BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

In the Matter of:

DOCKET NO. 20200176-EI

PETITION FOR A LIMITED PROCEEDING TO APPROVE CLEAN ENERGY CONNECTION PROGRAM AND TARIFF AND STIPULATION BY DUKE ENERGY FLORIDA, LLC.
_____/

VOLUME 2
PAGES 241 - 452

PARTICIPATING:	CHAIRMAN GARY F. CLARK COMMISSIONER ART GRAHAM COMMISSIONER JULIE I. BROWN COMMISSIONER DONALD J. POLMANN COMMISSIONER ANDREW GILES FAY
DATE:	Wednesday, November 18, 2020
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REPORTED BY:	DEBRA R. KRICK Court Reporter
APPEARANCES:	(As heretofore noted.)

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P R O C E E D I N G S

(Transcript follows in sequence from Volume 1.)

CHAIRMAN CLARK: All right. We have everybody on the line. We are going to reconvene this morning.

It's good to see everybody. We are a little bit earlier than our normal start time. We were afraid that may have caused a little confusion, but we have got everybody here now.

Before we begin, I am going to ask Mr. Stiller if we have any preliminary matters this morning.

MR. STILLER: Yes, Mr. Chair.

Yesterday, there was a question, I believe from Commissioner Brown, regarding the impact, or projected impact of the CEC program on monthly bills. I just wanted to note that that information is in the record. It's in response -- it's in Exhibit 20. It's the response to Staff Interrogatory 14.

The only other preliminary matter, Mr. Chair, is the parties have stipulated to take a witness --

COMMISSIONER BROWN: Mr. Chairman, if I may ask him a question?

CHAIRMAN CLARK: Yes, Commissioner Brown.

COMMISSIONER BROWN: I had looked at it this morning, and I just wanted to confirm that that's not just the fuel charges to the general body of ratepayers. It's -- I know it's the very last, or second to the last page of that document.

MR. STILLER: I believe that is correct, and I will confirm that with Staff, Commissioner Brown.

COMMISSIONER BROWN: Thank you.

I think it's page 49, maybe, of 54, it looks like. Unless I am looking at it incorrect. I think it starts at 48, where it has the different fuels, mid fuel and the different elements.

MR. ELLIS: This is Phillip Ellis with Staff.

In the Excel attachment, I believe Column L, on the mid fuel scenario is the net rate impact. The other columns, H through K, are the individual components of those.

COMMISSIONER BROWN: Thank you, Phillip.

And is this just the fuel impact, or is this also the base rate impact as well?

MR. ELLIS: It is both. Just the clause impact would be the sum of Columns I and K. Although, that's not just the fuel clause. That's the sum, I believe, of the environmental and fuel clauses.

COMMISSIONER BROWN: Thank you, Mr. Chairman.

CHAIRMAN CLARK: Thank you, Commissioner Brown.

Mr. Stiller.

MR. STILLER: Thank you, Mr. Chair.

The only other matter is the parties have stipulated to take Walmart Witness Steve Chriss first this morning out of the original order.

CHAIRMAN CLARK: All right. Do we have any other preliminary matters?

Okay, as Mr. Stiller said, all the parties have agreed to take up Mr. Steve Chriss next. We will come back to Mr. Borsch following Witness Chriss.

So at this time, Walmart, would you like to call your witness?

MR. NAUM: Yes. Thank you, Mr. Chairman.

Walmart calls Steve Chriss. And we appreciate the accommodation so that he can appear at a Utah proceeding this morning as well.

CHAIRMAN CLARK: Mr. Chriss, were you sworn in yesterday?

THE WITNESS: I was.

CHAIRMAN CLARK: Thank you.

Mr. Naum.

Whereupon,

STEVE W. CHRISS

was called as a witness, having been previously duly sworn to speak the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

EXAMINATION

BY MR. NAUM:

Q Good morning, Mr. Chriss.

Would you please state your full name and business address for the record?

A Steve W. Chriss. Last name is spelled C-H-R-I-S-S. Business address is 2608 Southeast J Street, Bentonville, Arkansas, 72716.

Q And by whom are you employed, and in what capacity?

A I am employed by Walmart, Inc. And I am a Director of Energy Services.

Q Have you prepared and caused to be filed 12 pages of direct testimony in this docket, Mr. Chriss?

A Yes.

Q And do you have any changes to your direct testimony?

A No.

Q If I asked you the same questions on direct examination, would your answers be the same today?

A Yes.

MR. NAUM: Mr. Chairman, will you please enter the direct testimony of Steve W. Chriss into the record as though read?

CHAIRMAN CLARK: So ordered.

(Whereupon, prefiled direct testimony of Steve W. Chriss was inserted.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition for a limited proceeding to approve clean energy connection program and tariff and stipulation, by Duke Energy Florida, LLC.	**:** **:** **:** **:**	**DOCKET NO. 20200176-EI** **Filed: October 2, 2020**

DIRECT TESTIMONY AND EXHIBITS OF

STEVE W. CHRISS

ON BEHALF OF

WALMART INC.

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Exhibits

Exhibit SWC-1: Witness Qualifications Statement

Exhibit SWC-2: Stipulation

Introduction

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND OCCUPATION.

A. My name is Steve W. Chriss. My business address is 2608 SE J St., Bentonville, Arkansas 72716. I am employed by Walmart Inc. ("Walmart") as Director, Energy Services.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THESE DOCKETS?

A. I am testifying on behalf of Walmart.

Q. PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE.

A. In 2001, I completed a Master of Science in Agricultural Economics at Louisiana State University. From 2001 to 2003, I was an Analyst and later a Senior Analyst at the Houston office of Econ One Research, Inc., a Los Angeles-based consulting firm. My duties included research and analysis on domestic and international energy and regulatory issues. From 2003 to 2007, I was an Economist and later a Senior Utility Analyst at the Public Utility Commission of Oregon ("PUC") in Salem, Oregon. My duties included appearing as a witness for PUC Staff in electric, natural gas, and telecommunications dockets. I joined the energy department at Walmart in July 2007 as Manager, State Rate Proceedings. I was promoted to Senior Manager, Energy Regulatory Analysis, in June 2011. I was promoted to my current position in October 2016, and the position was re-titled in October 2018. My Witness Qualifications Statement is attached as Exhibit SWC-1.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION ("COMMISSION")?

A. Yes. I testified in Docket Nos 20110138-EI, 20120015-EI, 20130040-EI, 20130140-EI, 20140002-EG, 20160021-EI, 20160186-EI, 20190061-EI,[1] and 20200092-EI.

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE OTHER STATE REGULATORY COMMISSIONS?

A. Yes. I have submitted testimony in over 210 proceedings before 40 other utility regulatory commissions. I have also submitted testimony before legislative committees in Kansas, Missouri, North Carolina, and South Carolina. My testimony has addressed topics including, but not limited to, cost of service and rate design, return on equity ("ROE"), revenue requirements, ratemaking policy, large customer renewable programs, qualifying facility rates, telecommunications deregulation, resource certification, energy efficiency/demand side management, fuel cost adjustment mechanisms, decoupling, and the collection of cash earnings on construction work in progress ("CWIP").

Q. DO YOU HOLD ANY ENERGY-RELATED MEMBERSHIPS WITHIN THE STATE OF FLORIDA?

A. Yes. I am a member of the Florida Advisory Council on Climate and Energy.[2]

[1] I filed testimony in Docket Nos. 20200067-EI, 20200069-EI, 20200070-EI, and 20200071-EI, but that testimony was withdrawn and the issues raised in my testimony were deferred to Docket No. 20200092-EI by Stipulation filed in those Dockets on July 20, 2020, Exhibit SWC-2, and granted at the July 28, 2020, Prehearing Conference in those Dockets.

[2] https://www.fdacs.gov/Energy/Florida-Advisory-Council-on-Climate-and-Energy

Q. ARE YOU SPONSORING EXHIBITS IN YOUR TESTIMONY?

A. Yes. I am sponsoring the Exhibits listed in the Table of Contents.

Q. PLEASE BRIEFLY DESCRIBE WALMART'S OPERATIONS IN FLORIDA.

A. As shown on Walmart's website, Walmart operates 384 retail units and eight distribution centers and employs over 106,000 associates in Florida. In fiscal year ending 2020, Walmart purchased $7.4 billion worth of goods and services from Florida-based suppliers, supporting over 87,000 supplier jobs.[3]

Q. PLEASE BRIEFLY DESCRIBE WALMART'S OPERATIONS WITHIN DUKE ENERGY FLORIDA, LLC'S ("DEF") SERVICE TERRITORY.

A. Walmart has 73 retail units and one distribution center served by DEF.

Q. HAS WALMART ESTABLISHED CORPORATE RENEWABLE ENERGY GOALS?

A. Yes. Walmart has long had aggressive and significant company-wide renewable energy goals, and on September 21, 2020, we announced new targets, including: (1) to be supplied 100 percent by renewable energy by 2035 and (2) zero carbon emissions in our operations, including our transportation fleet vehicles, without the use of offsets, by 2040. We have also set a goal to transition to low-impact refrigerants for cooling and electric equipment for heating by 2040.[4]

To date, Walmart has contracted for or currently takes electricity from one or more renewable resources in at least 29 states, including Florida and Puerto Rico.

[3] http://corporate.walmart.com/our-story/locations/united-states#/united-states/florida
[4] https://corporate.walmart.com/newsroom/2020/09/21/walmart-sets-goal-to-become-a-regenerative-company

Q. CAN YOU PROVIDE INSIGHT INTO WALMART'S GENERAL FRAMEWORK FOR EVALUATING RENEWABLE OPPORTUNITIES?

A. Yes. Walmart's desire for renewable energy resources must be balanced against its business needs. As a general rule, Walmart does not enter into premium structures or programs that only result in additional costs to our facilities. Rather, Walmart seeks renewable energy resources that deliver industry-leading cost, including renewable and project specific attributes such as renewable energy credits ("RECs"), within structures where the value proposition allows the customer to receive any potential benefits brought about by taking on the risk of being served by that resource instead of, or in addition to, the otherwise applicable resource portfolio. Additionally, Walmart does not enter into programs with contract terms in excess of 15 years.

Q. WHAT CHANNELS DOES WALMART UTILIZE TO SECURE RENEWABLE ENERGY RESOURCES?

A. To meet our renewable energy goals, Walmart utilizes three primary channels to secure renewable energy resources:

- **Contracting for off-site resources:** These products are typically structured to replace other energy, both physically and on the bill. This mechanism allows Walmart to leverage its scale to drive the best project economics while simultaneously minimizing transaction time and costs. To date, Walmart has contracted for these resources in deregulated markets through Texas Retail Energy, LLC, a competitive electric supplier wholly owned by Walmart that serves as our electric supplier in most deregulated retail markets, to directly serve our

load. We have also entered into "Virtual Power Purchase Agreements" in deregulated wholesale markets, which do not directly serve our load but allow us to bring new large scale renewable resources to the market.

