19 conflicts were identified.

20 I will now call for appearances of counsel,
21 beginning with the Complainant.

22 MR. TRATHEN: Good morning all. This is
23 Marcus Trathen. I am a lawyer at Brooks Pierce here
24 in Raleigh. And with me, albeit secluded on the other

1 side of this large room are my colleagues Eric David
2 and Matt Tynan. We're representing the Complainant.

3 COMMISSIONER DUFFLEY: Thank you,
4 Mr. Trathen.

5 The Respondent, please. You need to unmute
6 your microphone. It looks like you're unmuted.

7 MR. BREITSCHWERDT: Excellent.

8 MR. JIRAK: My apologies for that. Again,
9 Commissioner Duffley, thank you. This is Jack Jirak
10 here on behalf of Duke Energy Progress.

11 MR. BREITSCHWERDT: Good morning,
12 Commissioner Duffley. Commissioners, Brett
13 Breitschwerdt with the Law Firm of McGuireWoods on
14 behalf of Duke Energy Progress.

15 COMMISSIONER DUFFLEY: Good morning,
16 gentlemen.

17 So we have a few preliminary matters before
18 we begin today. The first is the Order scheduling the
19 hearing in this matter did not address DEP's motion to
20 dismiss for failure to state a claim. Taking the
21 allegations of the Complaint is true, there may be a
22 claim to which some relief could be granted. So at
23 this time I will deny the motion. However, it is
24 without prejudice, and DEP may renew its motion to

1 dismiss at the close of this evidence.

2 The second matter, Mr. Trathen, it's my
3 understanding that you have indicated orally that
4 Williams Solar has withdrawn the request for issuance
5 of the subpoena duces tecum; is this correct?

6 MR. TRATHEN: Yes, that is correct.

7 COMMISSIONER DUFFLEY: Please let the record
8 so reflect.

9 The third issue is the Commission finds that
10 the requirement for the filing of cross examination
11 exhibits on June 12th, 2020, was fulfilled by both
12 parties by filing a list of the potential cross
13 examination exhibits and providing a copy of the
14 potential cross examination exhibits to the Commission
15 and the other party to this docket. Some information
16 has been marked as confidential in both the testimony
17 and exhibits in this docket. It's my understanding
18 that all the parties and the witnesses, as well as the
19 Commission, will work to avoid the necessity of a
20 confidential session. Is that everyone's
21 understanding?

22 MR. TRATHEN: Yes, Chair Duffley, it is.

23 MR. JIRAK: Yes, on behalf of Duke Energy
24 Progress that's the understanding as well.

1 COMMISSIONER DUFFLEY: Thank you. However,
2 if it becomes unavoidable we will deal with it at that
3 time.

4 Do the parties have any additional
5 preliminary matters?

6 MR. TRATHEN: None from Williams Solar.

7 MR. JIRAK: None from Duke Energy Progress.

8 COMMISSIONER DUFFLEY: Before we begin, I
9 will remind everyone to please check and make sure
10 you're unmuting yourself before you speak. Our
11 producer has the capability to mute you and will do so
12 to reduce background noise. It will happen and we
13 will remind you. But just to let you know please keep
14 that in mind. If you see me waiving my hand that
15 means you need to unmute.

16 For objections, and hopefully there are few
17 or none, no objections, but please go ahead and unmute
18 yourself and interrupt the proceeding. If I don't
19 stop the proceeding that means you are not unmuted so
20 you need to start waiving your hand to grab my
21 attention. We also have the hands, electronic hands,
22 but I have everyone on grid view. I have others
23 watching on grid view. And I seem to prefer this, but
24 we will try to recognize those electronic hands for

1 those that would prefer that method.

2 For the attorneys, in the beginning for the
3 court reporter, if you could please identify yourself
4 each time perfect before you speak so she can become
5 familiar with your voices. You won't have to do that
6 through the whole hearing but just in the beginning if
7 you could do so.

8 With the Duke panel, before the witnesses
9 speak each time, please introduce yourself and state
10 this is, for example, Ken Jennings speaking and then
11 begin your answer.

12 Okay. Is there anything else before we
13 begin today? Seeing nothing, we will begin with the
14 Complainant.

15 MR. TRATHEN: Thank you, Chair Duffley.
16 This is Marcus Trathen. We would call our first
17 witness, Jonathan Burke.

18 MR. BURKE: Good morning.

19 COMMISSIONER DUFFLEY: Good morning.

20 JONATHAN BURKE;
21 having been duly affirmed,
22 testified as follows:

23 DIRECT EXAMINATION BY MR. TRATHEN:

24 Q Good morning, Mr. Burke. Please state your name

1 and business address for the record.

2 A I am Jonathan Burke. Our business address is
3 1447 South Tryon Street, Suite 201, Charlotte,
4 North Carolina 28203.

5 COMMISSIONER CLODFELTER: Commissioner
6 Duffley, I'm sorry to interrupt. Mr. Trathen, you and
7 the witness are a little bit close together so some of
8 us are getting echoing because both mics are picking
9 up each of you, so we're getting a little bit echo. I
10 don't know if I'm the only one experiencing that but
11 I'm --

12 COMMISSIONER GRAY: No, you're not.

13 COMMISSIONER CLODFELTER: Okay. So you'll
14 need to separate a little bit more just so the mics
15 are isolated.

16 MR. TRATHEN: Mr. Burke, could you say
17 something and let's see if we're still getting cross
18 talk?

19 THE WITNESS: How is this now?

20 MR. TRATHEN: Yeah, we still are. I'm
21 hearing it as well.

22 COMMISSIONER CLODFELTER: It's not as bad
23 but we're still getting some contamination.

24 MR. TRATHEN: We did try to sit out in

1 advance and we weren't getting this much so, is it
2 appropriate, if you'll bear with us for just one
3 minute, and we will readjust?

4 COMMISSIONER DUFFLEY: That will be fine.

5 COMMISSIONER CLODFELTER: Chair Duffley.

6 COMMISSIONER DUFFLEY: Yes, Commissioner.

7 COMMISSIONER CLODFELTER: While we're
8 waiting for the adjustment on Mr. Trathen's side, we
9 might also let the Duke folks know that Mr. Jirak is
10 slightly off camera so when he speaks he's not -- we
11 can't see him. We can see everyone else in the
12 conference room. But Mr. Jirak is just a bit off the
13 side.

14 COMMISSIONER DUFFLEY: Is there any way that
15 the Duke office can adjust the camera a little to, if
16 you're looking at the camera adjust it a little bit to
17 the right?

18 MR. BREITSCHWERDT: There absolutely is a
19 way and there's someone who knows how to do it, he's
20 just not in the room at the moment, but we'll work on
21 that while we're adjusting.

22 MR. JIRAK: And just to confirm,
23 Commissioner Duffley, you can see me right now,
24 correct?

1 COMMISSIONER DUFFLEY: I can.

2 COMMISSIONER CLODFELTER: Yes.

3 MR. JIRAK: I'll try to stay in -- if I'm
4 going to be speaking I will do my best to stay in this
5 position where I'm visible.

6 COMMISSIONER CLODFELTER: That's great.
7 That's great.

8 MR. JIRAK: And we just want to test to make
9 sure -- I think we have an ability to mute our
10 microphones here that's separate from the system
11 muting, so can we just confirm that's working. I'm
12 going to mute now and then see if it's -- if you can
13 hear us.

14 COMMISSIONER DUFFLEY: Okay.

15 MR. JIRAK: All right. You can hear us now,
16 correct?

17 COMMISSIONER DUFFLEY: Correct.

18 MR. JIRAK: All right. So we'll make
19 sure -- we've got a microphone mute here specific to
20 the room and then obviously the system here can also
21 mute us, so we'll make sure we have that coordinated.

22 COMMISSIONER DUFFLEY: Thank you. We have
23 Mr. Trathen back. And is Mr. Breitschwerdt headed
24 back into the room? Thank you.

1 Okay, Mr. Trathen, do you want to try again?

2 MR. TRATHEN: Yes, I do. I apologize for
3 the disruption there. Is this working better?

4 COMMISSIONER DUFFLEY: Yes. You sound much
5 better.

6 COMMISSIONER CLODFELTER: Yes.

7 MR. TRATHEN: Okay. Good. Is Mr. Burke
8 still there?

9 THE WITNESS: I am. Can you hear me?

10 COMMISSIONER DUFFLEY: Yes, we can hear you
11 but we cannot see you. We still cannot see you.
12 There we go. Perfect.

13 THE WITNESS: Okay.

14 COMMISSIONER DUFFLEY: Mr. Trathen, please
15 continue.

16 BY MR. TRATHEN:

17 Q Okay. So I'd asked you your name and business
18 record.

19 MR. TRATHEN: Did the court reporter get
20 that information?

21 (Court Reporter responded affirmatively)

22 MR. TRATHEN: Great. Thank you.

23 BY MR. TRATHEN:

24 Q Mr. Burke, did you cause to be filed in this

1 proceeding direct testimony consisting of 35
2 pages and 14 exhibits?

3 A Yes.

4 Q And do you have had any corrections to your
5 testimony?

6 A Yes. There are a few typographical corrections I
7 would like to make to my direct testimony. First
8 on Page 11, lines 3 through 6, the sentence
9 beginning "the term preliminary estimated upgrade
10 charge is defined as" should be deleted. That
11 sentence is duplicative of the same sentence
12 repeated earlier in the paragraph. The second
13 change on Page 23, line 7, the word "DEP's"
14 should be changed to DEP without the apostrophe
15 S. The third change, on Page 29, line 22, the
16 word "the" should be inserted after "with" and
17 before "in-service", so that the sentence reads
18 "with the in-service date".

19 Q Okay. Thank you, Mr. Burke. As amended, if I
20 asked you the questions, the same questions in
21 the prefiled submissions today, would your
22 answers be the same?

23 A Yes.

24 MR. TRATHEN: Madam Chair, I'd ask that

1 Mr. Burke's direct testimony be entered into the
2 record and that the corresponding Exhibits 1 through
3 14 be marked for identification.

4 Chair Duffley, I can't hear you.

5 COMMISSIONER GRAY: I think you're on mute.

6 COMMISSIONER DUFFLEY: Thank you. I told
7 you it was going to happen today.

8 Thank you, Mr. Burke, or thank you,
9 Mr. Trathen. The direct prefiled testimony consisting
10 of 35 pages filed on April 28th, 2020, is copied into
11 the record as though given orally from the stand, and
12 his 14 exhibits are marked for identification as
13 premarked in the filings and those will be received
14 into evidence.

15 MR. TRATHEN: Thank you.

16 (WHEREUPON, Exhibits JB-1 through
17 JB-14 were marked for
18 identification as prefiled and
19 received into evidence.

20 Confidential Exhibits JB-5 and
21 JB-14 are filed under seal.)

22 (WHEREUPON, the prefiled direct
23 testimony JONATHAN BURKE is copied
24 into the record as if given orally

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from the stand.)

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DIRECT TESTIMONY OF JONATHAN BURKE

FOR WILLIAMS SOLAR, LLC

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

Docket No. E-2, Sub 1220

April 28, 2020

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jonathan Burke. My business address is 1447 South Tryon St, Suite 201, Charlotte, NC 28203.

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

A. I am the Country Manager and President of Development for GreenGo Energy US, Inc. (“GreenGo”).

Q. ON WHOSE BEHALF ARE YOU PROVIDING TESTIMONY?

A. I am providing testimony on behalf of Williams Solar, LLC (“Williams Solar”) as an authorized agent.

Q. PLEASE DESCRIBE THE RELATIONSHIP BETWEEN GREENGO AND WILLIAMS SOLAR.

A. GreenGo is a full-service renewable power developer. In North Carolina, GreenGo is pursuing development of a portfolio of 2 to 5 MW_{AC} projects, a number of which qualified for standard offer contracts, protection under House Bill 589, and were signatories to the January 30, 2018 Settlement Agreement between DEP and the solar industry that was filed in Docket No. E-100, Sub 101. GreenGo is responsible

1 for determining whether the projects it develops are commercially viable. In
2 connection with this, GreenGo is charged with evaluating and procuring
3 prospective sites for solar projects, obtaining all necessary governmental
4 authorizations, zoning, engineering, procurement, construction management and
5 limited financing of the facilities, and achieving interconnection with the
6 incumbent electric utility. Williams Solar is one of the utility scale solar projects
7 with proposed distribution interconnection in North Carolina within the portfolio
8 under GreenGo's management.

9 **Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES FOR GREENGO.**

10 A. I am responsible for the operations, profit and loss of the U.S. division within
11 GreenGo Energy Group and accountable for the success of the renewable power
12 portfolio including business development, development and financing, under
13 management by our shareholders and investors. I oversee the attraction,
14 recruitment, growth and development of a blended team of development, technical
15 and construction management personnel in Charlotte, our U.S. headquarters
16 beginning in 2016. I also oversee additional remote personnel across the
17 South/Southeast. In my capacity, I act as the authorized agent for the special
18 purpose entities within the portfolio that we manage in executing binding
19 agreements related to their respective contracts, including their defense if
20 necessitated.

21 **Q. PLEASE DESCRIBE YOUR RELATIONSHIP TO WILLIAMS SOLAR.**

1 A. I am an authorized agent for Williams Solar, with the power to take certain actions
2 on its behalf, including the prosecution of litigation such as this to enforce the
3 project's rights.

4 **Q. PLEASE SUMMARIZE YOUR BACKGROUND AND PROFESSIONAL**
5 **EXPERIENCE.**

6 A. I have a B.S. in mechanical engineering from Tulane University; a Master's in
7 Engineering Management from University of Missouri-Rolla; and an M.B.A. from
8 Rice University. I was an active duty U.S. Army officer commissioned in 1996
9 with duty stations in Missouri, Germany, Bosnia-Herzegovina, Kuwait and Atlanta,
10 Georgia in various leadership capacities before transitioning to the private sector in
11 late 2001. From 2001 to 2010, I worked in a variety of roles that spanned technical
12 roles (offshore project engineer for Shell Pipeline in the Gulf of Mexico), internal
13 project manager and consultant for the transition and repositioning of a retail
14 businesses after Pennzoil Quaker-State acquisition by Shell, and later business
15 development manager for Shell WindEnergy, Inc. From 2010 to 2013, I was the
16 Director of Development for Element Power US, where I led the regional
17 development of wind and solar projects in the south and east regions. I further
18 served as a Senior Director of Apex Clean Energy from 2013 to 2015. In 2015, I
19 became a Vice President at the National Renewable Energy Corporation, where I
20 jointly led a team resulting in +1GW solar portfolio primarily sited in key regulated
21 markets across the southeast in North Carolina, South Carolina, Georgia, Florida
22 and Alabama. I have served as the President of GreenGo since 2017. I have

1 extensive experience related to renewable energy development in general and in the
2 development and financing of solar generation projects in North Carolina in
3 particular.

4 **Q. HAVE YOU PROVIDED TESTIMONY IN PRIOR REGULATORY**
5 **COMMISSION PROCEEDINGS?**

6 A. Yes. I testified on behalf of another solar developer, Lily Solar LLC, regarding an
7 interconnection dispute between Lily Solar LLC and South Carolina Electric & Gas
8 before the South Carolina Public Service Commission, in Docket No. 2016-89-E.

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

10 A. My testimony here addresses several issues. First, I provide some background on
11 the Williams Solar project that is at issue in this proceeding. Second, I describe the
12 process that led to the dispute before the Commission, which relates to whether the
13 estimates provided by Respondent Duke Energy Progress, LLC (“DEP”) were
14 made in good faith. Third, I describe the communications between Williams Solar
15 and DEP relating to the dispute.

16 **Q. PLEASE DESCRIBE THE WILLIAMS SOLAR PROJECT.**

17 A. Williams Solar is a self-certified Qualifying Facility (“QF”) that has been granted
18 a certificate of public convenience and necessity by the Commission to construct a
19 5-MW_{AC} solar facility to be located at approximately 8185 Harper House Road,
20 Newton Grove, Johnston County, North Carolina. See Docket SP-8274, Sub 0.
21 Contemporaneously with its CPCN application, Williams Solar submitted a
22 registration statement with the Commission as a new renewable energy facility.

1 **Q. PLEASE DESCRIBE THE HISTORY OF THE WILLIAMS SOLAR**
2 **INTERCONNECTION REQUEST.**

3 A. Williams Solar submitted an interconnection request to DEP on August 19, 2016,
4 and signed a System Impact Study Agreement (“SIS Agreement”) on September 8,
5 2016, although it did not receive a countersigned SIS Agreement from DEP.
6 Williams Solar was issued queue number NC2016-02927 on October 17, 2016.
7 Williams Solar was initially identified as a “Project B.” In November 2017,
8 Williams Solar received a notice that, because Williams Solar did not yet have a
9 completed SIS, DEP would apply the new criteria set forth in DEP’s Method of
10 Service Guidelines (“MOS Guidelines”) when evaluating the Williams Solar
11 interconnection request. In December 2017, more than fifteen months after
12 Williams Solar signed the SIS Agreement, DEP notified Williams Solar that it was
13 beginning the Williams Solar System Impact Study.

14 **Q. DO YOU KNOW WHY THERE WAS A DELAY BETWEEN THE SIGNING**
15 **OF THE SIS AGREEMENT AND THE BEGINNING OF THE WILLIAMS**
16 **SOLAR SYSTEM IMPACT STUDY?**

17 A. My understanding is that the System Impact Study was delayed while the “Project
18 A” System Impact Study proceeded as well as delayed by study actions taken by
19 DEP to process other higher queued solar projects. My understanding is that
20 Williams Solar was also put on hold while DEP awaited the results of a new cluster-
21 based study performed by DEP to assess Williams Solar’s contribution to alleged
22 transmission constraints.

1 **Q. DID DEP COMPLETE A SYSTEM IMPACT STUDY FOR WILLIAMS**
2 **SOLAR?**

3 A. Yes. DEP transmitted the Williams Solar (“SIS”) results by e-mail on January 28,
4 2019. The transmittal e-mail is included as Exhibit JB-1 to this testimony. The SIS
5 report, dated December 20, 2018, is included as Exhibit JB-2 to this testimony.

6 **Q. PLEASE SUMMARIZE THE RESULTS OF THE SYSTEM IMPACT**
7 **STUDY.**

8 A. As shown Exhibit JB-2, the SIS showed that Williams Solar failed DEP’s circuit
9 stiffness screen, requiring the use of a 150 Ohm pre-insertion resistor; that the point
10 of interconnection was downstream of certain fuses or reclosers, requiring the
11 replacement of devices with reclosers and installing or relating devices; that the
12 addition of the Williams Solar project would cause service transformers to be added
13 to a high fault area, requiring retrofitting 71 transformers to incorporate current
14 limiting fuses, also known as high fault tamers; that the Williams Solar project
15 would require rebuilding 1.4195 miles of line from single phase to three phase; that
16 the project passed DEP’s voltage limit screens; and that the project would “create[]
17 annealing violations,” requiring other upgrades to “correct . . . affected conductors.”
18 The study concluded that Williams Solar could be connected with a standard
19 interconnection package and that it would require no substation upgrades or
20 transmission upgrades.

1 **Q. DID THE SYSTEM IMPACT STUDY REPORT ESTIMATE THE COSTS**
2 **OF THE REQUIRED INTERCONNECTION FACILITIES AND SYSTEM**
3 **UPGRADES?**

4 A. Yes. The SIS report estimated that the interconnection facilities would cost
5 \$60,000; plus require a new line to be constructed with some reconductoring work
6 that was estimated by DEP to cost \$705,000; and that the protection upgrades
7 (fuses, reclosers, and high fault tamers) would cost an additional \$69,000, resulting
8 in a total SIS estimate of \$834,000.

9 **Q. HOW DID THESE ESTIMATES COMPARE WITH WILLIAMS SOLAR'S**
10 **EXPECTATIONS?**

11 A. The \$60,000 cost for interconnection facilities was consistent with the standard
12 interconnection package offered by DEP on other projects. The reconductoring
13 cost of \$705,000 for approximately 2.5 miles of distribution line was higher than
14 expected. The total estimate of \$834,000 was the highest SIS estimate GreenGo had
15 received from DEP for any similar sized project under its management up to that
16 point.

17 **Q. DID GREENGO RELY ON THE SYSTEM IMPACT STUDY RESULTS,**
18 **INCLUDING THE ESTIMATED COSTS, TO DETERMINE WHETHER**
19 **TO PROCEED WITH THE WILLIAMS SOLAR PROJECT?**

20 A. Yes.

21 **Q. PLEASE EXPLAIN.**

1 A. GreenGo's business model is based on identifying and developing solar
2 photovoltaic generation projects in a profitable manner, ensuring development is
3 progressed with least development capital at risk for the respective milestones. To
4 that end, if a project's upfront development costs—such as interconnection
5 facilities and system upgrades—are too high, GreenGo will not seek to further
6 develop a project and will focus its internal and external resources on projects with
7 greater likelihood of economic contribution to the portfolio's success. The cost
8 estimate provided at the SIS stage one of a few key decision points after an
9 interconnection request is submitted in evaluating a project's economic return
10 potential. GreenGo relies on the results of the SIS as an important proxy of
11 potential economic viability in determining whether to proceed with a specific
12 project or divert time and resources to others with greater likelihood of economic
13 viability/success. That is how GreenGo used the Williams Solar SIS cost estimate
14 in its decision making process on allocation of development capital.

15 **Q. WAS DEP AWARE THAT WILLIAMS SOLAR WOULD RELY ON THE**
16 **ESTIMATE PROVIDED IN THE SYSTEM IMPACT STUDY TO DECIDE**
17 **WHETHER TO MOVE FORWARD WITH THE PROJECT?**

18 A. Yes. First, I think it is fair to say that the very purpose of the estimate provided in
19 the SIS report is to let the interconnection customer know whether the project is
20 both technically and economically viable before additional costs are incurred. As
21 DEP stated in its e-mail transmitting the system impact study report to Williams
22 Solar:

1 The purpose of this e-mail is for a decision to be made whether or
2 not to continue moving forward with the project for the final costs
3 or to withdraw.

4 Exhibit JB-1. In addition, in the 2018 CPRE proceeding, in its reply comments
5 filed on September 19, 2018, DEP (along with Duke Energy Carolinas, LLC) stated
6 as follows:

7 The Companies acknowledge that the “Preliminary Estimated
8 Upgrade Cost” established through the System Impact Study may,
9 and likely will, differ some from the final Network Upgrade costs
10 established through the Facilities Study and included in the
11 Interconnection Agreement. Cost estimates are by definition not
12 certain, and even the ultimate construction cost to be potentially
13 trued-up under the Interconnection Agreement after Network
14 Upgrades are constructed may be different from the Upgrades
15 originally identified in the IA. However, the Preliminary Estimated
16 Upgrade Cost does provide a valid ballpark estimate of the likely
17 costs to safely and reliably interconnect the Generating Facility and
18 therefore, it is reasonable to require an Interconnection Customer to
19 take an affirmative financial step to demonstrate its intent to proceed
20 based on estimated costs rather than allowing the Interconnection
21 Customer an additional six months to a year to decide.

22 Reply Comments, Docket No. E-100, Sub 101, available at
23 [https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=fec32c9d-c673-4e54-a3a0-](https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=fec32c9d-c673-4e54-a3a0-a60e22ad06df)
24 [a60e22ad06df](https://starw1.ncuc.net/NCUC/ViewFile.aspx?Id=fec32c9d-c673-4e54-a3a0-a60e22ad06df). It seems clear to me that DEP was not just aware that Williams
25 Solar would rely on the estimate, but that DEP actually intends—and sought
26 changes to the Interconnection Procedures requiring—that the estimate provided at
27 the SIS stage be the basis of significant financial decisions made by interconnection
28 customers in an effort to optimize DEP’s processing of its queue.

1 **Q. DID DEP PROVIDE ANY CAVEATS OR LIMITATIONS ON THE**
2 **ACCURACY OR USEFULNESS OF THE SYSTEM IMPACT STUDY**
3 **ESTIMATES?**

4 A. Yes. DEP’s transmittal e-mail states that the estimates “do not account for the
5 terrain that DEP personnel will encounter to connect” the project to the grid. There
6 are no other caveats, other than a statement that “costs can potentially increase” if
7 the interconnection customer chooses an infrastructure route or point of delivery
8 other than those used by DEP in completing the system impact study. Given
9 Williams Solar was not changing its infrastructure route, point of delivery nor
10 triggering Network Upgrades, I felt that the SIS estimate was likely a good proxy
11 of the final cost likely to be expected for the project.

12 **Q. DO THE NC INTERCONNECTION PROCEDURES PROVIDE ANY**
13 **REQUIREMENTS REGARDING SYSTEM IMPACT STUDY**
14 **ESTIMATES?**

15 A. Yes. Section 4.3.4 of the 2015 Interconnection Procedures—which was in effect at
16 the time the Williams Solar system impact study was completed—requires that the
17 Preliminary Estimated Upgrade Charge be a “preliminary indication of the cost and
18 length of time that would be necessary to . . . implement the interconnection.” The
19 term “Preliminary Estimated Upgrade Charge” is defined as “[t]he estimated charge
20 for Upgrades that is developed using unit costs This charge is not based on
21 field visits and detailed engineering cost calculations.” NC Glossary of Terms
22 (2015). Similarly, section 4.3.5 requires that the Preliminary Estimated

1 Interconnection Facilities Charge be “a preliminary non-binding indication of the
2 cost and length of time that would be necessary to provide the Interconnection
3 Facilities.” The term “Preliminary Estimated Upgrade Charge” is defined as “[t]he
4 estimated charge for Interconnection Facilities that is developed using unit costs
5 This charge is not based on field visits and detailed engineering cost
6 calculations.” The SIS Agreement, in sections 12.0 and 13.0, requires the estimates
7 to be completed as part of the SIS.

8 **Q. DO THE INTERCONNECTION PROCEDURES REQUIRE THE SYSTEM**
9 **IMPACT STUDY ESTIMATES TO BE MADE IN GOOD FAITH?**

10 A. The North Carolina Interconnection Procedures (“Procedures”) do not use the
11 words “good faith” in connection with the Preliminary Estimated Upgrade Charge
12 or the Preliminary Estimated Interconnection Facilities Charge. However, the
13 Procedures do require that other similar estimates be “good faith” estimates. E.g.,
14 Interconnection Procedures §§ 2.2.1.2, 3.2.2.2, 3.2.2.5, 3.3.1. More generally, it is
15 my understanding that parties to contracts such as the SIS Agreement must carry
16 out their contractual obligations in good faith. Looking at this alternatively from a
17 market certainty perspective with fairness in mind, it seems to me that it would be
18 bad policy and inconsistent with the Commission’s mandates to allow estimates to
19 be provided that were not “good faith” estimates. So, despite the lack of explicit
20 “good faith” language in the Procedures or the SIS Agreement regarding the SIS
21 cost estimates, such estimates must be good faith estimates. Certainly, I expected
22 that DEP’s estimates were being made in good faith and based on diligent inquiry.

1 **Q. WHEN YOU SAY YOU EXPECTED THAT DEP WAS PROVIDING**
2 **ESTIMATES IN GOOD FAITH WHAT DOES THAT ENCOMPASS IN**
3 **YOUR VIEW?**

4 A. By this I mean that, at a minimum, the SIS estimate would be made using industry
5 standard estimating methodologies and assumptions and be based on actual, up-to-
6 date, commercially reasonable cost data for similar work. Since DEP has
7 interconnected a large amount of distributed PV generation in addition to work on
8 the grid for its own PV generation purposes, I would expect DEP to have both the
9 data and experience to make accurate estimates consistent with conduct of
10 professional engineers.

11 **Q. DID WILLIAMS SOLAR CONSIDER THE WILLIAMS SOLAR PROJECT**
12 **VIALE AFTER RECEIVING THE \$834,000 SYSTEM IMPACT STUDY**
13 **ESTIMATE?**

14 A. Yes. Although the estimated interconnection facilities and system upgrade costs
15 were higher than anticipated, the SIS costs were still within the range that GreenGo
16 would consider to be worth pursuing and deploying its time and resources toward
17 perfecting development. Recognizing that the SIS estimates are nonbinding and
18 that the actual costs could vary somewhat, but also assuming the initial estimate
19 was reasonably accurate, I considered Williams Solar to be both technically and
20 potentially economically viable, although marginal, with combined upfront costs
21 of approximately \$834,000.

1 **Q. PLEASE EXPLAIN WHY YOU CONSIDERED THE PROJECT TO BE**
2 **“MARGINAL.”**

3 A. Based on GreenGo’s experience and assumptions, federal investment tax credit
4 (“ITC”) eligible capital expenses typically run approximately \$1 million to \$1.5
5 million per megawatt DC of a proposed solar generation facility in North Carolina.
6 Variance in installed costs typically result from panel and racking selection, civil
7 and subsurface variations, environmental controls, site control option, and other
8 factors. This translates to approximately \$7 million to \$10.5 million in ITC eligible
9 costs for a 5 MW_{AC} standard offer generation facility (approximately 7 MW_{DC}).
10 Opportunity analysis under economic conditions that change over time can be
11 extremely complex and require significant financial modeling expertise. Therefore,
12 for simplicity purposes and as an illustrative example, GreenGo developed an
13 investment rule of thumb in analyzing its solar development capital costs for its
14 portfolio of Covered Projects under HB 589 and its Settlement Agreement within
15 DEP’s service territory. In our DEP “rule of thumb,” if a project’s non-tax-credit
16 eligible expenses exceed 15% of the fully burdened tax eligible expenses, that is a
17 reasonable indicator that the project will likely become uneconomical with all other
18 factors considered. Thus, a 5 MW_{AC} project like Williams Solar may be considered
19 economical when non-tax eligible costs—which include interconnection costs, land
20 acquisition costs, ROW costs, system upgrades and network upgrade costs—are
21 less than approximately \$1 million, but would generally be considered
22 uneconomical when such costs approach \$1.5 million or more. This rule of thumb

1 is consistent with my experience with distribution connected solar projects in North
2 Carolina qualified under similar offtake agreements financed in DEP's service
3 territory by GreenGo. At \$834,000, Williams Solar was close to the economically
4 viable line for GreenGo. The rule of thumb is based on an assumption of the full
5 30 percent income tax credit; with the decreasing solar income tax credit, the
6 amount of supportable non-tax eligible costs would be less than \$1.5 million.