- **Contracting for on-site resources:** Walmart contracts for on-site, behind the meter resources through power purchase agreements ("PPAs") and leases that allow performance guarantees. These resources replace grid energy and are priced with the expectation that the operating costs for the site are reduced.
- **Utility partnerships:** Walmart works with its utility partners to develop useable commercial and industrial programs and economic structures targeted to function within the confines of the regulatory compact and with minimal impact to non-participating customers. When this option is pursued, Walmart works to ensure that the programs it assists to develop can be used by the broader group of large commercial and industrial customers, not merely Walmart. Walmart is unique in the large commercial space because we have significant in-house rate and regulatory expertise that we are willing to leverage to create opportunities to move the entire industry forward. The largest of these partnerships that have been executed to date include the development of and participation in Florida Power & Light Company's ("FPL") SolarTogether Program ("SolarTogether"), Georgia Power Company's Renewable Energy Development Initiative program,[5]

[5] https://www.greenbiz.com/article/how-google-and-walmart-work-utilities-procure-clean-power

and Alabama Power Company's 72 MW solar farm in Alabama.[6] While Walmart assisted in developing these opportunities, the opportunities are open to other interested large customers, not just Walmart.

Purpose of Testimony and Summary of Recommendations

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. Pursuant to Sections 366.076(1) and 366.06(3), Florida Statutes ("F.S.") and Rules 28-106.201, 25-9.004 and 25-9.033, Florida Administrative Code ("F.A.C."), DEF petitioned the Commission for a limited proceeding to approve its Clean Energy Connection ("CEC") Program and accompanying Tariff and Stipulation.[7] The purpose of my testimony in this proceeding is to explain Walmart's support for DEF's proposed CEC Program, as evidenced by the Stipulation[8] entered into among DEF, Walmart, Vote Solar, and Southern Alliance for Clean Energy ("SACE").

Q. PLEASE SUMMARIZE WALMART'S RECOMMENDATIONS TO THE COMMISSION.

A. Walmart's recommendations to the Commission are as follows:

1) Walmart recommends that the Commission consider the issues raised among the parties to the Stipulation regarding the public, environmental, and low-income interests served by DEC's proposed CEC Program, including specific enhancements

[6] http://www.alabamanewscenter.com/2018/01/02/chambers-county-solar-project-now-serving-alabama-power-customers/

[7] *See* Duke Energy Florida, LLC's Petition for a Limited Proceeding to Approve Clean Energy Connection Program and Tariff and Stipulation, Docket No. 20200176-EI, filed July 1, 2020 (hereinafter, "Petition").

[8] Stipulation attached to DEF's Petition as Exhibit A.

to the CEC Program outlined below, as well as the similarities between DEF's proposed voluntary community solar CEC Program and SolarTogether from FPL, approved by the Commission earlier this year, as set forth below.

2) Walmart recommends that the Commission approves DEF's CEC Program as outlined in its July 1, 2020 Petition, Tariff, and Stipulation as a fair, just, and reasonable compromise among the parties to the Stipulation and further, that it is in the public interest.

Q. DOES THE FACT THAT YOU MAY NOT ADDRESS AN ISSUE OR POSITION ADVOCATED BY DEF INDICATE WALMART'S SUPPORT?

A. No. The fact that an issue is not addressed herein should not be construed as an endorsement of, agreement with, or consent to any filed position.

General Description of DEC's Proposed CEC Program

Q. CAN YOU PROVIDE A GENERAL DESCRIPTION OF DEF'S PROPOSED CEC PROGRAM?

A. Yes. Key aspects of the proposed CEC Program are as follows:

1) DEF's new CEC Program is a voluntary community solar program that allows participating customers to pay a subscription fee in exchange for receiving bill credits related to the solar generation produced by the CEC Program solar facilities.[9]

[9] *See* Petition at 1.

2) DEF is proposing to build ten 74.9 megawatt ("MW") solar farms, totaling approximately 750 MW.[10] The first two projects will come online January 2022, the next four come online in January 2023, and the final four come online in January 2024.[11] These solar resources are cost-effective and are projected to create net system savings of approximately $533 million.[12]

3) The Program's $533 million in projected savings are allocated so that 12.7% flow to participants and 87.3% flow to the general body of DEF customers.[13]

Stipulation by DEF, Walmart, SACE, and Vote Solar in This Docket

Q. WHAT IS YOUR UNDERSTANDING OF THE STIPULATION DEF ENTERED INTO AMONG DEF, WALMART, SACE, AND VOTE SOLAR?

A. In advance of DEF's filing, the parties to the Stipulation engaged in discussions with DEF in order to secure improvements to the planned CEC Program and Tariff. DEF and the Counterparties entered into this Stipulation in compromise of positions they have taken and/or intend to take with respect to their rights and interests under Chapters 350, 366 and 120, Florida Statutes, as applicable, in regards to the CEC Program. It is my understanding that the Stipulation enhances the proposed CEC Program in the following ways:

[10] *See id.* at 4.
[11] *Id*.
[12] *Id*.
[13] *Id*. at Exhibit A, p. 5.

1) The Stipulation secures a separate capacity allocation for local government customers that need longer lead time to enroll in community solar offerings.[14]
2) In the Stipulation, DEF agreed to retire the RECs on behalf of all participants unless the participant requests DEF to move the RECs associated with their subscription to an account in their name. DEF will also provide an attestation, at customer request, for the amount of RECs that were retired on the customer's behalf. DEF will not utilize RECs associated with CEC Program subscriptions.[15]
3) The Stipulation includes commitments from DEF to gather information from the CEC Program to evaluate future deferment of planned gas infrastructure, to collect and share data with stakeholders on customers' own investments in solar photovoltaics ("PVs"), to utilize a competitive solicitation process in its development of the solar resources, and to conduct an analysis of a potential future add-on program mobilizing battery storage paired with on-site solar for back-up power at critical loads.[16]
4) The Stipulation contains significant benefits for low income subscribers, including a capacity set-aside that will create immediate savings for these customers, a "hold harmless" provision to ensure low income customers' bills do not increase because of enrollment, co-marketing of the Program with existing energy

[14] Stipulation, ¶ 1(d)(1), at 3.
[15] *Id.*, ¶ 1(h), at 4.
[16] *Id.*, ¶¶ 4-6, at 6-7; ¶ 9, at 8-9.

efficiency programs, and open enrollment regardless of a customer's arrearage status.[17]

Consideration of Other Voluntary Community Solar Programs

Q. HAS WALMART SUPPORTED OTHER PROGRAMS SIMILAR TO DEF'S PROPOSED CEC PROGRAM?

A. Yes.

Q. PLEASE EXPLAIN.

A. On March 13, 2019, FPL filed a Petition in Docket 20190061-EI, requesting approval of its SolarTogether proposal and associated Rate Schedule STR, which allowed customers to subscribe to a portion of new solar capacity built through the program.[18] In return, participating FPL customers receive a credit for the portion of system savings produced by that solar capacity.[19]

Q. WHAT ARE THE PROGRAM SIZE AND CAPACITY ALLOCATION?

A. The program size (Phase 1) is 1,490 MW, consisting of 20 individual solar power plants sized at 74.5 MW each. The 1,490 MW capacity is allocated 75 percent (1,117.5 MW) to commercial, industrial, and governmental customers and 25 percent (372.5 MW) to residential and small business.[20]

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[17] *Id.,* ¶ 1(c), at 2-3.
[18] *Petition for approval of FPL SolarTogether program and tariff, by Florida Power & Light Company*, Final Order Approving Stipulation and Settlement Agreement, Order No. PSC-2020-0084-S-EI (entered Mar. 20, 2020) ("Commission Decision in Docket 20190061-EI") at 2.
[19] *Id.*
[20] *Id.* at 3.

Q. DID FPL, WALMART, AND OTHER PARTIES A FILE SETTLEMENT AGREEMENT IN THE DOCKET?

A. Yes. On October 9, 2019, FPL, SACE, Walmart, and Vote Solar (collectively, "Settling Parties) filed a Joint Motion to Approve Settlement ("Joint Motion") and proposed Settlement Agreement ("Settlement Agreement"), attached to the Joint Motion as Exhibit A.[21] The proposed Settlement Agreement included certain modifications to SolarTogether outlined in FPL's March 13, 2019 Petition.[22] On December 5, 2019, FPL filed a Notice of Superseding Proposed Tariff that confirmed that the SolarTogether Settlement Tariff (Tariff Sheet Nos. 8.932-8.934) submitted on October 9, 2019, with the Settlement Agreement is the Tariff supported by the Settling Parties.[23]

Q. WHEN DID THE COMMISSION APPROVE SOLARTOGETHER?

A. Following a January 14-15, 2020 Hearing, the Commission entered an Order on March 20, 2020, granting the motion to approve the Stipulation and Settlement and Tariff STR, filed on October 9, 2019. SolarTogether and Tariff STR became effective on March 20, 2020.[24]

[21] *Id.*
[22] *Id.* These modifications included the following: (1) FPL will allocate 37.5 MW of the Program to capacity for low income customers, and (2) "the cost of the low income component will be covered by the Program participants through the pricing set forth in Tariff STR." Joint Motion at 3. Further, the Settlement Agreement favorably addresses REC treatment. Settlement Agreement at ¶ 3(f), at 3.
[23] Commission Decision in Docket 20190061-EI at 3.
[24] Commission Decision in Docket 20190061-EI at 5. ("We find that the Settlement Agreement establishes rates that are fair, just, and reasonable, is supported by the record evidence, and is in the public interest, and we hereby approve it.")

Recommendation and Conclusion

Q. WHAT IS WALMART'S RECOMMENDATION IN THIS DOCKET?

A. Walmart believes that the parties' Stipulation in this Docket represents a fair, just, and reasonable resolution of issues that otherwise would have been litigated in this proceeding, and that DEF's CEC Program, Tariff and Stipulation are in the public interest. Walmart respectfully requests that the Commission approve the CEC Program, Tariff, and Stipulation as submitted by DEF on July 1, 2020.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

BY MR. NAUM:

Q Mr. Chriss, did you have Exhibits SWC-1 and SWC-2 prepared under your direction and supervision?

A Yes.

Q Do you have any changes to your exhibits?

A No.

MR. NAUM: And for the court reporter, Mr. Chriss' Exhibits SWC-1 and SWC-2 are identified as Exhibits 10 and 11 respectively on Staff's Comprehensive Exhibit List.

BY MR. NAUM:

Q Mr. Chriss, have you prepared a summary of your direct testimony?

A Yes.

Q And will you provide that summary, please?

A Sure.

Good morning, Chairman Clark and Commissioners. My name is Steve W. Chriss, and I am Director of Energy Services for Walmart, Inc.

The purpose of my testimony in this docket is to explain Walmart's support for Duke Energy -- excuse me -- Florida's proposed Clean Energy Connection Program as evidenced by the stipulation entered into among Duke Energy Florida, Walmart, Vote Solar and the Southern Alliance for Clean Energy.

Walmart has long had aggressive and significant company-wide renewable energy goals, and on September 21st, 2020, we announced new targets including, one, to be supplied 100 percent renewable energy by 2035, and two, zero carbon emissions in our operations, including our transportation fleet vehicles, without the use of offsets by 2040. We have also set a goal to transition to low impact refrigerants for cooling and electric equipment for heating by 2040.