7 **Q. DID WILLIAMS SOLAR DECIDE TO CONTINUE WITH THE**
8 **INTERCONNECTION PROCESS AND FURTHER DEVELOP THE**
9 **PROJECT?**

10 A. Yes, based upon the results of the SIS, GreenGo determined the project was viable.

11 **Q. WHAT DID WILLIAMS SOLAR DO FOLLOWING THE SYSTEM**
12 **IMPACT STUDY?**

13 A. Williams Solar executed a Facilities Study Agreement with DEP on February 22,
14 2019, to continue the study process. A copy of the FSA is attached hereto as Exhibit
15 JB-3. Meanwhile, Williams Solar continued addressing siting issues to support
16 construction of the project.

17 **Q. PLEASE EXPLAIN THE SITING ISSUES RELATING TO THE**
18 **WILLIAMS SOLAR PROJECT.**

19 A. The Williams Solar project is sited in Johnston County. In August 2016, Williams
20 Solar leased a parcel of land (Property) on which the project would be developed.
21 The Property is somewhat irregularly shaped requiring special design
22 considerations be appropriately factored into consideration. Furthermore, the

1 county's zoning ordinance would require a 150 foot setback on all sides of the
2 Property. If these zoning setbacks were enforced and no variance was allowed,
3 Williams Solar could not be constructed at full size even after down-sizing within
4 NCIP limits. Therefore, in January 2019, Williams Solar requested a variance from
5 Johnston County that would reduce the setback requirements. Because Williams
6 Solar determined to continue with the project based on the SIS results, Williams
7 Solar continued pursuit of the requested variance. A hearing on the variance request
8 was held on February 27, 2019, and the variance was denied. Williams Solar and
9 its legal counsel then pursued an appeal of the decision denying the variance. In
10 parallel with the appeal, Williams Solar pursued and obtained an option to purchase
11 the neighboring parcel of land to augment the Property as a fallback in case the
12 appeal failed. In July 2019, the appeal was decided against Williams Solar.

13 **Q. WOULD THE WILLIAMS SOLAR PROJECT STILL BE CONSIDERED**
14 **VIALE IF WILLIAMS SOLAR HAD TO EXECUTE THE PURCHASE**
15 **OPTION?**

16 A. Yes. Using the rule of thumb described above, Williams Solar would still be within
17 what GreenGo would consider a marginal, but economically viable project.

18 **Q. DID DEP COMPLETE A FACILITIES STUDY FOR THE WILLIAMS**
19 **SOLAR PROJECT?**

20 A. Yes. DEP sent the results of the facilities study by e-mail on July 30, 2019. The
21 transmittal e-mail is attached hereto as Exhibit JB-4.

22 **Q. PLEASE SUMMARIZE THE RESULTS OF THE FACILITIES STUDY.**

1 A. With no change to the scope of work described in the system impact study report,
2 the facilities study report estimated a cost of \$1,388,374.26 (including 7% North
3 Carolina sales tax) for system upgrades and \$196,495.13 (including 7% North
4 Carolina sales tax) for interconnection facilities, for a total of \$1,584,869.39, or an
5 increase of approximately 90% from the SIS estimates.

6 **Q. ASSUMING THE FACILITIES STUDY ESTIMATE IS AN ACCURATE,**
7 **GOOD FAITH ESTIMATE, WOULD THE WILLIAMS SOLAR PROJECT**
8 **STILL BE VIABLE?**

9 A. No. Again, using the rule of thumb above, the Williams Solar interconnection
10 facilities and upgrade costs—by themselves and without considering the extra cost
11 of the purchase option Williams Solar would be required to execute, before
12 factoring other project specific technical requirements—would render the project
13 uneconomical.

14 **Q. WOULD WILLIAMS SOLAR HAVE PURSUED DEVELOPMENT OF THE**
15 **PROJECT IF THE SYSTEM IMPACT STUDY ESTIMATE HAD**
16 **TOTALED NEARLY \$1.6 MILLION?**

17 A. No. At that point, assuming the estimate was substantiated, we would have
18 withdrawn the interconnection request and terminated the project. Most
19 importantly, we would not have made any of the investments in the project that we
20 made after receiving the system impact study report on January 28, 2019, but before
21 we received the facilities study report on July 30, 2019.

1 **Q. HOW MUCH DID WILLIAMS SOLAR SPEND EXTERNALLY IN**
2 **FURTHERANCE OF DEVELOPING THE WILLIAMS SOLAR PROJECT**
3 **BETWEEN JANUARY 28, 2019, AND JULY 30, 2019?**

4 A. The external expenditures on the Williams Solar project are detailed in Exhibit JB-5
5 hereto. Williams Solar spent external development costs of approximately
6 \$56,213.80, as described in more detail in Exhibit JB-5, between receipt of the SIS
7 report and receipt of the facilities study results. Williams Solar would not have
8 spent these funds nor allocated its internal resources if the SIS estimate had been in
9 excess of \$1.5 million, assuming such DEP results were substantiated.

10 **Q. SINCE RECEIVING THE FACILITIES STUDY ESTIMATE, HAS**
11 **WILLIAMS SOLAR MADE ADDITIONAL INVESTMENT IN THE**
12 **PROJECT?**

13 A. Yes.

14 **Q. HOW COULD ADDITIONAL INVESTMENT IN THE PROJECT BE**
15 **JUSTIFIED IF THE PROJECT IS NOT VIABLE IN LIGHT OF THE**
16 **FACILITIES STUDY RESULTS?**

17 A. Based on the extreme disparity between the SIS estimates and the facilities study
18 estimates, it was unclear whether either of the estimates provided to Williams Solar
19 was accurate. Williams Solar continued making the minimal investments necessary
20 to keep the project viable while pursuing clarification through the informal dispute
21 process and through this formal complaint proceeding.

1 **Q. DID WILLIAMS SOLAR REQUEST ADDITIONAL INFORMATION**
2 **REGARDING THE INCREASED ESTIMATE?**

3 A. Yes. By e-mail on July 30, 2019, a copy of which is attached hereto as Exhibit
4 JB-6, Williams Solar requested additional information regarding the increased
5 estimate, including: an update to the line item costs provided in the SIS report and
6 a request for a “detailed cost break-down”; confirmation that the scope of work did
7 not change; and a statement regarding the reasons for the increase in cost; and
8 requesting a construction planning meeting to “have a detailed discussion about
9 costs.”

10 **Q. DID DEP RESPOND TO THIS REQUEST?**

11 A. Yes. As shown in Exhibit JB-6, DEP responded on July 31, 2019, confirming that
12 the scope of work to be completed had not changed but stating with regard to the
13 request for a “detailed cost break down” that DEP “cannot provide this level of
14 detail.” DEP stated with regard to the reasons for the increase that

15 After several true-ups that we have conducted on similar projects,
16 we have found the initial costs that were provided historically (both
17 ballpark costs, and detailed estimates) to be significantly
18 underestimated.

19 Williams Solar and DEP representatives also held a construction planning meeting.
20 Ultimately, none of the communications provided Williams Solar with enough
21 information to determine what had happened in DEP’s estimating process and
22 whether, or which, estimate was the more accurate estimate—we were truly
23 puzzled. Given that DEP refused to provide any further explanation of the new

1 estimate, Williams Solar's only option, at that point, was to either take DEP's word,
2 or to initiate the informal dispute process to defend the project's rights, which has
3 led us here.

4 **Q. DID WILLIAMS SOLAR SUBMIT A NOTICE OF DISPUTE TO DEP**
5 **REGARDING THE ESTIMATES?**

6 A. Yes. Williams Solar submitted a notice of dispute on September 9, 2019. A copy
7 of the notice of dispute is attached hereto as Exhibit JB-7.

8 **Q. PLEASE SUMMARIZE THE BASIS OF THE NOTICE OF DISPUTE.**

9 A. As discussed above, there was an enormous disparity between the SIS estimate and
10 the facilities study estimate. I had never seen such a large disparity before in my
11 experience in North Carolina with distribution projects connected to DEP's system.
12 In particular, the system upgrades estimate jumped from \$774,000 in the system
13 impact study report to \$1,388,374.26 (including sales tax) in the facilities study
14 report without any increase in DEP scope.

15 **Q. DID DEP RESPOND TO THE NOTICE OF DISPUTE?**

16 A. Yes, DEP responded by letter dated October 2, 2019. A copy of the response is
17 attached hereto as Exhibit JB-8.

18 **Q. HOW DID DEP'S RESPONSE EXPLAIN THE DISPARITY BETWEEN**
19 **THE SYSTEM IMPACT STUDY ESTIMATE OF UPGRADE COSTS AND**
20 **THE FACILITIES STUDY ESTIMATE OF UPGRADE COSTS?**

21 A. DEP stated as follows:

1 The revised cost estimate is a product of the more detailed
2 engineering that the Companies performed as part of the Facilities
3 Study. In addition, the revised estimate has been informed by DEP’s
4 extensive recent experience in connection with its nation-leading
5 interconnection successes. Specifically, as the Company has gained
6 experience in completing the interconnection of thousands of
7 megawatts of solar generating facilities, it has gathered a substantial
8 amount of information concerning the actual cost of Upgrades.
9 Consistent with Good Utility Practice, the Company has endeavored
10 to use this information to continually refine its estimates. In the case
11 of Williams Solar, the Company utilized such actual cost data to
12 refine the Upgrade cost estimates to ensure that such estimates better
13 reflect actual costs being incurred in the field. There are a number
14 of factors that have contributed to escalating actual costs, including
15 increase labor and equipment costs.

16 **Q. WHY DID DEP’S RESPONSE NOT SATISFY WILLIAMS SOLAR OR**
17 **OTHERWISE RESOLVE THE DISPUTE?**

18 A. DEP’s response raises more questions than it answers. Critically, although DEP
19 references “more detailed engineering,” DEP’s response does not actually state that
20 the increased cost estimate is a result of detailed engineering considerations.
21 Rather, DEP touts its “extensive recent experience” in interconnection and claims
22 it “has endeavored . . . to continually refine its estimates.” However, DEP also
23 states the “refined estimate”—provided six months after the SIS was sent to
24 William Solar, with nearly doubled costs—was affected by “escalating actual costs,
25 including increase labor and equipment costs.” It seems implausible that such costs
26 nearly doubled over the course of six months given the lack of macro-economic
27 changes or fundamental shifts in the North Carolina market that would precipitate
28 such large-scale increase. DEP’s explanation that it has sought to “continually
29 refine its estimates” seemed fundamentally inconsistent with the increased estimate

1 received by Williams Solar and, to the extent such refinements constitute new
2 policies, screens, or practices, would contravene the commitments made in the
3 Settlement Agreement to Covered Projects like Williams Solar. In addition, as
4 discussed above, the SIS estimate was already higher than the cost we would have
5 expected for the identified upgrades. From our point of view, it seemed more
6 plausible that either the first estimate, the second estimate, or both were not actually
7 based on sound estimating methods or data. To us, the questions DEP's response
8 raised include:

- 9 • If DEP has "endeavored" to "continually refine its estimates," how often
10 has DEP actually modified or updated its estimating process?
- 11 • Prior to providing Williams Solar with the system impact study report, when
12 was the last time DEP updated its cost estimating process or the data used
13 in that process?
- 14 • How recent is the data DEP used to "refine" its estimates?
- 15 • What factors actually contributed to the increase in the Williams Solar
16 estimates?
- 17 • How was the increase actually attributable to engineering considerations, or
18 does the change reflect changing economic circumstances such as increase
19 labor, materials, and equipment costs?
- 20 • What, if any, other unstated factors contributed to the increased estimate?
- 21 • Why would DEP be reluctant to share detailed information to justify the
22 change from SIS to Facility Study results?

1 **Q. HOW DO YOU RESPOND TO DEP’S CONTENTION THAT THE SYSTEM**
2 **IMPACT STUDY RESULTS ARE “HIGH LEVEL” ESTIMATES?**

3 A. DEP’s response does refer to and rely on the “high level estimates” language
4 contained in the current Procedures. However, at the time the SIS was completed
5 for Williams Solar, the Interconnection Procedures did not contain that language.
6 Instead, as discussed at pages 10-11 of my testimony, the Procedures referred to
7 “unit costs.”

8 **Q. DID WILLIAMS SOLAR MAKE ANY OTHER EFFORT TO**
9 **INFORMALLY RESOLVE THE DISPUTE?**

10 A. In light of the positions taken in DEP’s response, and its contention, see Exhibit
11 JB-8 at 2 that “there is . . . no obligation under the NC Procedures for the Company
12 to provide justification for changes in cost estimates between . . . the System Impact
13 Study and the . . . Facilities Study,” additional informal negotiation could not
14 resolve this dispute. And, as with many other disputes relating to the
15 interconnection process, there was little Williams Solar could do without using
16 formal discovery processes to obtain more information from DEP. It is unfortunate
17 that a solar developer is forced to expend substantial internal and external resources
18 (including uncapped opportunity costs) associated with advancing a formal
19 complaint to get what seems like basic information about changes that, on their
20 face, are irreconcilable and incomprehensible. It makes me wonder how many
21 other similar situations fly under the radar because the developer is unable or
22 unwilling to commit the time and resources necessary to enforce their rights—

1 especially given concerns of the potential for retribution by Duke Energy going
2 forward in and outside of the North Carolina market.