Duke's proposed Clean Energy Connection Program, if approved, will help us move closer to meeting these goals in Florida.

Walmart provides two recommendations to the Commission.

First, that the Commission consider the issues raised amongst the parties to the stipulation regarding the public environment -- environmental and low-income interests served by Duke's proposed CEC Program, including specific enhancements outlined in my testimony, as well as the similarities between Duke's proposed CEC Program and SolarTogether from FPL approved by the Commission earlier this year.

Second, that the Commission approve Duke's CEC Program as outlined in its July 1st, 2020 petition, tariff and stipulation as a fair, just and reasonable

compromise amongst the parties to the stipulation, and further, that it is in the public interest.

This concludes my testimony summary.

Q Thank you, Mr. Chriss.

MR. NAUM: Mr. Chairman, Mr. Chriss is available for cross-examination.

CHAIRMAN CLARK: All right. Thank you very much.

Mr. Marshall.

EXAMINATION

BY MR. MARSHALL:

Q Good morning, Mr. Chriss.

A Good morning.

Q It's your testimony that this program is in the public interest?

A That's correct.

Q Wouldn't it be in the public interest to save the general body of ratepayers $300 million?

A That's a number without context, so I'm not sure exactly what question you are asking.

Q Well, let me ask it this way: Isn't it true that building the same solar panels as proposed here, but without the subscription model, would save the general body of ratepayers over $300 million?

MR. NAUM: Objection, Your Honor. This

question is outside of the scope of Mr. Chriss' testimony.

CHAIRMAN CLARK: I tend to agree. That's a question, I think, more for Duke than it is for Mr. Chriss.

BY MR. MARSHALL:

Q Well, if I could just clarify. Mr. Chriss, are you saying you are not familiar with those numbers?

A First, I am not sure what number you are referring to in terms specifically to the $300 million, so you would need to provide background for that.

Q Well, let me ask it this way: Do you know how much the bill credits over the life of the program net when considering the subscription fees are costing the general body of customers of Duke?

A Again, if you could provide context or something -- point to an exhibit. I mean, there are a number of exhibits in this docket that provide various numbers. So if there is something you want me to look at and respond to, I am happy to do that.

Q Sure. If you could look at Exhibit 8, also known as TGF-1?

A Okay.

Q And if you look at any nominal column, isn't it true that the participants' net distribution over the

life of the program is $290.6 million?

MR. NAUM: Mr. Chairman, I am going to object again. This continues to be outside of the scope of Mr. Chriss' testimony. If this question needed to be asked of that witness, it should have been asked of that witness.

CHAIRMAN CLARK: I tend to agree.

Mr. Chriss, if he knows the answer, certainly may give the answer, but it doesn't seem to be his area of testimony, Mr. Marshall.

MR. MARSHALL: And that's what we are just trying to establish here, is Mr. Chriss familiar with these numbers or not. And if he is not, that's fine. But it goes to his testimony and his opinion that this is in the public interest.

BY MR. MARSHALL:

Q Mr. Chriss, are you familiar with these numbers?

A I am familiar with Exhibit TGF-1, yes.

Q Okay. And so it's true, then, that the net cost to the general body of ratepayers of between the subscription fees and the bill credits over the life of the program is 290.6 million?

A That's correct, from TGF-1.

Q And then the program administrative costs, you

know, in the second row, nominal over the course of the program is 16.8 million?

A That's correct. That's what's shown in the exhibit.

Q And added together, that's over $300 million?

A Yes, however, that is, you know, just the cost side of it. The exhibit also lays out a number of benefits as well.

Q Walmart is a customer of Duke Energy?

A That's correct.

Q And --

COMMISSIONER BROWN: Mr. Chairman?

CHAIRMAN CLARK: Yes, Commissioner Brown.

COMMISSIONER BROWN: I am having a tremendously hard time hearing both Mr. Marshall and Mr. Chriss. I don't know if it's just me, but it appears they keep breaking up a little bit.

CHAIRMAN CLARK: I agree, Commissioner Brown. I am having the same problem. I can hear you, your volume is fine --

COMMISSIONER BROWN: I just want to confirm --

CHAIRMAN CLARK: You are breaking up. It's a latency issue, I think. You are going to just need to speak clearly, slowly and straight into your microphone, please.

MR. MARSHALL: I will try to speak a little slower and a little more clearly, and hopefully that will help us through.

BY MR. MARSHALL:

Q Mr. Chriss, Walmart was one of the large customers that Mr. Huber referred to that had a demand for a program like this, is that right?

A That's correct.

Q And so Walmart was part of the informal conversation that Mr. Huber described in helping develop this program?

A That's correct.

Q And Walmart signed the stipulation that is before the Commission?

A That's correct.

Q If I could direct your attention to your direct testimony, page seven, lines five through seven.

A Okay.

Q It's your testimony that the stipulation is a fair, just and reasonable compromise among the parties to the stipulation?

A That's correct. That's what it says.

Q And so my question is, why was the stipulation a fair compromise?

A Because ultimately, it reflects the result of

arm's-length negotiations between the parties who were engaged in that, and result in what is ultimately, I think, a very good program, and one that is in the public interest.

Q Does the stipulation reduce the cost of the program to the general body of ratepayers?

MR. NAUM: Objection, Your Honor. This is an attempt to conduct discovery through cross-examination. This is outside of the scope of Mr. Chriss' testimony. Mr. Chriss testified as to the results of the stipulation, but this is outside of the scope of his testimony in an attempt to produce discovery.

MR. MARSHALL: If I may respond to that?

CHAIRMAN CLARK: Mr. Marshall.

MR. MARSHALL: Well, we just heard that the stipulation was a fair, just and reasonable compromise that resulted in a program that's in the public interest. It certainly seems that a fair question to ask is did the stipulation actually reduce the cost to the general body of ratepayers, and ask what the benefits are in the stipulation to the general body of ratepayers.

CHAIRMAN CLARK: Ms. Cibula, can you --

MR. NAUM: If Mr. Marshall can point to some

evidence of what the original proposal was, then that would be fine, but this is outside of the scope of Mr. Chriss' testimony.

CHAIRMAN CLARK: I do tend to agree. Mr. Chriss' testimony is relative to Walmart. It's not relative to the effects on the other ratepayers. As a result of where Walmart's negotiations led, I think that's more in line. Just tighten it up a little bit, Mr. Marshall.

BY MR. MARSHALL:

Q Well, let me ask it this way: So when you testified that the program is in the public interest, are you not considering the impact on the general body of ratepayers?

A So that takes that into consideration. I think this program, like any long-lived -- or long-lived utility resource really needs to be looked at as a whole and over the term of the program, and with all of its constituent parts. And so as I mentioned earlier, TGF-1 does, you know, point out the costs, but it also points out the benefits. And the Commission really needs to look at the 30-year part of it and make its determination based on that.

Both for participants and non participants, there are years that may be positive, there are years

that may be negative, and there are going to be factors that influence that in any one year. But ultimately, over the course of the 30 years, the projections that, you know, I understand Duke to have make per this exhibit are that there will be net benefit both to all customers as well as participating customers, who are also in that body of all customers.

Q But it is not your testimony, then, that the stipulation resulted in improvements for the general body of ratepayers over what had been proposed?

A There are pieces -- there are specific items that I point to in my testimony that, perhaps through deduction, could be determined that way. The problem is with the question that you are asking is that you are asking for information that hasn't been entered into the record, and really is covered under the protections of the negotiation process or the settlement process, and so there is not really an answer I can give you without violating that myself.

Q You do testify on page eight of your testimony, lines 12 through 13, that Walmart engaged in discussions with Duke in order to secure improvements to the plan Clean Energy Connection Program and Tariff?

MR. NAUM: Objection, Your Honor.

First, there is no question stated there. And

second, if this is a question intended to reach to the nature of those discussions, again, this is improper discovery through cross-examination, and it is improper discovery of issues that the Commission has already declared to be improper for recovery through the discovery process.

The Commission has already found that the nature of these discussions are protected under Florida law, and we would ask that the Commission not deviate from that decision.

CHAIRMAN CLARK: Mr. Marshall.

MR. MARSHALL: If I may respond, yes.

So the issue that we have here is that Mr. Chriss is testifying that they entered into these discussions, made these improvements and resulted in a stipulation that's in the public interest. And now we are being told we are not allowed to inquire as to whether those improvements were actually in the public interest as Mr. Chriss is being -- is testifying to.

And we also strenuously disagree that the law cited in the -- in the order that Mr. Naum cited somehow precludes this inquiry. I mean, the evidentiary code at issue Florida Statute, Section 90.408, is explicitly limited to the liability

context and the decision cited, Saleeby from the Florida Supreme Court, is a liability case. There is nothing in the Saleeby that would -- which, by the way, dealt with a secret settlement dismissing a defendant in a liability case -- that would preclude examination of a settlement in a case that's public, where not only is the settlement not secret, it is actually central to the case here.

And so if -- and even if that wasn't true, Mr. Chriss has testified that that process that resulted in that settlement was a process where they compromised their position; was a process that resulted in improvements to the program; and it was a process that was a fair, just and reasonable compromise. If that process is not -- is completely precluded from being testified about, then I have to question why that is in Mr. Chriss' testimony.

MR. REHWINKEL: Mr. Chairman?

CHAIRMAN CLARK: Mr. Rehwinkel.

MR. REHWINKEL: May I be heard?

CHAIRMAN CLARK: Yes.

MR. REHWINKEL: Yesterday morning, I cited Section 120.57(1)(b), which says: All parties shall have an opportunity to respond, to present

evidence and argument on all issues involved, to conduct cross-examination, et cetera.

If Mr. Chriss' testimony on lines 12 and 13, and the ensuing testimony, is not subject to cross-examination, then the testimony should be stricken.

And from the Public Counsel's standpoint, and our purpose in this docket is that we are charged and empowered by the Legislature to represent the public interest. And to us, the public interest involves not only the issue, the big PI issue that the Commission is addressing, but the broader one, which is the fairness and the conduct of these proceedings.

And we believe -- no offense to Walmart. We are not against Walmart's position in this case, but testimony ought to be subject to cross-examination, and if it's not, it should not be entered into the record.

MR. NAUM: Mr. Chairman, I would submit, on behalf of Walmart, that Mr. Chriss testified in his prepared direct testimony the nature of the improvements that resulted from the discussions that produced the stipulation. The discussion of those improvements are provided on page nine of his

testimony.

If counsel for LULAC would like to ask questions about those improvements and how they reflect Walmart's compromise of position, Walmart believes that would be appropriate. But regarding the conduct of confidential settlement discussion, Walmart maintains that the Commission properly ruled that those discussions, and the conduct of those discussions, is protected under Florida law.

And the principles that govern the case cited by the Commission in its order, Walmart submits, apply equally to the discussions pertaining to settlements before the Commission.

There is no standard of adversity that LULAC has demonstrated that Walmart must show in order to protect those conversations. And if that were the standard, then Walmart is concerned that all settlements that appear before the Commission would then be subject to discovery cross-examination on issues and questions that parties engaged in those discussions believed at the time to be confidential and sensitive information.

So again, we would suggest that if there are questions about the improvements that resulted from those discussions, Mr. Chriss has testified to

that.

CHAIRMAN CLARK: Okay.

MR. NAUM: If the alternative is that references to those discussions must be stricken from the testimony, then Walmart would accept that, but Walmart is not interested in revealing confidential information unless ordered to do so.

CHAIRMAN CLARK: Let me just give a little bit of clarification.

It's my understanding, and my belief, that the discussions that go on in the settlement agreement are contained inside that black box we don't get to look in. I have never had the privilege of looking in and finding out that information. I certainly believe that is a valuable part of the negotiations that go on. Whatever arrangements are worked out in there, and what whatever is stipulated to inside those negotiations, I do believe is confidential.

I do believe that the results that come out of the settlement agreement are certainly subject to examination. I am going to get Ms. Cibula's opinion on this before I make a final decision.

MS. CIBULA: I agree with you. The issue in front of the Commission is the settlement agreement presented to the Commission, and prior discussions

as to how they arrived at that agreement are not relevant, and they should be protected. So I don't think they should be included.

And just because they made a statement that they engaged in discussions, I don't believe it opens up the scope of cross-examination in this case.

CHAIRMAN CLARK: That's pretty much where I was coming from as well. So we are going to stick with that decision.

So let's stay away from discussions that occurred inside of the settlement agreement. Mr. Marshall, you can ask anything that is a result of the settlement agreement, what came out of it, but we won't be digging into the agreement itself.

MR. REHWINKEL: Mr. Chairman, may I ask, did you rule that he can use the word "improvements" and it can stay in?

CHAIRMAN CLARK: In terms of -- I am sorry, Mr. Rehwinkel, I don't understand the question.

MR. REHWINKEL: Well, my point is, if he wants to present results of the negotiations, from the Public Counsel's standpoint, that's okay, but to characterize them as improvements. That is the term that is tautologically a relative term. It is

from here to here is an improvement. So Mr. Marshall is not allowed to ask about here, my top hand. He can only ask about here, the bottom hand. But to say that there was an improvement without saying against what, it -- I think it's improper for it to be characterized as an improvement.

CHAIRMAN CLARK: All right. And maybe that was a bad choice of words on my part, Mr. Rehwinkel. I probably should not have said improvements. But you may -- you may ask questions about the results of the settlement, not necessarily improvements. I -- that would be a bad on my part.

MR. NAUM: If I may, Mr. Chairman.

Improvement is a word that Mr. Chriss included in his testimony, and then he provides a description of four specific improvements on page nine. And I believe that that scope is perfectly appropriate for cross-examination, but anything that exceeds that would still be subject to confidentiality.

CHAIRMAN CLARK: It's not -- it's not that difficult of a concept for me to understand that going into a settlement, going into negotiations, your bill would be X number of dollars, as a result

of negotiations, your bill is X minus three. Certainly, the X minus three portion is something that could be discussed, but how you came to that is what we are trying to avoid opening up the terms inside the settlement agreement. Your negotiations are confidential. They are your business, and we will not get into -- inside that box.

Do I need to be any more clear?

MR. MARSHALL: I think I understand your ruling, Mr. Chairman. If we cross the line, please let me know. And just for the record, we do disagree just in case we need to appeal --

CHAIRMAN CLARK: Noted.

MR. MARSHALL: -- but I think I understand your ruling and will try to stick to it.

CHAIRMAN CLARK: Thank you.

BY MR. MARSHALL:

Q All right. So let me -- Mr. Chriss, let me ask you about those improvements that we have just been talking about.

Did any of the improvements that you just discussed in your testimony reduce the costs to the general body of ratepayers?

A So the improvements discussed don't touch on the cost of the program relative to what Duke had

proposed.

Q And did any of the improvements that you discussed in your testimony change the allocation of risk if Duke's estimates regarding program benefits are incorrect?

A To the general body of customers, no. However, I do mention the capacity set aside in the hold harmless provisions for low-income customers.

Q If I could direct your attention to Exhibit LULAC 45, and I believe this would be marked as Exhibit 30?

(Whereupon, Exhibit No. 30 was marked for identification.)

THE WITNESS: So just for clarification, this would be in the cross-examination exhibits folder under LULAC, and it would be LULAC 45?

BY MR. MARSHALL:

Q Yes. Thank you.

A Okay. My computer is backlogging on me. I am sorry. I have clicked on it to download. There, okay.

Okay, I have opened the document.

Q And this document is Walmart's interrogatory responses to LULAC's interrogatories?

A That's correct.

Q And if I could direct your attention to the

response to Interrogatory 3 on page four of the exhibit?

A I am there.

Q Over the last four years, Walmart's energy purchases from Duke have been greater than 290 million kilowatt hours?

A With the exception of 2015, yes.

Q And I believe you just said that, that Walmart has preregistered to participate in the Clean Energy Connection Program. Isn't it true that Walmart subscription size is just below 85 megawatts?

MR. NAUM: Objection, Your Honor. This is an attempt to obtain discovery through cross-examination.

MR. MARSHALL: This is not discovery. It's a simple question as to the subscription size.

CHAIRMAN CLARK: I am confused as to whether or not the initial subscription size was listed anywhere. Ms. Cibula, do you know?

MS. CIBULA: If you could maybe point us to the testimony he is referring to, that would be helpful.

CHAIRMAN CLARK: Mr. Chriss, anywhere in your testimony do you discuss the size increment block that Walmart has purchased or negotiated?

THE WITNESS: No.

CHAIRMAN CLARK: I'm sorry, did you say no?

THE WITNESS: That's correct. We did not.

CHAIRMAN CLARK: Mr. Naum, are you claiming that's confidential as of this time?

MR. NAUM: My point, Your Honor, is that this is outside of the scope of Mr. Chriss' testimony. I would suggest that this is confidential.

MR. MARSHALL: As to the scope of his testimony, the subscription size goes to how much money Walmart stands to make from this program, which goes to the bias and credibility of Walmart's witness here, and their testimony that this program is in the public interest.

And as to it being confidential, we already have established that there is one customer, one commercial customer that has subscribed to the program that has over 290 million kilowatt hours of energy usage. And Walmart has just testified that they are, indeed, subscribed to the program, and have over 290 million kilowatt hours of usage, and we know that only one customer has 84.9 megawatts of a subscription.

MR. NAUM: Your Honor, I maintain the objection. LULAC is free to make whatever argument they want to in their post-hearing brief as to what

that is, but Walmart's actual subscription level is confidential.

CHAIRMAN CLARK: I will sustain the objection.

MR. MARSHALL: Mr. Chairman, could you please -- I am just trying to understand a little bit about the basis for the confidentiality.

CHAIRMAN CLARK: Well, first of all, Mr. Chriss does not describe the amount they have purchased anywhere in his testimony. They are arguing this is confidential, and so I have no reason not to believe that it's confidential information. It is something that they have negotiated at this point in time, and hasn't been disclosed.

Ms. Cibula, would you like to weigh in here?

MS. CIBULA: Yes. You ruled that it's outside the scope of his testimony, therefore, it's not relevant to his -- this witness.

MR. MARSHALL: Well, those are two very different rulings, Mr. Chairman. One is whether it's relevant, as in, does it go to the bias or credibility of the witness, and the second is whether it's confidential.

CHAIRMAN CLARK: We will go with it's outside of the scope of the witnesses' testimony, Mr.

Marshall.

MR. MARSHALL: Am I understanding your ruling that it's also outside the scope, and therefore, we would not be allowed to ask how much Walmart stands to make from this program?

CHAIRMAN CLARK: Again, I am --

MR. NAUM: I object to that line of questioning, Your Honor.

CHAIRMAN CLARK: I am sorry, say again, Mr. Naum.

MR. NAUM: I would certainly object to that line of questioning.

CHAIRMAN CLARK: Is it in -- is it inside his testimony anywhere?

MR. NAUM: It is not, Your Honor.

MR. MARSHALL: No, it's not, Mr. Chairman, but it goes to the witness' bias and credibility, which is always a relevant issue.

If Walmart stands to make $100 million or $1 million, or it stands to actually pay into the program, that makes a difference as to what is their bias and credibility here when they are testifying that it's in the public interest.

MR. NAUM: Your Honor, counsel for LULAC propounded discovery upon Walmart, question number

four, that asked this question as to the subscription size. Walmart objected to that discovery. LULAC filed a motion to compel. The Commission issued an order granting in part the motion to compel as it pertains to question four subject to a nondisclosure agreement between LULAC and Walmart. On or about the time that that order was issued, I contacted counsel for LULAC, who indicated that LULAC -- LULAC did not intend to enter into a nondisclosure agreement with Walmart.

To the extent that we need to continue with this line of questioning, and if the Commission deems this information to be appropriate and relevant to the subject of cross-examination, then we would need to move to an in camera session in order to protect that confidential information.

Any information that LULAC may have backed into as a result of that information which is public is still not part of the record in this case under Mr. Chriss' testimony, and Walmart maintains that it is confidential.

MR. REHWINKEL: Mr. Chairman?

CHAIRMAN CLARK: Mr. Rehwinkel.

MR. REHWINKEL: I just wanted to state that the Public Counsel asserts that Mr. Bradley -- Mr.

Marshall's statement about motivation or bias is relevant. The information does not have to be squarely within the four corners of the testimony because bias is always a relevant issue. How much weight it's given is another matter, but we believe it's a proper area of inquiry.

Thank you.

CHAIRMAN CLARK: And I can appreciate where you are trying to go with this. I am trying to protect what I believe could be confidential information. I have read the testimony, and about every fifth line refers to confidential information, so I am trying my best not to tread on that line.

I am also trying to determine whether or not the information is really and truly necessary to draw the conclusion, I think, that you are trying to get to, Mr. Marshall, which is something that is outside of the box. I think you can get there without having to have this specific information.

But here's what we are going to do. I am going to take a three-minute recess. I want to have a conversation with counsel for just a moment, and I will get back with some clear instructions in just a minute.

Thank you.

MR. MARSHALL: Thank you.

(Brief recess.)

CHAIRMAN CLARK: All right. Do we have everybody back? We are missing Commissioner Polmann. Everybody but Commissioner Polmann. There he is. Got you, Doc.

Okay. I think that some valid points were made here. I think that there are several things that we can and can't get into. I have consulted with staff on a couple of issues.

I am going ask Mr. Stiller, if he would, to help frame the discussion and the direction that I want to see us go, and then I want to ask Ms. Cibula to make any comments she would like to make before I issue the ruling.

Mr. Stiller.

MR. STILLER: Yes, Mr. Chair.

In reviewing the docket, Walmart indicated in their response to the motion to compel that an NDA on this information was offered earlier and they were not able to successfully negotiate that with LULAC. And again, the information was subject to a motion and order on the motion to compel this week. And again, that -- the NDA alternative to address

the confidential information was offered and not accepted.

I am looking through the docket, and I do not see that Mr. Chriss was noticed for deposition, so I just wanted to set the stage on discovery of these issues for you, Mr. Chair.

CHAIRMAN CLARK: Thank you.

Ms. Cibula.