3 **Q. DID DEP’S ANSWER AND MOTION TO DISMISS IN THIS**
4 **PROCEEDING CLARIFY ANY ISSUES RELATING TO THE ESTIMATES**
5 **PROVIDED TO WILLIAMS SOLAR?**

6 A. No. Again, DEP’s answer raised more questions than it answered. For instance,
7 DEP’s refers to its use of “historic cost data for similar projects” to develop SIS
8 estimates, Answer at 3, but does not identify what data was used to create the
9 Williams Solar estimate. DEP states that it “has recently taken steps to refine the
10 Facilities Study cost estimation process based upon Duke’s nation-leading
11 experience interconnecting utility-scale Generating Facilities to its distribution
12 system,” Answer at 4, but does not state how recently DEP took those steps or
13 provide any insight concerning, or explanations for, the assumptions and processes
14 its used to arrive at the competing estimates. DEP states that “Duke’s recent
15 experience . . . has demonstrated that the preliminary estimated costs produced
16 during the System Impact Study and the more detailed estimated cost produced . .
17 . during Facilities Study have often been below the actual costs to complete the
18 interconnection,” and identifies factors contributing to cost increases, Answer at 4-
19 5, but does not identify *when* DEP came to its belief that its study process estimates
20 were inaccurate, nor does it justify with facts what actual unit costs were the
21 underestimated drivers of said cost increases. DEP states that the “primary factors
22 that caused the cost estimate produced” in the facilities study to be higher than the

1 SIS estimate were increased labor and equipment costs (factors 1-5), and
2 unforeseen circumstances and increased regulatory compliance (factor 6), Answer
3 at 4-5. Again, however, DEP's statement does not clarify how these factors
4 changed, if at all, in the six months between the issuance of the SIS and the issuance
5 of the facilities study. DEP also states that its "implementation of its improved cost
6 estimating practice occurred after [Williams Solar] had received its System Impact
7 Study cost estimates, which led to a substantial increase in its cost estimates."
8 Answer at 6.

9 **Q. HAS WILLIAMS SOLAR UNDERTAKEN FORMAL DISCOVERY IN**
10 **THIS PROCEEDING?**

11 A. Yes. Williams Solar sent interrogatories and document requests to DEP, and DEP
12 has responded. Attached hereto as Exhibit JB-9 are DEP's initial written discovery
13 responses, and attached hereto as Exhibit JB-10 are supplemental written responses
14 provided by DEP.

15 **Q. DO DEP'S RESPONSES SHED ANY LIGHT ON THE QUESTIONS**
16 **RELATING TO UPDATES TO DEP'S ESTIMATING PROCESS THAT**
17 **ARE RAISED BY DEP'S RESPONSE TO WILLIAMS SOLAR'S NOTICE**
18 **OF DISPUTE OR BY DEP'S ANSWER?**

19 A. Yes.

20 **Q. PLEASE EXPLAIN.**

21 A. While DEP's Response and its Answer refer to "continual[]" and "proactive"
22 efforts to update DEP's cost estimating process, DEP's discovery responses

1 unequivocally show otherwise. In fact, the estimating tool used to generate SIS
2 cost estimates was not updated, other than cosmetically, during the period January
3 1, 2015, through June 2019. DEP Resp. 1-7 (“The cost data per line item values
4 were not updated during the period January 1, 2015 through June 2019 . . .”), 1-8
5 (“DEP did not modify the procedure or tools used for estimating System Impact
6 Study costs during the period 2015 throughout June 2019.”); DEP Supp. Resp. 1-6
7 (“DEP clarifies its initial response to confirm that adjustment factors were added
8 prior to 2015 and in June 2019. From . . . 2015 to June 2019, no changes were
9 made in the form of adjustment factors, or line item costs.”). The tool used to create
10 the Williams Solar SIS estimate “was created using completed distribution work
11 orders completed prior to 2015.” DEP Supp. Resp. 1-3. DEP began investigating
12 discrepancies between actual costs and cost estimates at least as early as Q1 2018,
13 and continued reviewing evidence of discrepancies later that year. DEP Resp. 1-
14 15. In other words, DEP understood for nearly a year or more before it provided
15 the SIS results to Williams Solar that its estimating process and data points were
16 aging. When DEP eventually updated its estimating process, it appears that the
17 data DEP used was from “100+ vintage 2015-2018 commercially operating
18 distribution interconnected projects in DEP and DEC,” DEP Resp. 1-15; that is, the
19 data would have been available prior to the January 2019 issuance of the Williams
20 Solar SIS results. Furthermore, DEP’s response begins to shed light on new charges
21 factored DEP factored into its estimation process that appear to layer new and

1 additional soft costs onto Williams Solar derived primarily from DEP’s excessive
2 use of contingency and overheads.

3 **Q. DO DEP’S DISCOVERY RESPONSES SHOW THAT IT HAS REVISED**
4 **ITS SYSTEM IMPACT STUDY ESTIMATING TOOL TO PRODUCE**
5 **MORE ACCURATE RESULTS FOR FUTURE PROJECTS?**

6 A. No. DEP produced a file, “SIS Estimation Tool Rev1,” which DEP states was
7 created in June 2019, presumably for use with projects after that date. Duke Resp.
8 1-7. DEP states that “DEP determined that the SIS Estimation Tool Rev 1 needed
9 to have an additional contingency factor of 2.0 added to more accurately reflect the
10 estimate of interconnection facilities and system upgrade costs.” *Id.* A review of
11 the revised estimating tool (“Rev1”), a copy of which is attached hereto as Exhibit
12 JB-11, shows that it is substantially identical to the tool used to create the Williams
13 Solar estimate, (“Williams Solar Estimation Tool SIS.xlsx,” a copy of which is
14 attached hereto as Exhibit JB-12), except that the output is multiplied by a factor of
15 2, as shown in cell J13. That is, DEP’s “most updated” SIS estimation tool, DEP
16 Resp. 1-1, is still using the exact same pre-2015 cost data to produce SIS estimates,
17 and then it is multiplying the output by 2. This “estimation-by-multiplication”
18 approach shows that DEP’s intention is to merely increase the cost burden for
19 developers—not to arrive at a good faith estimate of actual costs.

20 **Q. DO YOU HAVE ANY CONCERNS ABOUT THE LEGITIMACY OF THE**
21 **FACILITIES STUDY ESTIMATE PROVIDED TO WILLIAMS SOLAR?**

1 A. Yes. I was very surprised to see that the facilities study estimate was not what I
2 would regard as a legitimate or true estimate—the sort of estimate which would
3 result from adding costs based on an evaluation of the project scope. Instead, the
4 DEP’s facilities study estimate took these estimated costs and then subjected them
5 to a series of mathematical multipliers that seem intended to drive up the total
6 estimate rather than actually estimate true costs.

7 The tool used by DEP, the RET, is described in the document DR No. 1-3
8 Revised Estimating Tool Description.docx, a copy of which is attached hereto as
9 Exhibit JB-13. This document describes how DEP uses Maximo—the tool DEP
10 uses for its own distribution work—and then then adjusts that result upward based
11 on a number of multipliers. It seems unreasonable to me that the output of the
12 estimating software that DEP uses for its own distribution work needs to be adjusted
13 upward to accurately estimate the cost of interconnecting independent solar
14 projects. More specifically, I am concerned that DEP’s application of labor and
15 equipment cost adjustments, contingencies, and overheads as applied in the RET
16 are divorced from any actual consideration of the expected costs associated with
17 the Williams Solar project.

18 With regard to the contingencies DEP has applied, although I understand
19 that construction costs can vary in practice, it surprises me that a company with as
20 much experience as DEP would need to build in such a large contingency at the
21 detailed design stage which under professional engineering norms should be closer
22 to actual costs. And as to the overheads included by DEP, to my knowledge, DEP

1 has not substantiated the calculation of overheads applied it charges to
2 interconnection customers like Williams Solar, whether at the study stage or after
3 actual construction. From what I can perceive, there is no transparency and no way
4 for interconnection customers to determine if the contingencies, estimated
5 overheads, or the overheads ultimately charged by DEP, are fair or reasonable. The
6 result I fear is an uncontrolled and undocumented allocation of soft costs
7 (overheads and not actuals) by DEP outside of regulatory supervision to improve
8 its profit margin by removing unallocated or “stranded” costs. I also am concerned
9 that DEP could use this approach to gross-up similar level of soft costs onto its own
10 generation in an effort to increase its rate base.

11 More broadly, although DEP does state that its actual costs are based on
12 competitive bidding, see, e.g., Resp. 1-3, I am not aware of any real controls
13 implemented by DEP on challenging the potential rise of actual costs over time of
14 interconnection facilities and upgrades similar to how it performs its supply chain
15 bidding strategy for its own generation. DEP is not bound by the estimates provided
16 and, because all costs are passed on to interconnection customers, DEP has little
17 incentive to control actual costs paid to third parties who perform the work or to
18 seek competitive bids to drive prices lower. Given the lack of incentive on DEP’s
19 part, it does not surprise me that DEP has allegedly seen a significant escalation in
20 the costs and the amount of labor hours required to complete interconnection-
21 related projects. It is therefore unclear to me whether the “actual” costs incurred
22 by DEP in practice represent commercially reasonable costs. The only recourse for

1 interconnection customers for challenging higher costs is the complaint process
2 under the Interconnection Procedures, which may not be economically rational for
3 interconnection customers to pursue or may ultimately not exist in the future if the
4 Commission were to approve a transition to cluster study approach for distribution
5 projects going forward.

6 **Q. HOW DOES THE INCREASED WILLIAMS SOLAR ESTIMATE**
7 **COMPARE TO OTHER ESTIMATES GREENGO HAS RECEIVED?**

8 A. Attached as Exhibit JB-14 is a confidential presentation created by GreenGo
9 relating to the North Carolina portfolio of projects protected under HB 589 and the
10 subsequent Settlement Agreement under its management. As shown on slide 2, the
11 projected costs for the projects have increased significantly since 2016. The
12 increases are due in large part to raising technical barriers such as its LVR policy,
13 elimination of mitigation options like dedicated and/or double-circuit options,
14 changes to planning criteria and policies, as well as, new technical requirements
15 that DEP and DEC have unilaterally added to the interconnection process, including
16 direct transfer trip (“DTT”), line upgrades, and substation modifications—each of
17 which has not only resulted in increased costs but also has the dual effect of
18 extending the time DEP requires to construct and commission the infrastructure
19 between IA execution and the in-service dates for distribution connected projects.
20 The loss of time is just as alarming as Williams Solar, like other HB 589 projects,
21 loses precious months under its standard offer contract given the start of its 15-year
22 PPA does not coincide with in-service date by the regulated utility. By comparison

1 in ERCOT, where incentives are more aligned between regulated utilities and IPPs,
2 a large scale transmission project that funds a tap of an existing 345kV line
3 triggering the need for a new switchyard and ring-bus configuration only takes
4 approximately 15 months from IA posting of funds to in-service.

5 Williams Solar stands out in terms of the absolute size of the increase in its
6 estimate. However, a number of other projects have seen changes of similar
7 proportion, as shown on slide 3. In one case, DEP increased system upgrade costs
8 for one of GreenGo's other projects where we have executed the IA and posted the
9 required cash deposit from \$0 to \$31,922.51—in other words, DEP projects
10 increased costs where no upgrades were originally planned, no work will be
11 performed, nor identified under its Facility Study results or IA. While I expect this
12 may simply be an error, it does concern me in that it suggests that DEP's new
13 estimating process is not grounded in rational risk management nor good utility
14 practice but more akin to DEP profit optimization or, at a minimum, not as careful
15 as it should be when millions of dollars are at stake for interconnection customers
16 seeking to obtain access to Duke's regulated distribution system. Furthermore,
17 GreenGo and its investors have tied up nearly \$1 million in interconnection
18 deposits waiting for Duke to process our applications since the portfolio's inception
19 in 2016. To date, a significant portion of our portfolio is still waiting for Duke to
20 finalize the interconnection study results—four (4) years and counting where
21 protracted delay reduces the real tenor of our standard offer contracts with each
22 ongoing day the passes by.

1 **Q. ARE YOU AWARE THAT OTHER INTERCONNECTION CUSTOMERS**
2 **HAVE CHALLENGED DISCREPANCIES BETWEEN DEP’S ESTIMATES**
3 **AND ACTUAL COSTS?**

4 A. Yes. I am aware that a number of formal complaints have been filed against DEP.
5 *E.g.*, Docket No. E-2, Sub 1229, 1230, 1231, 1233, 1234, 1236, 1237, 1238, 1239,
6 1242, 1243, 1244, 1245, 1246. My understanding is that these complaints are
7 based, primarily, on discrepancies between the cost estimates provided by DEP in
8 interconnection agreements and the actual costs incurred by DEP—which DEP
9 seeks to assign to the interconnection customers. Given DEP’s concession that it
10 did not update its cost estimating processes between 2015 and June 2019, it is
11 unsurprising that the actual costs incurred by interconnection customers vary from
12 the estimates provided by DEP. It will be instructive to learn how much of the cost
13 delta between these projects’ deposits and the invoices sent by DEP is related to
14 actual cost changes and how much is related to allocation of soft costs like
15 overheads – the methodology and assumptions of which, as I am aware, have yet
16 to be proposed by Duke or approved by the Commission. Of course, it may also
17 turn out that the discrepancies that are the subject of the complaints have less to do
18 with the estimates being “too low” and more to do with lack of cost controls
19 resulting in “actual costs” that are not commercially reasonable.

20 **Q. DOES DEP’S ESTIMATING METHODOLOGY HAVE IMPLICATIONS**
21 **FOR RATEPAYERS?**

22 A. Yes.

1 Q. PLEASE EXPLAIN.

2 A. As described in DEP's discovery responses,

3 DEP utilizes the same design and cost estimating process (use of
4 Maximo and common design standards) for all Distribution
5 construction projects that is used for estimating costs of construction
6 upgrades necessary for interconnection of independent generation
7 (i.e. PURPA qualifying facilities) and DEP's own construction costs
8 (i.e., for system modifications including for interconnection of
9 DEP's own generation facilities or for customer addition, reliability
10 improvement or other system modifications undertaken by DEP).
11 Specifically, DEP utilizes Maximo for both independent generation
12 and DEP-owned projects, as further described in the Company's
13 response to Data Request No. 1-3. However, as described in DEP's
14 response to Request No. 1-3, DEP has also integrated a generator
15 interconnection-specific Revised Estimating Tool as part of the
16 Facilities Study process.

17 DEP Resp. 1-9. DEP further clarified that

18 DEP has used the same methodology to estimate the cost of parts,
19 labor and overheads for all construction projects (DEP-owned
20 generation subject to the NC Interconnection Procedures, 3rd party
21 generation, as well as retail, commercial, industrial and
22 governmental load customers) since January 1, 2015. Several of the
23 tools have been changed or modified during that timeframe
24 including the change of the work management tool from WMIS to
25 Maximo.

26 DEP Supp. Resp. 1-9. DEP's responses should concern the Commission and
27 ratepayers generally. While it is independent power producers who suffer when
28 DEP underestimates, or overestimates, solar interconnection costs—because
29 interconnection customers make decisions based on estimates but are ultimately
30 responsible for the actual costs—that is not the case with DEP's own projects,
31 which end up being passed through to ratepayers. Because DEP presumably uses
32 its own cost estimates to determine whether a given project represents a prudent

1 capital expense, it seems likely that grid investments made historically by DEP
2 (and/or DEC) between 2015 and June 2019 and thereafter are at risk of increased
3 costs without substantiated rationale. It is unclear to me how a regulated utility
4 could make and receive approval for rate base of any prudent investments without
5 accurate cost estimates or processes that have been appropriately vetted by
6 stakeholders and adjudicated by regulators.