MS. CIBULA: I agree with Mr. Stiller in regard to that. Again, it needs to be within the scope of his testimony, and we cannot go into confidential information, especially since these issues weren't raised prior to the hearing and we are not in a posture right now to talking about confidentiality motions and --

MR. REHWINKEL: Mr. Chairman, I can't -- I cannot hear. Ms. Cibula is going in and out.

CHAIRMAN CLARK: All right.

MS. CIBULA: I said, I agree with Mr. Stiller. In addition to that, we have to make sure that the cross-examination stays within the scope of the witness' testimony. And also, since there seems like there was an opportunity to resolve this confidentiality issue before the hearing and it wasn't taken, we are not in the posture at this

point to address confidential information.

CHAIRMAN CLARK: Thank you, Ms. Cibula.

I will recognize Mr. Rehwinkel's point in terms of the credibility of the witness. And, Mr. Marshall, you are certainly entitled to go into those areas as long as you don't get into the confidential quantitative information that is being claimed to be confidential.

All right. So the objection is sustained, and you may proceed, Mr. Marshall.

MR. MARSHALL: Thank you, Mr. Chairman.

BY MR. MARSHALL:

Q Walmart is a commercial customer of Duke, isn't it?

A That's correct.

Q And without saying a specific number, would it be fair to say that Walmart, over the life of the program, expects to financially benefit in the form of net bill credits from its participation in this program?

A So from a high level and using no numbers, the expectation is that over the horizon that we analyzed for participation in the program, as a base case, we would expect that there would be some benefit over that period. However, to the extent that the resource doesn't produce at the capacity factors assumed for the

base case, there is certainly the potential for there to be an overall cost.

And again, we look at this on a net present value basis across the period that we examine, not on a year-by-year basis. And then, you know, conversely, there is a high case where the system performs better than the base case, that benefit would be higher. But ultimately, from a very high level, and not saying any numbers, we certainly believe that -- or estimate, believe is the wrong word -- we've estimated that the program is likely to produce a relatively small benefit over the time, but a benefit.

Q And that relatively small benefit would be in the millions of dollars for Walmart, is that right?

MR. NAUM: Objection, Your Honor.

CHAIRMAN CLARK: Sustained.

BY MR. MARSHALL:

Q And that system performance that you were referring to, that is the capacity factor that Mr. Stout referred to yesterday, is that right?

A That's correct.

Q In addition to the net bill credits that Walmart expects to receive, Walmart will also have the opportunity to keep the renewable energy credits, is that right?

A That's correct.

Q And those renewable energy credits have value to Walmart?

A In order to be able to make claims about our renewable goals, we need to receive the renewable energy credits from any project or program that we are involved in.

Q And so as a result of participating in this program, Walmart will get to claim that it is making progress towards its sustainability goals, is that right?

A Yes.

Q And it is your testimony today that this program is in the public interest?

A Yes.

Q Thank you.

MR. MARSHALL: That's all my questions.

CHAIRMAN CLARK: Thank you, Mr. Marshall.

All right, Mr. Rehwinkel.

MR. REHWINKEL: Thank you, Mr. Chairman. Hopefully just a few.

EXAMINATION

BY MR. REHWINKEL:

Q Good morning, Mr. Chriss.

A Good morning.

Q On page eight of your testimony, on lines 10 and 11, if you could turn there?

A I am there.

Q Okay. The question on 10 and 11 asked: What is your understanding of the stipulation DEF entered into among DEF, Walmart, SACE and Vote Solar? Do you see that?

A I do.

Q Is the use of the word "understanding" because you did not participate in the negotiations personally?

MR. NAUM: Your Honor, I am going to object. Again, this goes to the conduct of our negotiations.

CHAIRMAN CLARK: Yeah, I don't see -- overruled. I think he can answer the question. Was he a participant in the negotiations or not?

THE WITNESS: So I participated in the negotiations, and "understanding" is just witness speak. That's how we phrase a lot of questions.

BY MR. REHWINKEL:

Q Okay. With regard to page nine, item one, with regard to the capacity allocation for local customers.

A I see it.

Q Is that something that Walmart was an advocate

for in the negotiations?

MR. NAUM: Objection, Your Honor.

CHAIRMAN CLARK: Sustained.

MR. REHWINKEL: I don't know what the objection is.

MR. NAUM: Again, it's the conduct of the settlement discussions.

MR. REHWINKEL: So I did not ask about what was said. I just asked if Walmart advocated for that.

MR. NAUM: I believe that's a distinction without a difference.

MR. REHWINKEL: So, Mr. Chairman, I can't ask that question?

CHAIRMAN CLARK: I sustained the objection.

MR. REHWINKEL: Okay. Mr. Chairman, I have no further questions. Thank you.

CHAIRMAN CLARK: Thank you, Mr. Rehwinkel.

All right. Mr. Moyle, FIPUG.

MR. MOYLE: FIPUG has no questions, Mr. Chair.

CHAIRMAN CLARK: All right. Mr. Naum.

All right. Let's move into staff questions, Mr. Stiller.

MR. STILLER: Staff has no questions of this witness.

CHAIRMAN CLARK: Commissioners?

No questions from Commissioners.

Redirect -- Commissioner Polmann, I am sorry.

COMMISSIONER POLMANN: Thank you, Mr. Chairman.

Good morning, Mr. Chriss.

THE WITNESS: Good morning, Commissioner.

COMMISSIONER POLMANN: Can you hear me okay?

THE WITNESS: I can.

COMMISSIONER POLMANN: Thank you for your testimony. Very good.

There has been a lot of discussion here concerning public interest. A point of clarification in your testimony, I have been going through that trying to follow along here.

If you can clarify for me the components, if you will, and maybe that's -- what I mean is in regard to your testimony, what parts of the program from Walmart's perspective are in the public interest?

THE WITNESS: So that's a good question, and I will -- I will attempt to walk through this in an order that makes sense, so please feel free to stop me and ask clarifying questions as I go.

First overall, I mean, we think the program,

as a whole, is in the public interest. And that's a combination of the opportunities and risks taken on by the customers. It's how it's treated across the term of the program for nonparticipants. And then as we get into the actual functioning and operation of the program, there are some really interesting aspects of it that really reflect, I think, a smart balance between creating opportunities for all customers, but having structures that, you know, still try and reflect in the best way possible within Florida regulatory structures to represent underlying costs and benefits.

You know, the Duke program, and then FPL SolarTogether before it, are still fairly unique nationally in terms of who you programs are structured. You know, the only other program that Walmart participate in that has opportunity and access for all customer classes is Xcel's Renewable Connect Program in Colorado. And that's a 50-megawatt program, and that's for 50 megawatts for all participants. And this is a far larger program and a far greater opportunity for all customer classes.

The Florida programs are unique in that they

provide the low-income opportunities. That's one that's really a unique and, I think, very positive characteristic of the Duke program, and then SolarTogether before it as well, and, you know, really drives an opportunity for low-income customers to access renewables.

The other pieces of it that are -- that I think really help to drive the public interest determination are that it's a program that really is responsive and -- I am sorry, somebody is Zoom calling me -- it's responsive and flexible to meet the needs of customers as they work through times like the pandemic.

Most programs require some sort of long-term commitment, usually at least 10 years. This program, you know, has a month-to-month opportunity for it so that if a customer does have financial difficulties, or has trouble, they can drop.

Obviously, the cost of dropping is that if you reenter the program, you restart on the credit schedule. So if you are on and off, on and off, you will never see a bill benefit from it. The bill benefit really comes if you, as a customer, you know, can stay on for long periods of time. And so, it's, you know -- so that's a real unique

piece of it.

One of the things that has come up through discussions with my counterparts of other retailers during the pandemic is, you know, a lot of them had to shut down operations. They had to close buildings. You know, they had a lot of things come up that the way programs have been structured in other states, you know, over the past few years really wouldn't comport well with. Whereas, these programs really provide that flexibility, and really work through good times and bad.

So there is a lot of really cool aspects of the Duke program and, you know, the SolarTogether Program before it, that show leadership both from the utility as well as the Commission in approving the program.

And, you know, thinking about it this morning, if this program is approved, the Florida Commission will have approved 2,250 megawatts worth of customer facing programming, which is far greater than any other state in the country at this point.

So I think there is a lot of good that comes from approval of this program, both for customers that are partici-- customers that participate, customers who do not participate, for the Florida

environment, for the development of solar, and really moving the grid towards a decarbonized state, which is one of our goals.

COMMISSIONER POLMANN: Thank you, Mr. Chriss. I appreciate the thoroughness of your answer. I got more than I -- than I expected, so very thorough.

I think there is at least a couple of places in your testimony where you use this term public interest, and I may not see all of them, but you put this term in the context of Walmart recommends Commission approval. I see one instance on page seven -- at page seven in your direct testimony, but then in particular, your conclusion at page 12, Walmart believes, and I just want to be clear as to what you are testifying.

Is Walmart asserting that as a large customer, that your position on public interest carries some pick weight, or that you are entitled to judge the public interest? How should the Commission receive that?

THE WITNESS: So that's a good question.

I mean, ultimately, you know, when myself or other members of my team who appear as witnesses in Commission proceedings make recommendations to the

Commission, you know, ultimately, you know, we are -- obviously, we are advocating for our interest, but we are also looking to find positions that balance the needs of everyone on the system, as well as the utility and its shareholders. I mean, there is a lot of -- there is a lot of interest in a regulatory proceeding.

And so as we say that we recommend that the Commission find it's in the public interest, what we are saying is that we recommend that the Commission, upon examination of all of the evidence in the case, everything that's been presented, find that, as a whole, having this program, or a rate structure, or an ROE, anything within the context of the entire regulatory paradigm, having -- making this decision versus another decision means that all customers, the utility and its shareholders, and any other interest you wish to consider are better off.

That's -- so that's -- we are putting ourselves in your shoes in making the recommendation of what we would do were we in your shoes, if that makes sense.

MR. REHWINKEL: Mr. Chairman.

CHAIRMAN CLARK: Yes, Mr. Rehwinkel.

MR. REHWINKEL: I just want to note for the record, I fought to inquire about who advocated for what interest in the negotiations, and I was denied. And now when it serves the interest of the witness' party, he decides to talk about the interest that he is representing, and I think it's an improper one-way street, and I just want to note that for the record.

CHAIRMAN CLARK: Duly noted.

COMMISSIONER POLMANN: That's all I have, Mr. Chairman. Thank you.

CHAIRMAN CLARK: Thank you, Commissioner Polmann.

All right. Redirect, Mr. Naum?

MR. NAUM: Yes. Thank you, Mr. Chairman. Just a few real quick.

FURTHER EXAMINATION

BY MR. NAUM:

Q Mr. Chriss, on cross-examination, Mr. Marshall asked you some questions regarding the potential impact of this stipulation and tariff on members of the general body of ratepayers, do you recall that?

A I do.

Q Is Walmart a member of the general body of ratepayers?

A Yes.

Q Mr. Marshall also asked you some questions touching on the potential impact of whether the stipulation might lower the costs to the general body of ratepayers, do you recall that?

A Yes.

Q On page eight, I believe, of your testimony -- I apologize, it's page nine. On Item 3, you discuss a competitive solicitation process in the development -- in the development of solar resources. Do you see that? That's on lines 11 and 12.