7 Of course, there is also the possibility that DEP's "low" estimates are
8 accurate for its own projects, but inaccurately low for solar developers, for whom
9 DEP has little incentive to exercise cost controls. Such a discriminatory set of
10 circumstances—cost controls for DEP, but not for its independent power producing
11 competitors—would obviously raise other issues of concern to the Commission.

12 **Q. BASED ON YOUR REVIEW OF THE INFORMATION PROVIDED BY**
13 **DEP IN THIS PROCEEDING, DOES WILLIAMS SOLAR HAVE A BELIEF**
14 **AS TO WHICH ESTIMATE PROVIDED BY DEP IS A MORE ACCURATE**
15 **REPRESENTATION OF EXPECTED PROJECT COSTS?**

16 A. As discussed, the SIS estimate appeared to be high but is much closer to Williams
17 Solar's expectation than the facilities study estimate. This initial belief is further
18 supported by the revised results of DEP's Maximo analysis at the facilities study
19 stage, which showed costs slightly lower than initial forecast. *See* Exhibit JB-13 at
20 pp. 7-8. The two analyses were the only analyses performed by DEP based on
21 actual cost data. Having reviewed DEP's response to Williams Solar's notice of
22 dispute, its answer in this proceeding, and its discovery responses, it does not

1 appear that either the SIS estimate or the facilities study estimate was provided in
2 good faith or based on sound estimating practices but DEP should be held, at the
3 most, to the results of the initial SIS estimate, which appears to be based on an
4 actual cost analysis and not intentional manipulation by DEP that does not conform
5 to good utility practice.

6 **Q. WHAT RELIEF DOES WILLIAMS SOLAR SEEK IN THIS**
7 **PROCEEDING?**

8 A. Williams Solar seeks whatever relief the Commission may give within its authority,
9 including (1) a declaration that all estimates must be provided in good faith, which
10 includes a requirement that any estimate of costs be based on commercially
11 reasonable actual cost data; (2) a declaration that DEP failed to provide a good faith
12 cost estimate to Williams Solar, with an accounting of unnecessary costs incurred
13 by Williams Solar as a result; (3) an order requiring DEP to promptly render a
14 revised facilities study estimate capped at DEP's initial SIS estimate, adopting a
15 rebuttable presumption that any actual costs exceeding 110% of the revised
16 estimate are unreasonable, requiring DEP to provide an executable interconnection
17 agreement with a projected in-service date within six months after posting of
18 required funds, and requiring DEP to provide Williams Solar with a standard offer
19 Power Purchase Agreement subject to preservation of the economic benefits of the
20 entire 15-year term afforded by HB 589; and (4) enforcement of a penalty against
21 DEP as allowed by N.C.G.S. § 62-310(a). Williams Solar also asks the
22 Commission to investigate DEP's cost estimating procedures, especially

1 calculation and application of DEP overheads and contingencies, and supporting
2 cost data to ensure that DEP is carrying out the Interconnection Procedures in a fair
3 and nondiscriminatory manner.

4 **Q. DOES THIS COMPLETE YOUR DIRECT TESTIMONY?**

5 A. Yes.

1 BY MR. TRATHEN:

2 Q Mr. Burke, do you have a summary of your
3 testimony?

4 A Yes, I do.

5 Q Please go ahead and give it.

6 (WHEREUPON, the summary of
7 JONATHAN BURKE is copied into the
8 record as read from the witness
9 stand.)

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Jon Burke Summary of Direct Testimony

1 I am the Country Manager and President of Development for GreenGo Energy US,
2 Inc. In this capacity, I am responsible for the operations of the U.S. division within
3 GreenGo Energy Group and am responsible for the success of the renewable power
4 portfolio under management by our shareholders and investors.

5 I have been in my role as Country Manager for GreenGo Energy since 2017. Prior
6 to that, I served in various capacities with renewal energy firms on development of projects
7 throughout the nation. Prior to joining the private sector in 2001, I was active duty as a
8 U.S. Army Officer. I have a B.S. degree in Mechanical Engineering, a Master's in
9 Engineering Management, and an M.B.A.

10 One of the projects in my GreenGo portfolio is Williams Solar. Williams Solar is
11 a 5 MW solar facility located in Johnston County, which is in the service territory of Duke
12 Energy Progress (or DEP). The project is self-certified as a Qualified Facility, has been
13 granted a CPCN by the Commission, and qualifies for standard offer contracts under House
14 Bill 589.

15 The basic facts relating to this dispute are straightforward. On January 28, 2019,
16 DEP sent Williams Solar the results of its System Impact Study. In this report, DEP
17 estimated that the total cost of interconnection would be \$834,000—comprised of \$774,000
18 in system upgrade costs and \$60,000 in interconnection facilities costs. Then, six months
19 later, on July 30, 2019, DEP sent Williams Solar a revised estimate with its Facilities Study
20 Report showing total estimated costs of \$1,584,869.39—comprised of \$1,388,374.26 in
21 system upgrade costs and \$196,495.13 in interconnection facilities costs. The revised
22 estimate was approximately 90% higher than the initial estimate.

1 Here is a summary of these estimates:

	System Upgrades	Interconnection Facilities	Total
Initial (1/28/19)	\$774,000	\$60,000	\$834,000
Revised (7/30/29)	\$1,388,374.26	\$196,495.13	\$1,584,869.39
% Increase	79%	227%	90%

2 Keep in mind that nothing changed from a technical perspective about the project
3 between January and July – but, nonetheless, the estimated cost of interconnection nearly
4 doubled.

5 To say the least, I was puzzled by this. DEP had opportunities over several years
6 in numerous stakeholder and regulatory settings to tell industry and/or the Commission that
7 it was having problems with its cost estimates and cost overruns. But it did not take these
8 opportunities. DEP had not given me any indication that its first estimate should not be
9 relied on. To the contrary, DEP obviously expected that I would rely on the estimate in
10 making business decisions as to whether to proceed with the project. That is, in fact, the
11 purpose of the estimate.

12 Duke is a very large, very sophisticated utility. It touts how much experience it has
13 with facilities interconnection with solar developers in North Carolina. It constructs and
14 operates distribution facilities itself. I reasonably relied on DEP to provide accurate
15 information to me. Although the initial estimate was the highest that I had received for a
16 DEP project at that point in time, I could still make a business case for pursuing the project.
17 However, if I had been told that the interconnection costs would actually be nearly \$1.6
18 million, I could not have supported a business case for the project and GreenGo would not
19 have pursued developing it.

20 Given our surprise with the new estimate, Williams Solar repeatedly asked DEP for
21 an explanation for the discrepancy. What we were told raised more questions than it

1 answered. DEP said that the discrepancy resulted from “more detailed engineering” – even
2 though nothing about the engineering changed between the two estimates. DEP also said
3 that the increased costs resulted from “increase[d] labor and equipment costs” – but it is
4 inconceivable that that labor and equipment costs doubled in six months. Although at that
5 time I did not know what actually happened, I did know that those explanations were
6 preposterous and led me to believe that there was more to the story.

7 In fact, we learned through formal discovery that DEP’s revised estimate was based
8 on a newly minted tool that was developed and implemented unilaterally by DEP using in-
9 house resources, without stakeholder input, that applied various multipliers to the costs
10 generated by the platform Duke uses for estimating its own work (“Maximo”).

11 There are several aspects of the approach used by DEP to develop its Facilities
12 Study estimate that are troubling. First, DEP takes the output of the estimating software it
13 is uses for its own distribution work and then adjusts those outputs upward by using a series
14 of multipliers. Duke has not explained why the same work is much more expensive when
15 done for independent power producers than for Duke. Second, DEP’s explanation of its
16 revised estimating tool shows that it is layering on various soft costs such as contingencies
17 and overheads that drive up the estimated costs substantially and in ways that are divorced
18 from any real consideration of the actual project.

19 GreenGo cannot do business in North Carolina if Duke is free to manipulate cost
20 estimates without any justification. In light of all the documented problems with DEP’s
21 cost estimates, and the harm that these problems have caused to Williams Solar, I would
22 respectfully request that the Commission grant the following relief: (1) require DEP to
23 render a new estimate consistent with the prior estimate, which is the only estimate based

1 on actual costs and which is consistent with the method Duke uses for its own projects; (2)
2 cap total actual expenses at 110% of the estimated costs; (3) initiate a separate proceeding
3 to investigate cost control practices; and (4) grant such other relief as it finds appropriate,
4 including consideration of the specific additional items outlined in my Direct Testimony
5 and in the Complaint.

6 Thank you for your time.

1 MR. TRATHEN: The witness is available for
2 cross examination.

3 COMMISSIONER DUFFLEY: Mr. Jirak, you're not
4 unmuted.

5 MR. JIRAK: Commissioner Duffley, at this --
6 we're going to reserve -- DEP is going to reserve its
7 cross examination for rebuttal testimony.

8 COMMISSIONER DUFFLEY: Okay. Thank you.

9 Commissioners, do you have Commission
10 questions at this time? Please indicate by raising
11 your hand. Commissioner Clodfelter.

12 COMMISSIONER CLODFELTER: Thank you, Chair
13 Duffley.

14 EXAMINATION BY COMMISSIONER CLODFELTER:

15 Q Mr. Burke, can you hear me okay?

16 A Yes, sir.

17 Q I'd like to hear your response to Duke's
18 testimony which says that there were certain
19 discrete items such as taxes, and I forget all
20 the others, some of the overhead allocations, I
21 don't have the testimony in front of me, but that
22 there were various discrete items that were not
23 included in the System Impact Study estimate that
24 you knew that those were not included and that

1 you knew that those were costs that would be
2 included in the facilities estimate? How do you
3 respond to that?

4 A That is true. When we did our analysis of the
5 economic viability of the project, I grossed up
6 the number that I received in the System Impact
7 Study accordingly with what our experience had
8 been which is inclusive of the taxes and a little
9 bit more of labor -- or correction, overheads.
10 So the number that I used in my analysis was
11 about \$1 million to assess whether or not this
12 was an economically viable project.

13 COMMISSIONER CLODFELTER: Thank you, sir.

14 A Thank you, sir.

15 COMMISSIONER DUFFLEY: Commissioner
16 McKissick. Commissioner McKissick, if you could
17 unmute yourself. Thank you.

18 COMMISSIONER McKISSICK: Unmuted. Okay.
19 You should be able to hear me now I believe.

20 THE WITNESS: Yes, sir.

21 EXAMINATION BY COMMISSIONER McKISSICK:

22 Q Mr. Burke, I believe it was in Exhibit 21 which
23 was a email dated January 28th, 2019, where you
24 were discussing the proposed costs that you had

1 received from the System Impact Study and, of
2 course, you detail in there that you were aware
3 that metering costs would be additional, overhead
4 costs would be additional, sales tax costs would
5 be additional. So you were assuming at that
6 point it was about a \$1 million project; is that
7 correct?

8 A Yes, sir.

9 Q Now, what type of contingency that you reserved
10 in the event that it would exceed \$1 million?

11 A Ten percent, sir.

12 Q Ten percent. All right. But you were aware that
13 this was a preliminary estimate?

14 A Yes. It is an estimate. That was the first
15 stage. But it was my understanding that all of
16 the framework and all of the understanding of the
17 actual scope of work that goes into this was done
18 at the System Impact Study phase. So it was --
19 in our experience we used and rely upon this
20 specific estimate to make a decision whether or
21 not to allocate additional resources for
22 development.

23 Q Okay. Now I have seen language that's been
24 referred to by Duke as referring to this as a

1 high-level estimate. Were you aware that that
2 was what you were receiving at that time? That
3 was not site specific in terms of an actual
4 examination on the ground at the location and
5 other additional site work being performed when
6 this estimate was being provided?

7 A So, sir, the response is a qualified response
8 from Duke in my view high level, and I will share
9 with you the reason for that. It's that I've
10 seen in my experience, when you move from System
11 Impact Study to the next phase a plus or minus
12 there is, while there might be a cross estimate,
13 there is when you -- when you go to the next
14 phase you end up having field verification of the
15 assumptions that went into the System Impact
16 Studies. So there is -- actually it could go up
17 or down, and a high-level cost estimate is
18 basically something that we understood was
19 typical at this time.

20 Q Okay. Now, in Exhibit 3, which is an Order
21 Approving Revised Interconnection Standards
22 dating back to May 15th of 2015, on Page 23, it
23 provides certain definitions in Section 4.3.4,
24 4.3.5, and 4.3.7, but you refer to those

1 particular definitions that were applicable at
2 that time?

3 A I will, sir, if you will give me a moment I'm
4 going to find that reference.

5 Q Sure.

6 A Sir, I believe I'm in the section that you
7 referenced so I have it in front of me, and I
8 believe -- would you remind restating the
9 question so I can answer it more precisely.

10 Q Sure. The definitions that were apparently
11 applicable at that time in Sections 4.3.4, 4.3.5,
12 and 4.3.7.

13 A 4.3.5, would you like me to start there?

14 Q Sure. That's fine. But cover all three if you
15 could and be clear for the record if you could in
16 terms of which ones you're referring to in terms
17 of 4.3.4 or .5 or .7.

18 A Okay. Sounds good. So I'll start with 4.3.4.
19 And I'm just going to paraphrase -- or I'm just
20 going to read this so I have it and then I will
21 respond if that's okay.

22 Q Yes.

23 A The System Impact Study report will provide --
24 Okay. The System Impact Study report will

1 provide the preliminary estimated upgrade charge
2 which is a preliminary indication of the cost and
3 length of time that would be necessary to correct
4 any system problems identified in those analyses
5 and in front of the -- the interconnect.

6 So the preliminary estimated
7 upgrade charge is the, effectively, the numbers I
8 went through before and those numbers tallied
9 roughly \$774,000 of system upgrades and \$60,000
10 for interconnection facilities. Those numbers in
11 my experience in just with GreenGo aligned -- on
12 the interconnection facilities lined up pretty
13 well. The others lined up in generally the
14 ballpark I would have expected for roughly a two
15 and a half mile reconductoring work that went
16 there. And so when I read the preliminary
17 estimated upgrade charge, I understood what was
18 actually the scope of work that was needed to
19 improve. I understood kind of the breakdown
20 between the interconnection facility costs and
21 the leg, and we were able to use that number to
22 determine whether or not to move forward with
23 this project. And so the preliminary estimated
24 upgrade charge was the number that I was relying

1 upon or that I relied upon moving forward in my
2 decision-making process. So that was 4.3.4.

3 Did I cover that, sir, to the
4 degree that you want me to cover?

5 Q I think so. Yeah, let's go to the other two
6 sections, too.

7 A Uh-huh (yes). Okay. I believe it was 4.3.5
8 then?

9 Q Yes.

10 A Okay. In 4.3.5, the System Impact Study report
11 will provide a preliminary estimated
12 interconnection facilities charge which is a
13 preliminary non-binding indication of the costs
14 and length of time that would be necessary to
15 provide the interconnection facilities. So if
16 you look at 4.3.4 that is related to upgrades,
17 which back to the actual upgrade charge was
18 \$774,000, and 4.3.5 references the
19 interconnection facilities which was \$60,000. So
20 both of those are just two different line items
21 that are requirements for Duke to move forward,
22 to provide information to us. However, I'm not
23 aware that the second component of that which is
24 the time necessary to install these was ever

1 conveyed to me but that's -- I'm not disputing
2 that part.

3 Q Okay. And 4.3. --

4 A Then 4.3. -- .6, sir? Oh 7.

5 Q Seven, sir.

6 A After receiving the System Impact Study reports,
7 the interconnection customer shall inform the
8 utility in writing if it wishes to withdraw the
9 interconnection request, and to request an
10 accounting of any remaining deposit amount
11 pursuant to Section 6.3.

12 So this section is related to the
13 interconnection request deposit and the refund of
14 that in case I withdraw. I chose not to withdraw
15 because the project was, although at the top of
16 kind of the threshold of which I would say is
17 economic, I believed we could get there, and we
18 made a business decision to kind of pursue to
19 move forward. And so ultimately there was not a
20 need for an accounting at that point because I
21 was continuing to pursue the project through the
22 interconnection process and procedures.

23 Q Very good. Now, let me just ask you this, as a
24 part of this particular exhibit there was also a

1 definition or a glossary section, I believe going
2 back to on Pages 5 and 6; do you see that?

3 A I can. I apologize, sir. If you will give me
4 just a minute I'm going to ask for a little help
5 in finding this.

6 Q Yeah, that's fine.

7 (Counsel approaches witness)

8 A I believe it's this but it doesn't have a page
9 number. Okay. So I am referencing the glossary
10 of terms I believe, sir.

11 Q Yes. Yes, exactly. Now I believe it provided
12 more information in defining the terms of
13 preliminary estimated upgrade charge as well as
14 the preliminary estimated interconnection
15 facilities charge.

16 A Okay. Would you like me to read and then give
17 you the interpretation of how I used that
18 information?

19 Q Yes.

20 A So the first one I believe you asked me, sir, was
21 the preliminary estimated interconnection
22 facilities charge, which was the \$60,000 compared
23 to the \$196,495 and change. So the preliminary
24 estimated interconnection facilities charge for

1 interconnection facilities that is developed
2 using unit cost and is presented in the System
3 Impact Study report in the interim and
4 Interconnection Agreement. This charge is not
5 based on field visits and detailed engineering
6 cost calculations.

7 So upon applying this principle,
8 the field visits that were there and the detailed
9 engineering were concerns that we needed to
10 understand whether or not our increases were
11 related to either one of those. And, sir, once
12 we started actually asking questions from Duke
13 they didn't answer either way. So they didn't
14 say it was detailed engineering that actually was
15 the cause for the increase, right. So on
16 interpretation the detailed engineering was
17 missed in my view that went in through additional
18 work.

19 The other aspect is field visits
20 and there was never a mention that there was cost
21 increases related to field visits that caused the
22 project to go from -- we're at \$774 --
23 interconnection facility-wise, \$60,000 to
24 \$196,495. And this is kind of why we are here

1 today. Everything seems to be driven by higher
2 costs but there doesn't appear to be any evidence
3 that the trigger for those costs are related
4 to this definition and it doesn't appear that
5 there's any effort by Duke to control their
6 costs, and so those are the two things that are
7 there.

8 And so this facilities definition
9 effectively is probably very similar. And I can
10 read it, the next one, if you had a question on
11 the preliminary estimated upgrade charge, if
12 you'd like to do that as well.

13 Q Sure go ahead, sir.

14 A The estimated charge for upgrades -- correction.
15 The preliminary estimated upgrade charges, the
16 estimated charge for upgrades that is developed
17 using unit costs and is presented in the System
18 Impact Study report and interim Interconnection
19 Agreement, this charge is not based on field
20 visits and detailed engineering cost
21 calculations.

22 So similarly, we would have
23 anticipated a response from Duke with an increase
24 in facility -- with a Facility Study cost that

1 would have pointed to either one of those two
2 parameters but, quite frankly, they don't. When
3 actually you're starting to unravel and peel back
4 the onion, neither was it a causality of field
5 visits and nor was there an issue on actual
6 detailed engineering.

7 Effectively, the way I interpret
8 it is Duke believes that there is going to be
9 additional costs and they're trying to factor in
10 to get to that cost number. And that is a
11 problem for me because they doesn't actually go
12 back to the reason that the standard allows for
13 which is detailed engineering, and specifically,
14 field verification, because ultimately that
15 should be the delta that one experiences between
16 one stage gate and the next, and that's not what
17 I understand is the case, sir.

18 Q Now, was it your understanding that these were
19 the definitions that were applicable at the time
20 they were conducting the SIS?

21 A Yes, sir.

22 Q Now, were the terms that you just identified
23 "preliminary estimated interconnection facilities
24 charge" and "preliminary estimated upgrade

1 charge", were they subsequently redefined to
2 insert verbiage relating to these being
3 high-level estimates?

4 A I don't remember that quite frankly off the top
5 of my head, sir. I apologize.

6 Q You don't recall?

7 A (Nods head affirmatively).

8 Q Okay. Let me just ask you this, can you flip to
9 Exhibit Number 31?

10 A So, sir, before I go there is one other aspect
11 that we as the industry kind of rely upon when it
12 comes down to this number. If you look at it,
13 it's the application of a decision that is
14 embedded in the actual kind of terminology.
15 Right. Because an interim Interconnection
16 Agreement would mean that there's significant
17 amount of dollars that we would be willing to
18 commit to in order to advance either the schedule
19 or something else that was related to bringing
20 this project online.

21 So there is very clear
22 understanding, the way I interpret it and the way
23 I've always interpreted it, the interconnection
24 standard, that this was a reliable piece of

1 information to be able to make future decisions
2 on. If looking at the opportunities that exist
3 and allocating development capital from one
4 project to another, at this stage gate was a very
5 good indication of the likelihood of a project to
6 succeed or not.

7 And so I wanted to kind of make
8 sure you point that because it's not just the
9 definition of the cost estimating it's how you
10 use that cost estimating is just as important for
11 us in the actual reality of deciding to pursue a
12 project from one stage gate to the next.

13 Q Okay. And I appreciate that explanation. That
14 does help me. I guess what I'm looking at now is
15 Appendix A which is part of Exhibit 31 which is a
16 document that became effective June 14th of 2019.
17 And if you will look to I guess Page, my gosh, 31
18 of that document.

19 (Counsel approaches witness)

20 A We're turning to that now, sir.

21 Q Have you gotten there yet?

22 A Not yet.

23 COMMISSIONER DUFFLEY: Mr. Burke, who do you
24 have helping you with your documents, please?

1 THE WITNESS: I have our counsel, Eric.

2 COMMISSIONER DUFFLEY: Thank you. When
3 we're handing documents, just as in a hearing when
4 you're handing documents to the witness, just please
5 ask if you may approach to try to keep this as similar
6 to an in-hearing proceeding as possible. Thank you.

7 THE WITNESS: Sure. I apologize for that.

8 COMMISSIONER DUFFLEY: No apologies
9 necessary. Thank you.

10 THE WITNESS: Okay.

11 A Commissioner, I believe I'm in the glossary of
12 terms in the document that you referenced. So I
13 will --

14 BY COMMISSIONER McKISSICK:

15 Q On Page 31 do you see the way the term
16 "preliminary estimated interconnection facilities
17 fees" is now defined and on the next page
18 "preliminary estimated upgrade charge" is now
19 defined?

20 A I do. I see the -- the version I have, sir, has
21 kind of a line item section that's there.

22 Q Yes.

23 A And is that the version you're referencing?

24 Q That's what I'm referring to.

1 A Okay. Would you like me to go through --

2 Q It's not -- because it's redefined in a different
3 way, that's what I'm trying to determine --

4 A Okay.

5 Q -- in terms of what you might --

6 MR. JIRAK: Commissioner McKissick, can we
7 interrupt just for a moment. I want to make sure
8 we're looking at the document that you're looking at
9 so we're on the same page. Is this the redlined
10 version of the North Carolina Interconnection
11 Procedures that was approved by the Commission?

12 COMMISSIONER McKISSICK: This is the one
13 dated I guess effective June 14th, 2019.

14 MR. JIRAK: Okay. And what --

15 COMMISSIONER McKISSICK: In Docket E-100,
16 Sub 101.

17 MR. JIRAK: Perfect. We're with you now.
18 Could you just remind us what page you're looking at
19 right now on your questions, if you don't mind?

20 COMMISSIONER McKISSICK: Page 31. Page 31.

21 MR. JIRAK: Is this the glossary section?

22 COMMISSIONER McKISSICK: That is correct.

23 MR. JIRAK: Thank you.

24 COMMISSIONER McKISSICK: There is what

1 appears to me is a new definition of both of those
2 terms. I'm trying to make sure --

3 MR. JIRAK: Thank you.

4 COMMISSIONER McKISSICK: Okay.

5 COMMISSIONER DUFFLEY: So is everyone clear,
6 all of the Commissioners clear, as to what exhibit
7 we're looking at? And I see Chair Mitchell saying no.
8 So Chair Mitchell, I believe where we are is the
9 notebook, the Williams Solar potential
10 cross-examination exhibits that were given to you
11 maybe Friday or Monday. It's Exhibit Number 31. And
12 then in Exhibit Number 31 you have the Order Approving
13 the Revised Standard and then you go into the
14 Standard.

15 CHAIR MITCHELL: I'm there. I understand
16 how to get there. I'm just -- so okay. I understood
17 these documents to be potential cross-examination
18 exhibits. I wasn't -- it wasn't clear to me that
19 these documents were already in the record.

20 COMMISSIONER DUFFLEY: They are not already
21 in the record. They're potential cross-examination
22 exhibits that Commissioner McKissick is using to ask
23 his questions.

24 COMMISSIONER MITCHELL: Okay.

1 BY COMMISSIONER McKISSICK:

2 Q And I guess the question was if you could explain
3 the difference between the two definitions which
4 I see here for preliminary estimated
5 interconnection facility charges as well as the
6 terms "preliminary estimated upgrade charges"
7 compared to what it was at the time that the SIS
8 was prepared for Williams Solar?

9 A Okay. So let's start with the preliminary
10 estimated interconnection facilities charge.
11 Underneath the State of North Carolina Docket
12 Number E-100, Sub 101, the Order Approving
13 Revised Interconnection Standard and Requiring
14 Reports and Testimony, the definition of
15 preliminary estimated interconnection facilities
16 charge as it reads is the estimated charge for
17 interconnection facilities that is developed
18 using, and it struck out "unit costs" and it
19 inserted "high-level estimates including
20 overheads", and is presented in the System Impact
21 Study report, and then it struck out "and interim
22 Interconnection Agreements". And then the last
23 sentence is this charge is not based on field
24 visits or detailed engineering cost calculations.

1 So the application of --

2 COMMISSIONER DUFFLEY: Mr. Burke.

3 THE WITNESS: Yes, ma'am.

4 COMMISSIONER DUFFLEY: If I may interrupt
5 just for clarification of the record, the Commission
6 is going to take judicial notice of Docket Number
7 E-100, Sub 101, the Order Approving Revised
8 Interconnection Standard and Requiring Reports on
9 Testimony that was issued on June 14th, 2019.

10 Thank you. I'm sorry to interrupt,
11 Mr. Burke. Please continue.

12 THE WITNESS: Sure. Thank you, ma'am.

13 A So when looking at the differences on
14 understanding the quality of the estimation
15 that's there, the high-level estimates is
16 obviously a striking difference related to unit
17 costs; however, it doesn't actually state that
18 the high-level costs are not actually going to be
19 built on unit costs. So, from my understanding
20 is that Duke continues to use unit costs in
21 providing its high-level estimates.

22 The overheads I think was the area
23 in which we have understood that there is a clear
24 disagreement between the industry and where we

1 are today, and it is clear that overheads should
2 be included in the estimated interconnection
3 facilities charge based on this definition.

4 And then the striking of the
5 interim Interconnection Agreement is not clear to
6 me as to the purpose of that, whether or not an
7 Interconnection Agreement is -- interim
8 Interconnection Agreement is even offered
9 anymore. But what I would highlight here from my
10 view of how to apply this definition in making
11 business decisions is the fact that the change is
12 not based upon field visits and/or detailed
13 engineering cost calculations. Those two
14 parameters seem to be still the parameters that
15 are important in actually understanding the
16 changes that one should expect between one stage
17 gate and the next. So those two remain the same.
18 So reliance upon this definition is still one in
19 which I would do, obviously recognizing the fact
20 that field visits and/or detailed engineering are
21 going to be the what's driving the difference
22 between a high-level cost estimate and the next
23 stage.

24 Q Okay.

1 A Commissioner, did I answer your question, sir?

2 BY COMMISSIONER McKISSICK:

3 Q Yes, you did. And I just have one or two
4 follow-ups, and that's simply this, at any point
5 after you received the January 28th email of 2019
6 with the SIS which had the estimate that was
7 stated for the project, were you advised by
8 anyone at Duke, either before then or after then,
9 that this estimated cost was a, as they now
10 classify it, perhaps a Class 5 estimate which may
11 not be as reliable or where the cost is
12 anticipated to go up 80 to 100 percent. At any
13 point in time were you advised of that?

14 A Sir, recalling the fact that I don't remember a
15 point where I actually mentally challenged the
16 number I received after the System Impact Study
17 before receiving the Facility Study delta, I was
18 not familiar that that change would be a 90
19 percent increase nor was I ever given kind of a
20 heads up that there would be a significant change
21 in the manner in which Duke would be actually
22 estimating its costs. So, quite frankly, I was
23 surprised when I received the Facility Study.
24 And I don't recall ever receiving any sort of

1 direct suggestion that I should not rely upon the
2 information received in the System Impact Study
3 report, sir.

4 Q All right. And the last questions are dealing
5 with Exhibit Number 6. Can you turn to Exhibit
6 Number 6 for a quick moment, please?

7 A Sir, I'm going to --

8 COMMISSIONER DUFFLEY: Mr. McKissick --
9 Commissioner McKissick.

10 COMMISSIONER McKISSICK: Yes.

11 COMMISSIONER DUFFLEY: Exhibit 6 of his
12 direct testimony or Exhibit 6 of the potential
13 cross --

14 COMMISSIONER McKISSICK: Of his direct
15 testimony. Excuse me. I should have called it by
16 that. Yes.

17 COMMISSIONER DUFFLEY: Thank you.

18 A So I have Exhibit 6 as a email, confidential
19 version in the binder I have; is that the
20 right --

21 BY COMMISSIONER McKISSICK:

22 Q Okay. If it is confidential then I will not get
23 into those details then.

24 MR. TRATHEN: Commissioner McKissick, this

1 is Marcus Trathen. I don't believe that that
2 particular document is confidential. I believe that
3 this is just denoted that this is the entire version
4 of the binder is the confidential version.