A I do.

Q And, Mr. Chriss, all things being equal, if the stipulation did not include a competitive solicitation process, in your opinion, would this program cost the general body of ratepayers more money?

A Generally, yes.

Q Thank you.

And then last, Mr. Marshall asked you some questions about the retirement of RECs, and whether Walmart is able to count those RECs. Do you recall that line of questioning?

A I do.

Q And you confirmed on those questions that the inclusion of those REC allows Walmart to meet its

sustainability goals, do you recall that?

A Yes.

Q Mr. Chriss, in your opinion, does Walmart meeting its sustainability goals provide a benefit to the Florida public?

A Yes, because ultimately, you know, we are helping to deliver cleaner power to the grid overall. We are able to leverage our scale to help with that. And, yeah, it's definitely a benefit to the Florida public.

Q Great. Thank you.

MR. NAUM: That's all I have, Mr. Chairman.

And Walmart would move for the admission of Exhibits 10 and 11 into the record.

CHAIRMAN CLARK: All right. So ordered.

(Whereupon, Exhibit Nos. 10 & 11 were received into evidence.)

CHAIRMAN CLARK: I am sorry, Mr. Marshall, go ahead.

MR. MARSHALL: LULAC would like to move Exhibit No. -- hearing Exhibit No. 30 into the record.

CHAIRMAN CLARK: All right. So ordered.

(Whereupon, Exhibit No. 30 was received into evidence.)

CHAIRMAN CLARK: Any other exhibits?

MR. NAUM: And Mr -- excuse me, I am sorry. May Mr. Chriss be excused?

CHAIRMAN CLARK: Yes. Witness Chriss is excused. Thank you very much.

(Witness excused.)

CHAIRMAN CLARK: Staff, did you have exhibits? Is there anything else?

MR. STILLER: Nothing further. No.

CHAIRMAN CLARK: All right. The witness is excused.

All right. Let's get back into our order. I believe, Duke, you are up, and Mr. Borsch is your next witness.

MS. TRIPLETT: Yes, sir.

CHAIRMAN CLARK: Good morning, Ms. Triplett.

MS. TRIPLETT: Thank you. Good morning.

Whereupon,

BENJAMIN M.H. BORSCH

was called as a witness, having been previously duly sworn to speak the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

EXAMINATION

BY MS. TRIPLETT:

Q Will you please introduce yourself to the

Commission and provide your address?

A Yes.

Good morning. My name is Benjamin Borsch, and my work address is 2991st Avenue North, St. Petersburg, Florida.

Q And you were sworn yesterday, is that correct?

A Yes, I was.

Q Who do you work for, and what is your position?

A I work for Duke Energy. My position is the Director of Integrated Resource Planning & Analytics, and I am dedicated to work on DEF's systems.

Q And have you filed direct testimony in this proceeding?

A Yes, I have.

Q And do you have that prefiled direct testimony with you today?

A I do.

Q Do you have any changes to make?

A No, I do not.

Q If I asked you the same questions in your prefiled direct testimony today, would you give the same answers that are in your prefiled testimony?

A Yes.

MS. TRIPLETT: Mr. Chair, we request that the

prefiled direct testimony be entered into the record as though read.

CHAIRMAN CLARK: So ordered.

MS. TRIPLETT: Thank you.

(Whereupon, prefiled direct testimony of Benjamin M.H. Borsch was inserted.)

IN RE: DUKE ENERGY FLORIDA, LLC'S PETITION FOR APPROVAL OF CLEAN ENERGY CONNECTION TARIFF AND PROGRAM

FPSC DOCKET NO. _____

DIRECT TESTIMONY OF BENJAMIN M. H. BORSCH

JULY 1, 2020

Q. Please state your name and business address.

A. My name is Benjamin M. H. Borsch. My business address is Duke Energy Florida, LLC, 299 1st Avenue North, St. Petersburg, Florida 33701.

Q. By whom are you employed and what is your position?

A. I am employed by Duke Energy Florida, LLC ("DEF" or the "Company") as the Director, IRP & Analytics.

Q. Please describe your duties and responsibilities in that position.

A. I am responsible for resource planning for DEF. I am responsible for directing the resource planning process in an integrated approach in order to find the most cost-effective alternatives to meet the Company's obligation to serve its customers in Florida. I oversee the completion of the Company's Ten-Year Site Plan ("TYSP") filed each April.

Q. Please describe your educational background and professional experience.

A. I received a Bachelor of Science and Engineering degree in Chemical Engineering from Princeton University. I joined Progress Energy in 2008 supporting the project management and construction department in the development of power plant projects. In 2009, I became Manager of Generation Resource Planning for Progress Energy Florida, and following the 2012 merger with Duke Energy Corporation, I accepted my current position. Prior to joining Progress Energy, I was employed for more than five years by Calpine Corporation where I was Manager (later Director) of Environmental Health and Safety for Calpine's Southeastern Region. In this capacity, I supported development and operations and oversaw permitting and compliance for several gas-fired power plant projects in nine states. I was also employed for more than eight years as an environmental consultant with projects including development, permitting, and compliance of power plants and transmission facilities. I am a professional engineer licensed in Florida and North Carolina.

Q. Please give an overview of the Company's presentation in this filing.

A. The Company is presenting testimony from four witnesses. My testimony will focus on the Company's demonstration of cost effectiveness for the Clean Energy Connection Program and Tariff ("CEC Program"). The testimony of Mr. Matthew G. Stout focuses on the assumed solar costs for the various solar projects that DEF is proposing to construct as part of the CEC Program. The testimony of Mr. Thomas G. Foster presents the financial modeling performed to calculate the subscription fees and bill credits associated with DEF's Clean Energy Connection Program ("CEC"). Finally, Mr. Lon Huber will provide details on the design and administration of the CEC Program, as

well as a summary of the discussions between DEF and its customers regarding the CEC Program.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present the results of the economic analysis which shows that DEF's proposed CEC Program, as described below, is cost effective. My testimony covers several areas. First, I briefly describe the CEC Program. Second, I discuss the major assumptions and methodology used to perform the economic analysis. Third, I present the results of the economic analysis, demonstrating that the addition of the proposed 749 MW of solar projects is cost effective.

Q. Are you presenting exhibits in this proceeding?

A. Yes. They consist of the following exhibits which are attached to my testimony:

Exhibit No. __ (BMHB-1), "Load Forecast;"

Exhibit No. __ (BMHB-2), "Fuel Forecasts;"

Exhibit No. __ (BMHB-3), "Cost Effectiveness (CPVRR) Analysis Results;"

Exhibit No. __ (BMHB-4), "Resource Plans;" and

Exhibit No. __ (BMHB-5), "CPVRR"

These exhibits are true and accurate.

Q. Please summarize your testimony.

A. The proposed CEC program involves the construction of 749 MW of PV solar generating facilities coming into service over a period of approximately 25 months,

between January 2022 and January 2024 to provide solar generation whose attributes will be assigned to customers participating in the program ("subscribers"). These facilities and their generation will also provide a benefit to all DEF customers through the reduction of system operating costs and fuel consumption. DEF performed an economic analysis and determined that the projects included in the CEC Program result in a reduction in the Cumulative Present Value Revenue Requirements ("CPVRR") to DEF customers for a total savings of approximately $533 million.

Q. Please describe the CEC Program DEF is presenting for approval.

A. DEF's CEC Program is planned to consist of ten separate solar projects, with a nameplate capacity of approximately 749 megawatts (MW) of universal solar generation. Each solar project is planned to be 74.9 MW with an assumed capacity factor of 28%. The first two projects are planned to come online in early 2022, while four additional projects will go in service in each year 2023 and 2024. Collectively, these projects will generate over 1.8 million MWhs per year or approximately 4% of DEF's projected Net Energy for Load in the 2024/25 timeframe.

Q. What will these proposed solar projects cost?

A. DEF anticipates that the 2022 projects will each cost approximately $113 million including approximately $10 million in transmission network upgrades. The 2023 projects are expected to cost approximately $106 million each including $10 million in network upgrades, while the 2024 projects are each projected to cost $102 million including $10 million in network upgrades. These costs translate to a per kW cost of

$1,372/kW_{ac}$ for the 2022 projects, $1,273/kW_{ac}$ for the 2023 projects, and $1,222/kW_{ac}$ for the 2024 projects before the network upgrades. The development of the costs is described in more detail in Mr. Stout's testimony.

Q. Are the proposed solar projects that make up the CEC Program cost effective?

A. Yes. As explained below, DEF analyzed the total system cost of the DEF system with the projects as compared to the total DEF system costs without the projects and found that the solar projects as proposed reduce the total system cost and are thus cost effective for DEF's customers.

Q. How did DEF evaluate the cost effectiveness of the solar projects?

A. DEF calculated the cost effectiveness in the same manner that it performs cost effectiveness evaluations of numerous projects including the development of the Ten-Year Site Plan and every Solar Base Rate Adjustment ("SoBRA") filing it has made pursuant to its 2017 Revised and Restated Stipulation and Settlement Agreement ("2017 Settlement"). DEF calculates the total system cost projected over the life of the solar projects for a scenario with the solar projects and compares it to the total system cost calculated for a scenario without the solar projects. Lower total system costs for the scenario with the solar projects represents savings to DEF's customers. As with our Ten-Year Site Plan, this analysis is performed using the Planning and Risk suite of modeling tools to evaluate the production cost results. Project specific capital costs come from the project development teams and revenue requirements are then developed. Finally, project specific solar performance projections are developed using

the PVSyst model and provided to the production cost model. These data become inputs to derive the system costs for the two cases developed with and without the solar projects in service.

In addition to the reference case, assuming the base case fuel price projection and a carbon emission cost beginning in 2025, DEF also performed sensitivities based on low and high fuel price projections. Results of these differential CPVRR analyses, the difference between with and without the solar projects are shown below and in Exhibit No. __ (BMBH-3). The fuel price forecasts are shown in Exhibit No. __ (BMHB-2) attached to this testimony.

Q. Please describe the major assumptions used in developing the CPVRR analyses.

A. Three major assumptions used in developing the CPVRR analyses are the forecast of DEF system energy and demand ("Load Forecast"), the forecast of future prices for natural gas, coal, and oil ("Fuel Forecast") and the forecast of price proxies for the costs associated with future greenhouse gas emissions reduction programs ("CO2 Emissions Price Forecast")

- Load Forecast – The analysis uses DEF's most recent official load forecast developed in the fall of 2019, which is presented as the base case load forecast in the DEF 2020 Ten-Year Site Plan ("TYSP") filed with the commission April 1, 2020. The load forecast was also used to support DEF's third and most recent filing for approval of SoBRA projects pursuant to the 2017 Settlement. This load forecast is attached as Exhibit No. __ (BMHB-1).
- Fuel Price Forecast – The reference case analyses use DEF's most recent published fuel price forecast also utilized in DEF's 2020 TYSP. The base case fuel price

forecast was developed using short-term and long-term spot market price projections from industry-recognized sources. The base cost for coal is based on the existing contracts and spot market coal prices and transportation arrangements between DEF and its various suppliers. For the longer term, the prices are based on a forecast of spot market prices reflective of expected market conditions. Oil and natural gas prices are estimated based on current and expected contracts and spot purchase arrangements as well as near-term and long-term market forecasts. Oil and natural gas commodity prices are driven primarily by open market forces of supply and demand. Natural gas firm transportation cost is determined primarily by pipeline tariff rates. For the low and high fuel price scenarios, DEF developed ranges of natural gas and coal prices around the reference forecast based on the range of prices seen in the Energy Information Administration's high price (Low Oil and Gas Resource and Technology Case) and low price (High Oil and Gas Resource and Technology Case) forecasts.