5 COMMISSIONER McKISSICK: Okay. Thank you
6 for that, sir.

7 COMMISSIONER DUFFLEY: Commissioner
8 McKissick, do any parties have a problem or an
9 objection to moving forward with questions on Exhibit
10 Number 6 of Witness Burke's testimony?

11 MR. JIRAK: DEP agrees that we can move
12 forward and there's nothing confidential in Exhibit 6.

13 COMMISSIONER DUFFLEY: Thank you.

14 BY COMMISSIONER McKISSICK:

15 Q Okay. And I guess the question, sir, is simply
16 this, I'd like to first have you explain what
17 this doc -- the purpose of this document, and
18 then secondly if you could specifically look at
19 the request number two and request number three
20 and say what the request was and what the
21 response was that you received?

22 A Okay. Just to make sure I'm using the right
23 exhibit and I apologize for this, do you mind if
24 I get our counsel to confirm that we're looking

1 at the right document for me to comment on, just
2 to make sure I'm completely --

3 Q That's fine.

4 A -- aligned?

5 MR. DAVID: May I approach the witness?

6 COMMISSIONER DUFFLEY: Yes, you may.

7 A Okay. Sir, I have confirmed that I am on the
8 right document. I apologize for that. Would you
9 mind restating your question?

10 BY COMMISSIONER MCKISSICK:

11 Q Yes. Can you state the purpose for which this
12 email was generated, and then secondly,
13 specifically if you could address request number
14 two which was raised as well as request number
15 three and the response that was received?

16 A So two and three. Okay. So originally this
17 email was sent by one of my direct reports and it
18 was intended to basically understand where things
19 were. And so if I start with it, it starts with
20 an email thread from Lee Winter related to
21 announcement of the costs associated with
22 Williams Solar at the Facility Study phase. And
23 then it goes to a -- it goes to five questions
24 related to follow-ups for that email that we

1 received from Duke from Fred Flagstad who was my
2 Vice President of Development at the time.

3 So in, I believe it was request
4 number two, should we start with that one, sir,
5 or do you --

6 Q Sure.

7 A Do you have a preference?

8 Q That will be fine. Sure.

9 A In request two, it says please confirm that the
10 scope provided in the System Impact Study dated
11 December 20th, 2018 has not changed. And Duke's
12 response was confirmed the scope of work has not
13 changed. And so the purpose of that was to
14 understand whether or not there was any
15 additional features or anything else that was
16 explored by Duke that would change how we look at
17 the comparable nature of one product at the
18 System Impact Study phase and one product at the
19 Facility Study phase. That was the intention of
20 that question.

21 Before I move on to request number
22 three, do you have any questions on my response,
23 sir?

24 Q No. Thank you.

1 A Okay. On request number three, Fred asked please
2 clarify the reasons for the increase in cost.
3 And Duke's response was after several true-ups
4 that we have conducted on similar projects we
5 have found the initial costs that were provided
6 historically, both of our costs and detailed
7 estimates, to be significantly underestimated.
8 Therefore, we have applied a new formula to
9 ensure that the upfront costs more closely
10 aligned with the final true-up numbers.

11 And so recognizing the fact that
12 this project is also protected underneath a
13 Settlement Agreement in January of 2018, this
14 statement from Duke started striking a
15 uncertainty cord as to what actually was
16 happening. Because effectively what that did was
17 it notified us that there were costs that Duke
18 was trying to factor into our project that we
19 didn't think were based upon detailed
20 engineering. Quite frankly, if you look at the
21 way we -- the way I interpret this, the -- Duke's
22 cost estimation related to Williams Solar on the
23 Facility Study was not worked from understanding
24 the unit costs or the changes that need to be

1 having -- building a cost estimate and then
2 basically applying contingency related to that.
3 It was done from the reverse which is here is --
4 here are the costs of which they don't appear to
5 state that they have any cost control measures or
6 things that they're incentivized actually to kind
7 of control cost for us, and we're going to apply
8 a different philosophy in the way in which we go
9 through our estimating process. That is
10 atypical. I have never experienced that in the
11 past quite frankly, sir. And unit costs, and
12 particularly in the typical project management
13 planning, you kind of build up and apply
14 contingency and you use those informations and
15 you rely upon that to kind of go through the
16 estimating process. And what was being told was
17 we've seen additional costs and so, therefore,
18 we're going to layer those potential costs on
19 this project, and that was a departure from any
20 experience we had and then also woke me up to the
21 fact that it might actually be against the
22 Settlement Agreement that is allowed between the
23 parties in introducing new tools, green or
24 process that was there. So that probably -- that

1 statement probably caused me more alarm than any
2 other statement I received from Duke related to
3 this, because we're not talking about field
4 verification version anymore. We're not talking
5 about field verification of this specific
6 project. We're not talking about detailed
7 engineering of this specific project of which
8 both of those are in those definitions I just
9 responded to. This is a different set of
10 parameter that Duke has basically introduced.

11 Q Final question. Had you received the estimate
12 that was provided in the Facility Study and that
13 number had been reflected in the SIS that you
14 received back on January 28th, would Williams
15 Solar have proceeded with this project?

16 A No, sir. If I would have received a number that
17 was close to \$1.6 million, it would have
18 triggered me to basically suggest that this
19 project was no longer viable and I would have
20 allocated resources going forward to other
21 projects that were viable.

22 COMMISSIONER McKISSICK: Thank you. I don't
23 have no further questions at this time, Commissioner
24 Duffley.

1 A Thank you, sir.

2 COMMISSIONER DUFFLEY: Thank you,
3 Commissioner McKissick.

4 Any other Commissioner questions? Chair
5 Mitchell.

6 CHAIR MITCHELL: Thank you. Just a few
7 questions.

8 EXAMINATION BY CHAIR MITCHELL:

9 Q First, did you all request an Interconnection
10 Agreement after you received the results of the
11 System Impact Study?

12 A No, Madam Chair.

13 Q Okay. And can you help us understand why not?

14 A I guess I was aware that Duke wasn't offering the
15 interim Interconnection Agreement any longer and
16 so we didn't pursue that.

17 Q What happened at the -- let me back up. In the
18 email exchange we were just discussing that
19 Exhibit JB-6, there is reference to a
20 construction planning meeting. Was that
21 construction planning meeting held?

22 A I believe it was. So we were attempting to
23 understand and to get past an email exchange of
24 information to try to find some sources of

1 information in real time. I believe that meeting
2 actually did occur.

3 Q So it did occur; do you know when it occurred?

4 A I apologize, ma'am, I don't have that date.

5 Q No problem. And did you attend that meeting?

6 A I don't recall actually. But, quite frankly, my
7 guess is I probably would have tried to
8 prioritize this if I was available, quite
9 frankly, because this is the first time I've ever
10 seen this, but I don't remember.

11 Q So do you -- so do you recall what was discussed
12 at the meeting? I mean, I'm just --

13 A I think the --

14 Q What I would like to know is was there a
15 construction planning meeting and if there was
16 what was discussed? Did it -- what -- did it
17 provide any additional information to you all
18 regarding the estimated cost to interconnect in
19 this project and upgrade the network?

20 A So, recognizing that I don't recall well, I do
21 believe that what was discussed, if -- from what
22 I understand from conversations with Fred
23 Flagstad who no longer works for Green Energy US,
24 there was a discussion as to a why and what was

1 the process of going to where they were and a
2 desire to have greater information. And most of
3 those if not all of those requests were denied at
4 the time.

5 Q So could it be that Mr. Flagstad attended the
6 meeting and not you?

7 A I believe. I just -- I apologize, it's been
8 awhile and I don't remember quite frankly.

9 Q Okay. Thank you. You did talk -- you mentioned
10 a second ago that this was -- your experience
11 with Williams Solar particularly the discrepancy
12 between the System Impact Study and the Facility
13 Study results was a departure different from any
14 experience that you all had had previously. Talk
15 some about your experiences aside from Williams
16 Solar. Are there other projects that you all
17 have developed or even taken all the way into --
18 and placed them into service for which there was
19 no discrepancy or no major discrepancy between
20 the System Impact Study results and the Facility
21 Study?

22 A So, yes. So we have -- we have collectively
23 executed 20 Interconnection Agreements with the
24 combination of Duke Energy Progress or Duke

1 Energy Carolinas. And in this process there was
2 probably mostly a delta up related to the changes
3 between the System Impact Study phase and the
4 Facility Study phase, but there has actually been
5 some that have been down, but those are less
6 frequent.

7 The experience I had, Madam Chair,
8 related to going through this, it really kind of
9 comes down to the fact that if you can
10 compartmentalize where additional costs come and
11 the uncertainty comes, it typically comes when
12 you're starting to impact things that are at the
13 substation or at the transmission infrastructure.
14 So understanding what, and breaking down kind of
15 where I see risks and the likelihood of cost
16 increases, it's compartmentalizing what is
17 happening on the distribution side outside of the
18 substation, it's understanding if there is a
19 trigger for a substation upgrade and what that
20 could cause, and then furthermore if there is a
21 trigger for a transmission upgrade but related
22 kind of both time and cost for that.

23 Applying this to Williams Solar,
24 there were no transmission upgrades, there were

1 no substation upgrades. What we're effectively
2 looking at is just infrastructure that is on the
3 distribution side that doesn't cause any sort of
4 impact to the substation or transmission
5 infrastructure.

6 So my reliance on Duke's
7 information was based upon understanding that
8 that was -- that was the frame in which this
9 project actually had exposure to those costs.
10 And that, to me, based upon all of the
11 information that I understood was available to
12 Duke in completing the System Impact Study at the
13 time was what I relied upon kind of moving
14 forward.

15 Madam Chair, did I answer your
16 question? I could also talk about other
17 experiences in other markets but I don't think
18 those are what you were asking.

19 Q No, I mean, I'm just specifically -- I mean you
20 used the phrase "a departure from any experience
21 you had". I just want to make sure I understand
22 completely what was different about this
23 experience from your previous or prior
24 experiences with either of the Duke utility.

1 A Sure. The -- our experience is different between
2 DEP and DEC. So when I report to our
3 shareholders and investors I kind of look at
4 tracking the costs, both of those separately, and
5 the trajectory that we were at on average, this
6 project in cumulative total was near double at
7 the System Impact Study that I had seen for the
8 other projects in Duke Energy Progress'
9 territory. So that's the first data point.

10 Once that doubled beyond what I
11 was experiencing on the double, that caused me a
12 pause quite frankly. I was experiencing a number
13 that was kind of 4x what the portfolio was seeing
14 from other projects going through the System
15 Impact Study to the Facility Study and I couldn't
16 understand why there was a 4x especially since
17 there were no substation upgrades and there were
18 no network upgrades. That was the fundamental
19 issue of why I was perplexed with the information
20 I was looking at.

21 Q Okay. That's helpful. Can you tell me, I know
22 you just testified that your company has placed
23 or has executed 20 Interconnection Agreements,
24 how many of those projects have been constructed

1 and/or placed in service at this point?

2 A Sure. That's a great question, Madam Chair. We
3 started construction on eight projects last year
4 of which those eight projects are at various
5 stages of commissioning. We have started 12 more
6 projects in construction this year of which those
7 started and a blend of those started in Q1 of
8 this year and others that started a few months
9 ago. So we're actively in construction of 12
10 assets here in 2020 and we're either completed or
11 kind of wrapping up the completion of our 2019
12 portfolio that we started construction of those
13 eight. So it's eight in 2019, 12 in 2020.

14 Q Thank you very much.

15 CHAIR MITCHELL: I have nothing further.
16 Thank you.

17 A Thank you, ma'am.

18 COMMISSIONER DUFFLEY: Thank you, Chair
19 Mitchell. Chair Clodfelter or Commissioner
20 Clodfelter.

21 COMMISSIONER CLODFELTER: Thank you, Chair
22 Duffley.

23 RE-EXAMINATION BY COMMISSIONER CLODFELTER:

24 Q Mr. Burke, you can hear me okay?

1 A Yes, sir.

2 Q I had a couple of additional questions just to by
3 way of some follow up. One of them is a topic
4 that you were just discussing with Chair
5 Mitchell, and I want to ask a fairly targeted
6 question but I don't want you to get into any
7 answers that involve confidential information,
8 and so let me see if I can get the question
9 framed in a way that you can avoid giving me
10 anything that's confidential.

11 Was GreenGo -- during the year
12 2018, did GreenGo have any other projects sited
13 in the DEP territory that received System Impact
14 Study estimates and, if so, how many?

15 A Yes.

16 Q How many?

17 A Sir, do you mind if I pull out something so I can
18 reference that?

19 Q I don't mind if that's okay with the Chair.

20 COMMISSIONER DUFFLEY: I will allow it.

21 A Commissioner, I have -- with me I have cumulative
22 portfolio information but it doesn't break down
23 when I executed the Interconnection Agreement by
24 year. I apologize I can't answer that

1 specifically for you.

2 Q Well, I appreciate that, and if you can't answer
3 you can't answer. I take it then that you would
4 not therefore be able to answer the follow-up
5 question I would have which was of that group of
6 projects that receive System Impact Study
7 estimates in 2018, how many of them then got
8 Facility Study estimates after Duke implemented
9 its new estimating methodology? You also
10 couldn't answer that question, could you?

11 A No, sir. Although the new methodology actually
12 happened in July of 2019 and --

13 Q That's correct.

14 A -- I believe I've only signed a few
15 Interconnection Agreements after that date. In
16 fact, I've not actually signed any
17 Interconnection Agreement after one project which
18 I call 1087 but nonetheless most, if not all of
19 them, actually occurred prior to that date of the
20 change of the approach by Duke.

21 Q So Williams Solar is the only project you were
22 directing or managing that straddled the change,
23 if you can understand what I mean by straddle the
24 change?

1 A I do. I do, sir. So, no, we actually have -- we
2 have about a dozen additional projects that are
3 covered under both House Bill 589 and the
4 Settlement Agreement that we're working on trying
5 to get Interconnection Agreements from Duke that
6 also straddle this period.

7 Q Well, for those dozens or so do you have
8 Facilities Studies completed for any of those?

9 A No, sir. Six of those are actually in a
10 moratorium related to a transmission impact of
11 which is a Superior Court action that we have and
12 then the other six are at various other stages.

13 Q All right. Thank you. Thank you for that. The
14 second area I just want to confirm, in one of
15 your answers to Commissioner McKissick's
16 questions I believe you may have answered this
17 but his question was about a different topic and
18 so I want to ask the question straight up and be
19 sure I confirm the answer.

20 At any time prior to your receipt
21 of the System Impact Study estimate or between
22 the time you received that estimate and the time
23 you got the Facility Study estimate in mid 2019,
24 did anyone at Duke Energy Progress ever advise

1 you that they were investigating possible
2 discrepancies between the results of their
3 estimation methodology and their actual incurred
4 costs, or that they were considering whether or
5 not there was any need to revise the estimation
6 methodology?