- CO_2 Emissions Price Forecast – The CO_2 allowance price projections used in this filing are also DEF's latest projections used in the development of the 2020 TYSP.

Q. What are the results of DEF's cost effectiveness evaluation for these projects?

A. DEF has found that the projects are cost effective for its customers. The total system costs calculated over the project lives when including the projects in the DEF resource plan are lower when compared to the total system costs excluding the projects. The net results of this analysis (system costs with the projects minus system costs without the projects) are summarized in the table below and in Exhibit No. __ (BMHB-3).

CPVRR Net Cost / (Savings) of Proposed Solar Projects
$ Millions (2020)

Low Fuel Sensitivity	Base Case Fuel	High Fuel Sensitivity
(404)	(533)	(831)

Q. Were these CPVRR benefits used to develop the Clean Energy Connection tariff?

A. Yes. Exhibit BMHB-5 provides a grouping of the CPVRR costs and benefits caused by the introduction of the Clean Energy Connection solar to the system in a way that ties to the way that costs and benefits were used to develop the tariff. The cost of the new solar, including the capital and associated costs along with the program administration costs are grouped together. The next grouping shows the capital and fixed cost savings associated with deferred conventional generation investment. These two groups of items totaled together are the CPVRR total that was used to develop the total CPVRR for the creation of the subscription fee as described in DEF Witness Foster's testimony. The third grouping shows the variable cost saving resulting from the operation of the solar units on the DEF system. The total CPVRR of these variable cost saving was used to develop the subscription credit as described in Mr. Foster's testimony. This provides a portion of the benefits from the energy, variable cost and emissions savings to the subscribers in a manner that supports the program while reserving the balance of these benefits to the general body of the customers.

Q. What are the primary drivers of the benefits to DEF customers?

A. The primary driver of the value to DEF customers is the savings in fuel, operating and maintenance costs and projected emissions costs primarily from reductions in CO2 emissions. DEF customers will also realize a significant benefit from the generating capacity associated with these solar facilities. The proposed addition of the Clean Energy Connection projects results in the deferral of the need for multiple gas fired peaking projects and the displacement of the need for 230 MW of gas fired peakers entirely along with deferral or displacement of the associated gas transportation. Operation of the proposed facilities displaces more than 51 million MWh of fossil fired generation over the life of the program.

Q. Please describe the resource plans used in this analysis.

A. The resulting plans are shown in Exhibit BMHB-4. The "No Clean Energy Connection Solar" shows a need for nine 225 MW (nominal) combustion turbines between 2026 and 2034. The Clean Energy Connection Solar plan shows a need for only seven combustion turbines over that same period. Over the 30-year evaluation, several turbines are deferred for multiple years and the total number of turbines is reduced by one. This change in the plan results in a savings in fixed costs, capital, gas reservations and fixed O&M of over $350 million measured in CPVRR. This also provides a qualitative benefit since in an era of evolving clean energy technology, opportunities to defer gas fired generation may bring opportunities to introduce other technologies in the future.

Q. How did DEF determine the firm capacity that these Centers will provide?

A. As DEF has done for its SoBRA facilities, firm capacity value for the projects is calculated based on the expected output of the solar facilities at the time of the DEF seasonal peaks in summer and winter. As outlined in DEF's 2020 TYSP, DEF assigns a firm summer capacity value of 57% of the facility nameplate AC rating for facilities with single axis tracking design as is contemplated for the solar plants to be built as a part of this program. DEF assigns no winter capacity value because the historical high DEF winter peaks have occurred in the early morning hours of January mornings when solar output is negligible.

Q. What benefits do the proposed solar facilities bring to DEF's system and customers?

A. The proposed DEF solar projects provide customers with the benefits of cost-effective, clean, renewable energy. These large-scale solar projects will diversify DEF's fuel mix with dependable emissions free energy, and provide firm summer capacity, helping to meet DEF's needs for future capacity and satisfy DEF's need for future generation capacity. The proposed projects are expected to reduce DEF's annual average use of natural gas by 11,000 million cubic feet along with over 7,000 tons per year of coal, reducing DEF's reliance on fossil fuels. Specific CEC program benefits are discussed more fully in the testimony of DEF Witness Huber.

Q. What effect will the Clean Energy Connection Program's solar projects have on the use of fossil fuels and the emission of greenhouse gases and other air emissions?

A. As explained above, these new solar projects will reduce the use of fossil fuels, and are therefore projected to reduce global warming gases, specifically CO_2, at an average rate of over 700,000 tons per year. In addition, DEF projects that the solar projects will result in reductions of SO_2 and NOx emissions by an annual average of 142 tons and 21 tons, respectively.

Q. Given all these benefits, does DEF have a need for these solar projects?

A. Yes. DEF has a need for cost-effective clean generation that will diversify its fuel mix and defer the need for future gas-fired generation. This is in addition to the customer desire for the CEC Program, which is described further in Mr. Huber's testimony. All DEF's customers will benefit from the addition of the solar projects proposed in the CEC Program.

Q. Does that conclude your testimony?

A. Yes.

MS. TRIPLETT: And in the interest of time, we are going to waive witness summary, so the witness is available for cross.

Thank you.

CHAIRMAN CLARK: All right. Mr. Marshall, your witness.

EXAMINATION

BY MR. MARSHALL:

Q Good morning, Mr. Borsch.

A Good morning.

Q Duke included carbon forecasting in calculating the economic benefits of its Clean Energy Connection Program?

A Yes.

Q But Duke doesn't know what the regulatory structure would look like to restrict carbon emissions?

A No, we don't.

Q Your standard carbon forecast is based on the assumptions of carbon emission reductions to have a goal of reaching net zero emissions by 2050?

A Yes.

Q The bill credits given to participants in the clean energy program do not change based on whether Duke's carbon pricing forecasts are realized?

A That's true.

Q But the Clean Energy Connection Program is expected to pass on savings to the general body of customers partially through the avoided carbon costs?

A Yes, that's true. Although, it is positive for the general body of ratepayers with or without the carbon.

Q But the carbon does provide savings -- the forecasted carbon does provide savings to the general body?

A Absolutely. And we believe that that will be the case regardless of what form carbon regulation may take.

Q And if the savings to the general body of customers expected from avoided carbon costs aren't realized, the bill credits to participants don't decrease?

A That's true.

Q Fuel forecasting also played a role in the cost-effectiveness evaluation?

A It always does.

Q And the Clean Energy Connection Program is expected to pass on savings to the general body of customers through avoided fuel costs?

A Yes. Since the solar generation comes out fuel cost, there will clearly be offset fuel costs from

that generation.

Q And in the case that Duke presented here, Duke has low, mid and high fuel forecasts that it utilized?

A Yes.

Q If fuel prices -- the fuel -- let me ask it this way, I am sorry. The savings to the general body of customers are lower in the low fuel forecast than in the mid fuel forecast scenario?

A The savings directly resulting from the introduction of these solar projects are lower, but those here savings also occur in an environment in which the overall cost of fuel is much lower, and therefore, bills overall would be lower.

Q And if fuel prices went below the low fuel case, the savings to the general body of customers as a result of this program, resulting from this program, would be lower as well?

A Hypothetically, if you could -- if fuel prices remains that low, then, yes, the resulting offset fuel costs would be that much lower.

Q And the bill credits and subscription fees do not change based on fuel prices?

A That's correct. They are set in the tariff.

Q If I could direct your attention to Exhibit BMHB-3, which I believe is hearing Exhibit 4?

A Yes, I am looking at it.

Q And just to help understand how to read this, numbers in parenthesis are savings, and the numbers not in parenthesis are costs?

A That's correct. In keeping with our standard practice, we show savings as negative numbers.

Q In the low fuel no carbon cost scenario, the program does not actually save money for the general body of customers?

A Absent the CO2 costs, it would be just slightly more costly than a conventional generating solution.

Q And those costs would be $25 million as measured by cumulative present value revenue requirements?

A Yes, presuming that there was no offsetting carbon cost.

Q And that $25 million of -- go ahead.

A I was just going to say, you know, as we pointed out in discovery, that $25 million cost would be offset by the fact that in that low fuel environment, the overall cost of fuel to the system as a whole would be some $3 billion less than it would be in the mid case.

Q And that $25 million does not include

consideration of the subscription fees and bill credits to participants?

A No. These are the overall system costs and savings before any consideration of the bill credits for the subscription fee.

Q And so looking at these -- if you look at the subscription fees and bill credits in all of the fuel and carbon scenarios, that would be a net additional cost of $67.6 million in bill credits to participants as measured in cumulative present value?

A Yes.

Q And that $67.6 million would be paid for by the general body of customers?

A Similar to lots of other kinds of programs, as for instance, the DSM programs, you know, the program is set up to have an incentive for the participants which allows us to bring the program forward. In this case, accelerating construction of additional solar which we believe will bring the net benefit to the entire body of customers. And, yes, as a part of that, there is a cost in form of the incentive to the participating customers.

Q And there is -- and there as cost to pay for that, for those bill credits, to the general body of customers?

A Yes, as I say, similar to any number of other

programs that we run that are designed to, you know, incent particular behavior and bring an overall benefit to the system.

Q So if we were, again, look at that low fuel no carbon pricing scenario, Duke would project a cost of $25 million for the solar, and an additional $67.6 million in net bill credit costs, totaling over $92 million as measured in cumulative present value?

A Yes, that's correct. Although, again, I will point out that that would happen in an environment in which the overall cost to the system would be substantially lower than we project in the reference case.

Q And that little over $92 million would be paid for by the general body of customers?

A It would be incorporated into the overall bill structure, which would include the lower cost of fuel across the system, yes.

Q If I could direct your attention to LULAC 62, and I believe this will be marked as hearing Exhibit 31.

A We are working to find that.

(Whereupon, Exhibit No. 31 was marked for identification.)

BY MR. MARSHALL:

Q And while you are looking, after this, we will

be discussing LULAC 19, just to give you a heads-up.

A Okay. Wow. That's really small.

Okay. I think, Mr. Marshall, if you can direct me to a particular part of that, we can blow up the numbers and I will be able to read them better.

Q LULAC 62, it should be on page four of eight is what I would like to direct your attention to.

A Yeah, the way this came across printed to us, there is actually a lot of pages, so --

MS. TRIPLETT: Mr. Marshall, do you happen to have Bates numbers?

MR. MARSHALL: Yes, it would be the same as -- although, in the copy that we got, on the Bates numbers, the page was incomplete, but the Bates number was 20FL-CEC-000276.

MS. TRIPLETT: Okay.