7 A No, sir. I don't remember that I was ever
8 informed. And, quite frankly, I've attempted to
9 attend the technical standards review group which
10 is a body that is formed in order to kind of
11 convey these type of messages and changes. I
12 don't recall that coming through that channel.
13 We were -- I was personally engaged in the
14 interconnection queue reform, never once did I
15 receive any sort of information that one of the
16 rationales was related to that. I was actually
17 engaged in the Interconnection Standard,
18 Interconnection Procedure change with Duke
19 attending personally most of the public meetings
20 related to that and during that stakeholder
21 process I don't recall Duke ever mentioning that
22 they had concerns with their cost estimating and
23 I would -- I have no problem saying that they
24 didn't. If they did it would have struck me as

1 something to follow up on and I would have made
2 sure to do that.

3 So to answer your question, sir, I
4 have been active in this industry. I'm also a
5 board member of NCCEBA as my testimony shares as
6 well as the executive committee of NCCEBA and a
7 member of NCSEA, and at no point did any of those
8 groups ever inform us that there was a
9 notification as well.

10 So directly I don't recall. Trade
11 association, I never recall this ever being an
12 issue until it actually became an issue, sir.

13 Q Thank you.

14 COMMISSIONER CLODFELTER: Chair Duffley,
15 that's all I have. Thank you.

16 COMMISSIONER DUFFLEY: Thank you,
17 Commissioner Clodfelter. Any other Commission
18 questions? Chair Mitchell.

19 CHAIR MITCHELL: Just one more very quick
20 one for Mr. Burke.

21 RE-EXAMINATION BY CHAIR MITCHELL:

22 Q I just want to make sure I hear - the Facility
23 Study information indicates that there are costs
24 associated with system upgrades, and I think I

1 heard your testimony just a minute ago to be that
2 no network upgrades were necessitated by the
3 interconnection request. But I just want to make
4 sure I understand what is meant by system
5 upgrades because it's -- can you help me
6 understand what is meant by system upgrades in
7 this context?

8 A Sure. It's -- and I apologize if there's a
9 vernacular delta here. But ultimately the system
10 upgrades that I was mentioning are
11 compartmentalized to those that are downstream of
12 the substation and those that are at the
13 substation and those that are at the transmission
14 system.

15 So typically in my experience,
16 substation and transmission are often times
17 called network upgrades, and then there are
18 distribution upgrades or system upgrades that are
19 actually downstream of our interconnection
20 facilities which are local to where the point of
21 interconnection is to between that point and the
22 substation, and so those upgrades were a part of
23 that. So there's two and a half miles worth of
24 changes that are going to be between where our

1 point of interconnection and the interconnection
2 facilities to a point where Duke demanded that
3 the upgraded network start. But that was not an
4 originating change in the substation nor was it
5 an originating change on the transmission side.
6 So does that clarify better? I apologize if I --

7 Q No it does. It's just the Interconnection
8 Agreements include a definition for network
9 upgrades, a definition for distribution upgrades
10 but not for system upgrades so I just wanted to
11 be sure that I understood the nature of the
12 upgrades as they apply to this project.

13 COMMISSIONER DUFFLEY: Chair Mitchell --

14 A I think -- Madam Chair, I think it would be
15 distribution -- Oh, I apologize.

16 COMMISSIONER DUFFLEY: Witness Burke,
17 Mr. Burke, can -- we just need to make sure -- Kim
18 Mitchell, did you understand everything that Chair
19 Mitchell stated? Just give a thumbs up. Thank you.

20 You can start, Mr. Burke.

21 A I was just going to say the system upgrades or
22 the distribution upgrades are those upgrades that
23 are after the interconnection facilities and
24 prior to the substation as they apply to Williams

1 Solar by the definition I was sharing with you
2 earlier.

3 Q Thank you.

4 CHAIR MITCHELL: Nothing further.

5 COMMISSIONER DUFFLEY: Any other Commission
6 questions? Okay. I have a few follow-up questions
7 for you, Mr. Burke --

8 THE WITNESS: Yes, ma'am.

9 COMMISSIONER DUFFLEY: -- based upon Chair
10 Mitchell and Commissioner Clodfelter's questions.

11 EXAMINATION BY COMMISSIONER DUFFLEY:

12 Q Chair Mitchell asked you about the delta upward
13 for the 20 Interconnection Agreements that your
14 company has entered into. If you can say
15 non-confidentially, what was the delta, the
16 average delta increase between the System Impact
17 Study and the Facility Study?

18 A Okay. I'm not sure I have the delta between
19 those two ranges. I can kind of share with you
20 the experience I've had over the last four years
21 on an aggregate basis. The documents I have
22 isn't clear as to the delta between the System
23 Impact Study phase and the Facility Study.

24 Q Do you have the document that discusses the delta

1 between the System Impact stage and final
2 accounting or the facilities system, facilities
3 agreement and the final accounting?

4 A So I apologize. I am pulling up a table here
5 that is marked confidential. It looks like it is
6 Exhibit 7 of the Ken Jennings and Holmes version
7 and it has 27 projects listed, and there's
8 operational status as well as the different data
9 points that have happened over -- I don't have an
10 aggregate number, I have per project detail,
11 ma'am, and so I don't know if that's -- I don't
12 know how to answer your question without going --

13 Q That's sufficient. Thank you. I will take a
14 look at the Jennings/Holmes Exhibit Number 7.

15 And then in your testimony -- and
16 Chair Mitchell asked you about that you -- the
17 initial System Impact Study estimate you found to
18 be nearly double or you were surprised at how
19 high the number was compared to your experience
20 with other similar projects, and could you
21 explain -- well what do you mean when you say
22 similar projects?

23 A Well, quite frankly, we use general ballparks or
24 rule of thumbs when it comes down to

1 understanding, kind of estimating what we believe
2 is going to be the actual cost, reasonable cost
3 to find those there. And I believe in my
4 testimony I mention the fact that our -- or the
5 kind of benchmark for distribution upgrades for a
6 three-phase is somewhere in the -- if I'm -- I'm
7 recalling from memory somewhere between \$200,000
8 and \$250,000 per mile. And so when applying that
9 to the two and a half mile noticed from Duke of
10 what was being triggered that number kind of
11 comported to where the System Impact Study was.
12 So comparing that number to what actually was
13 with a Facility Study number which is nearly
14 double related from a reasonable cost
15 perspective. It's difficult for me to ascertain
16 actually what the unit costs were expected to be
17 from Duke based upon the information prior to
18 filing this dispute that caused that increase per
19 mile number that goes beyond the traditional norm
20 of what's there.

21 I'm sorry I can't be more close in
22 proximity range because it differs on
23 right-of-way, it differs on topography and other
24 things that are there. So it's just kind of this

1 floating kind of area where it, you know,
2 \$250,000 is kind of what I use in my head per
3 mile for upgrades for the interconnection. So
4 that would be outside of the interconnection
5 facilities prior to the substation.

6 Q And can you describe a little bit more your
7 testimony surrounding unit cost and just
8 describe, help me understand is there an industry
9 standard with respect to unit cost or does it
10 change? You mentioned in one of your answers do
11 you want me to talk about RTO regions or is there
12 a distinction or a difference between DEC, Duke
13 Energy Carolinas and Duke Energy Progress. Could
14 you just help me understand the unit cost and
15 your testimony surrounding unit cost?

16 A Okay. I guess I'm interpreting unit cost on a
17 project level so I would point you to my Exhibit
18 14 that is redacted, that is in the confidential
19 version, and in that version I highlight kind of
20 various topics from top to bottom that started
21 with our business case assumptions and then it
22 got into where we were tracking based upon the
23 time in which this report was done.

24 On average, effectively we had a

1 couple of snapshots of the report and I don't
2 mind clarifying that to the DEC total
3 Interconnection Agreement cost before these
4 changes effectively was rising from about
5 \$553,000 to \$712,000 per project. And then the
6 DEP, when we did this benchmark, was effectively
7 \$357,000 when we did this midway and as compared
8 to the number we were tracking at the time which
9 was \$435,000, and so those are just averages
10 related to the portfolio. But the portfolio is
11 tilted more toward DEP versus DEC and so we track
12 the DEP numbers a great deal because those costs
13 are important to our overall portfolio.

14 Q Okay. Thank you.

15 A Madam Chair, did I answer your question. I
16 apologize if I didn't.

17 Q You did. And just a little bit of some follow up
18 on Commissioner Clodfelter's questions. You
19 mentioned that you are a part of NCCEBA and in
20 your experience with NCCEBA prior to a time that
21 you received the Facility Study estimate that
22 Duke Energy Progress never informed the group or
23 never informed the stakeholders of the issue and
24 the discrepancies that they were seeing from the

1 SIS and the Facility Study.

2 But my question to you is with
3 respect to the NCCEBA members themselves, were
4 there discussions -- were the NCCEBA members
5 discussing with each other discrepancies that
6 they were seeing in 2017, 2018 or 2019? And if
7 you could take each year individually in
8 answering that question.

9 A Sure. In 2017, I'm not aware of any conversation
10 that was related to any sort of cost overages and
11 expectations. I think in general the industry
12 was recognizing increased costs but there was not
13 a macro shift from an X to a 2X.

14 2018 is also the same. In fact,
15 2018 is the year in which we formed a Settlement
16 Agreement with Duke to basically limit their
17 ability to make changes unilaterally without
18 bringing conversations to bear and, you know, to
19 ultimately framing our understanding so we could
20 have certainty that the projects under House Bill
21 589 had a fair shot without having increased or
22 changes in the way Duke does their studies.
23 Because at that point there had been multiple
24 technical changes that Duke had implemented that

1 effectively caused the significant amount of the
2 population of the standard offer projects to fall
3 out, and so it was important for us to get
4 framing on that.

5 If you recall correctly that the
6 other precipice for that was the nameplate change
7 that DEP did where they unilaterally made a
8 change from their substation transformer size
9 which was at the highest level which was the
10 ONAF2 to an ONAN setting based upon their
11 decision of which that was one of the triggers
12 that was there for the industry, because
13 effectively all of the information we had
14 received from DEP prior to that point was related
15 to substation sizes at the highest level and they
16 effectively were just making a wholesale change
17 to the lowest level. So that was their reasons
18 for those.

19 Did I answer your question because
20 I want to make sure I did. I'm sorry. I
21 couldn't hear you, ma'am.

22 COMMISSIONER GRAY: Chair Duffley, you may
23 want to unmute.

24 COMMISSIONER BROWN-BLAND: Unmute.

1 COMMISSIONER DUFFLEY: I think I'm becoming
2 the worst offender. I apologize.

3 BY COMMISSIONER DUFFLEY:

4 Q So when in 2019, if we could go to 2019, and when
5 did NC members to your knowledge begin discussing
6 the discrepancies between the SIS estimate and
7 the Facility Study estimate?

8 A I think the aggregate, to answer your question
9 directly, it was in July of 2019 where we came
10 out and we received this massive change on our
11 costs between one stage gate and another, and
12 others were feeling the exact same pain point.
13 And so it was in that timeframe that we began to
14 become aware that there was a change.

15 Q And when to your experience did NC members begin
16 noticing discrepancies between the Facility Study
17 estimate and the final accounting?

18 A That I don't have any information on, ma'am,
19 because I didn't really participate in a lot of
20 those. I think beginning this year -- so we
21 had -- our portfolio had not received any sort of
22 true-ups until about three months ago. So I was
23 not tracking any of that conversation to a degree
24 because I didn't know whether or not it was a

1 local issue related to a specific project or
2 projects or if it was a global issue.

3 I've come since to understand that
4 it has been a global issue given the fact that
5 Strata has actually as you know formalized
6 several complaints over a dozen related to this.
7 And sadly, I have five projects that are going to
8 be following at some point if there isn't a
9 decision one way or the other on that as well.

10 Q Thank you. And we're almost to where we're
11 already into our lunch hour. I will ask one more
12 follow-up question before we break for lunch. I
13 will have a few more questions for Mr. Burke
14 after lunch, our lunch break.

15 But following up on an answer to a
16 question from Mr. Clodfelter or Commissioner
17 Clodfelter, you were talking about in 2018 there
18 were the technical changes that were made and
19 that a large amount of interconnection customers
20 had to fall out of the queue. Was that based on
21 costs, increased costs?

22 A There was a -- there was -- it's both cost and
23 other barriers that have been erected. Sometime
24 actually in 2017, Duke announced a Line Voltage

1 Regulator Policy that effectively required us to
2 change the point of interconnection to within the
3 first regulated zone of their footprint
4 effectively changing our point of interconnection
5 and introducing significant risks associated with
6 where our point of interconnection is which was
7 typically in our site control to a point closer
8 to the substation. That had a massive blow out
9 when it came down to the interconnection process
10 on that barrier. That was not just cost but it
11 also introduced site control because when you go
12 through financing if you don't have the real
13 estate instrument that you can rely upon that are
14 there for the rights-of-way to get from Point A
15 which is the -- typically was the lease or the
16 purchase option of where things are and the POI
17 that was there to a different point that had a
18 cost and a control binary risk that went into
19 that. So that was one of them.

20 There was also in 2017 an
21 introduction of an anti-islanding risk in Duke
22 Energy Carolinas, not in Duke Energy Progress,
23 that caused a massive amount of costs associated
24 with the implementation of direct transfer trip.

1 That process was brought through the Technical
2 Standards Review Group to be kind of rediscussed.
3 And effectively Duke took all of 2018 to kind
4 of -- and the better part of '19 to kind of
5 decide whether or not they're going to roll that
6 out to implement that across the board.

7 That has a separate set of issues
8 but that's a cost issue effectively in the end
9 because we would have to bear the cost of the
10 communication equipment as well as the additional
11 equipment that was there, both locally as well as
12 at the substation because there's changes that
13 are introduced at the substation as well in that
14 capacity.

15 There are other technical issues
16 that came forward. In particular, when we get
17 through and understand there was a -- there was
18 flicker issues at one point that the industry had
19 to face. There was voltage issues where there
20 was an engineering discretion related to the
21 application of the valley and the peak cases when
22 it comes down to the System Impact Study and
23 understanding really what the voltage issues are.

24 All of which kind of comes down to

1 either a technical barrier, if it's a voltage, an
2 over voltage issue, recognizing the fact that
3 Duke practically eliminated many different
4 alternative ways to eliminate voltage issues by
5 reducing and eliminating double circuit options,
6 triple circuit options, whatever those things are
7 there to control that as well as others.

8 I apologize, ma'am, I could
9 probably go on for quite a bit of time on the
10 changes that have been introduced over the last
11 four years and I'm not sure that's what you want
12 me to do.

13 Q Thank you. Yes, you've answered the question
14 that I asked.

15 COMMISSIONER DUFFLEY: It is now 12:36.
16 We're going to break for lunch. We will return at
17 1:35.

18 (The hearing was adjourned at 12:36 p.m.,
19 and set to reconvene at 1:35 p.m.)
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C E R T I F I C A T E

I, KIM T. MITCHELL, 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.

Kim T. Mitchell

Kim T. Mitchell
Court Reporter II