THE WITNESS: Okay, we will go there. Okay. So I am looking at that.

COMMISSIONER FAY: Mr. Marshall --

(Multiple speakers.)

MR. MARSHALL: Commissioner Fay, did you say something?

COMMISSIONER FAY: I was just trying to make sure I am pulling up the right document, and when they said it looked really small. I am looking at

a graph, so I wasn't sure if I was in the right place.

MR. MARSHALL: That is correct, Commissioner Fay. It should be a graph.

COMMISSIONER FAY: Okay. Great. Thank you.

THE WITNESS: Like the other -- the rest of this must be going on to the next page or something, but I know what it looks like. I mean, I know this by heart, so go ahead. Okay, I got it. Go ahead. I have it on my laptop if I need it. Go ahead.

BY MR. MARSHALL:

Q Basically, in this exhibit, we have fish curves that show some of the various scenarios that we have been discussing?

A Yes.

Q And page four of eight here, this graph, a fish curve with carbon mid fuel costs, addition of 750 megawatts, this is the base case mid fuel scenario?

A Correct.

Q And in this scenario, it's in the late 2030s in terms of cumulative present value revenue requirement that the cost breaks even with the savings to the system as a whole?

A Yes.

Q Participants in the program, the Clean Energy Connection Program, break even after seven years of subscribing to the program?

A That's correct.

Q Now, if I could direct your attention to LULAC 19, and I believe this will be hearing Exhibit 32?

(Whereupon, Exhibit No. 32 was marked for identification.)

THE WITNESS: I am sorry, can you give me a hint what I am looking for?

BY MR. MARSHALL:

Q Yeah. So this would be page three of three. It's going to have the weighted average cost of capital that Duke used for this program.

A Yeah, okay.

Q So this page shows the pretax weighted average cost of capital assumed for the Clean Energy Connection project?

A Yes.

Q And that was 8.94 percent?

A Yes.

Q And into that weighted average cost of capital is the amount of equity financing that Duke is using for the Clean Energy Connection project?

A It is. That's an amount which is set in our

rate settlement that's our, you know, based on our current rate settlement established in 2017.

Q And with all of Duke's investments with this project, Duke would expect to make a return on that equity investment of 10.5 percent?

A That is based on the numbers established by the Commission in our current rate settlement.

Q Okay. And so that 10.5 percent is correct?

A That is the established return on equity in our current settlement, yes.

Q If I could direct your attention back to the exhibits included with your testimony to Exhibit BMHB-4, which is hearing Exhibit 5?

A Yes.

Q And the fuel savings we just discussed a little earlier in this cross-examination are partially based on the differential in these resource plans with and without the Clean Energy Connection Program?

A That's correct.

Q And the same is also true of the -- some of the carbon savings?

A Yes.

Q And this difference in resource plans results in Duke projecting $353 million in savings to the general body of ratepayers as measured in cumulative

present value revenue requirements from saving in fixed costs, capital, gas reservations and fixed operations and maintenance?

A Yes.

Q And that's $353 million out of the $533 million in CPVRR savings projected as a result of this program?

A Yes.

Q And when you created these resource plans as displayed on BMHB-four, other than the Clean Energy Connection solar, your model did not consider additional solar generation as an alternative to the Clean Energy Connection arrays?

A No, it did not. And the -- and there are two reasons for that. One is that in -- at the time we were running this model, in most periods the model did not actively select the solar for a variety of reasons. And also the -- you know, we had -- knowing that, we had also constrained the model to choose conventional generation so that we would have a clear contrast between the solar and the conventional generation.

In the event in the future that solar becomes cost-effective, more cost-effective than the conventional generation, then, you know, you would still -- you would have a different resource plan, but

you would still see significant savings from the need for future capacity that would be deferred by the presence of the CEC solar.

And, you know, you have been sort of hitting on the point of the carbon, and that's exactly the point. I mean, you know, when you project the future, the driver -- one of the key drivers in, you know, potentially making solar more cost-effective, you know, in different periods of time is the carbon cost. And if we were mandated to drive that solar in some other fashion, or if the solar dropped to a certain price such that it was just cost-effective on its own, you know, that essentially manifests this same savings. You move the money from one bucket to another, but you are still creating that savings for the customer.

Q And so for all those reasons, you did specifically restrict the model from choosing solar in these resource plans?

A We did.

Q And that included, for example -- I am not sure, you said a lot of reasons there, but one of those reasons was what's happening with your solar selection in later years could -- happen to drive your costs more than whether or not you did the program, the Clean Energy Connection Program in the first place?

A Well, there are a lot of interactive factors. You know, the question doesn't become necessarily one of just cost, because then you sort of get to this question of, well, if we build more solar, you know, at certain points, the solar may have lower impacts on the peak, which then requires you to build other generation to cover the peak need. So it isn't necessarily the most cost-effective solution, especially in the out year.

Q You also did not allow carbon costs to drive unit selection for these resource plan forecasts?

A No. As I explained a moment ago, the use of a explicit carbon cost allows you to get a good handle on what the overall savings are, you know, either the one way or the other. You are just moving the money back and forth.

Q And so you also didn't consider in this resource planning process the possibility of battery paired with solar in your base forecast?

A Well, I think didn't consider is probably a little bit of a misnomer here. You know, we did not explicitly use that in this modeling, but, you know, we do, as a matter of background, consider those alternatives in a lot of different cases, you know, in the in sense that we were using, and actually the dataset that we are still using, battery plus solar was

more expensive than the PTs because of the relatively high cost of the batteries, you know, and you are sort of double building. You are building X number of megawatts of solar. You are building X number of megawatts of batteries, so it isn't always the most cost-effective choice.

Q But these resource plans on Exhibit BMHB-4 have Duke building combustion turbines and combined cycle plants all the way through the 2040s?

A They do.

Q And you would agree that it's possible that by the 2040s, solar and battery storage, especially if there is carbon pricing, might be significantly more cost-effective than these plans?

A Certainly that is -- you know, the possibility that there will be alternate cost-effective resources is, you know, definitely a possibility, and, you know, I think many people would consider it a likelihood.

Q If the carbon costs that Duke projects are realized, you would agree that it seems unlikely that Duke will be building combined cycle and combustion turbines in the 2040s, as you have here?

A I think so, but I also will say, as I did a moment ago, that if we proposed alternate resources, depending on, you know, the price of those resources,

you can see that the similar costs are realized, you are just moving the money from a carbon bucket to a capital bucket, or vice-versa. So it's not a huge impact on the overall system costs.

Q And I just want to make sure I heard you, but you do agree that it would be unlikely for Duke to be building those units if Duke's projected carbon costs are realized?

A I do agree that it seems reasonable that there would be cost-effective non-emitting resources in that time period if that -- if the carbon -- if Duke's carbon price is not realized, yes.

Q And with this program that Duke is proposing, Duke has not committed to deferring construction of combustion turbines if this program is approved?

A Duke does not commit, per se, to the long-run resource plans. I mean, you will notice that in all these resource plans, the next unit is not built until 2027. So we are not committing either to build or not build that unit at this time because the conditions for building or not building that unit will depend on a variety of factors. They are probably chiefly driven by load forecasting, but, you know, so that's -- those are decisions in the future.

However, I will say that the presence of the

capacity from the Clean Energy Connection project, you know, will reduce our capacity need in those future years. So while you may not point to and say, well, you are deferring that particular unit, the fact of the matter is that we will be deferring to some units in that timeframe because we won't need the capacity.

Q And that deferral, the economic benefit of that deferral was one of the included economic benefits in calculating the economic benefits of the Clean Energy Connection Program? I am sorry, I didn't hear you there.

A Yes.

Q And Duke had planned to build 450 megawatts of solar in the 2022 to 2024 time period without the Clean Energy Connection Program?

A That was projected in our 10-year site plan, yeah.

Q Thank you.

MR. MARSHALL: That's all my questions.

MR. REHWINKEL: Mr. Chairman, the Public Counsel has no questions for Mr. Borsch.

CHAIRMAN CLARK: All right.

MR. REHWINKEL: Sorry, Ben.

CHAIRMAN CLARK: Thank you, sir.

Mr. Moyle.

MR. MOYLE: Thank you. Thank you, Mr. Chair.

EXAMINATION

BY MR. MOYLE:

Q Good morning, Mr. Borsch.

A Good morning.

Q I have a few questions for you. Some of them were punted to you by other witnesses, but I have a line related to some of the conversation that you had with Mr. Marshall. And you just said that this project, these 750 megawatts will reduce the capacity need in the future for TECO, right?

A Well, I hope it won't reduce TECO's need, but it will reduce ours.

Q My apologies. For Duke?

A Yes.

Q How will it do so? I mean, what I am really driving at is with respect to when you are doing reserve margin calculations, if you have 100 megawatts of solar, how much of that do you count as firm capacity?

A Well, the solar that we are projecting in Clean Energy Connection adds with the solar that is being constructed under the SoBRA, we are projecting that we will get 57 percent of the nameplate capacity of the solar at the time of the summer peak.

Q 57 percent?

A Yes.

Q Okay. And if you coupled that solar with battery storage, what does that do to the number?

A That is a question that we are still evaluating the answer to, because there are a lot of variables having to do with how long the battery would need to operate under different load conditions.

I would say generally speaking that you could, in theory, build enough batteries to bring yourself up to the 100 percent level, or the batteries might supply capacity on their own, which would be, you know, a whole separate number.

So it's not really a straightforward calculation to say, well, you know, if I couple a battery with this solar, you know, you get into a whole bunch of other questions. How big a battery, and how long is the duration of the battery, and so on.

So in theory, the answer to your question is, you know, yes, you could raise it up to 100 percent, but there is a lot of complicated questions underneath the hood of that.

Q Yeah, I expect that, but I would also suppose that you would look at things like what is the duration of your peak load? You know, is it an hour, two hours, and then tie a battery sizing to that, is that right?

A Yes. I mean, naturally, you know, the peak load is not a single target. I mean, I think it's easy to think about the peak load as being, you know, a single hour in the summer or the wintertime. And mathematically, at some level that may be true, but, you know, operationally there is a lot of complexity around that, especially when you are talking about variable resources like solar or, you know, duration limited resources like batteries, because, you know, then you stop looking at just what's happening on that one hour and you start looking at what's happening over, you know, a whole time period of hours.

Q Okay. And then the phrase capacity factor is used quite a bit. And what we just talked about, the 57 percent, what's the -- what's the right name for that?

A We refer to that as the capacity value.

Q Okay. And then how is that different from the capacity factor?

A The capacity value is the amount of the percentage of the nameplate, or translated into a specific number of megawatts, which is considered to be firm during the time of the peak in either the summer or winter season that, you know, is available essentially to sort of meet that peak load plus the reserve margin

requirement.

Q Okay. And compared to capacity factor, what is capacity factor?

A Capacity factor is an expression of the amount of energy at the percentage of the available nameplate megawatt that is generated by use.

Q Okay. And what's the capacity factor for the project at hand?

A These projects are estimated to have a capacity factor of 28 percent.

Q All right. And can you just explain to the Commission how you can have a 28 percent capacity factor, which per your description is it will be available, you know, 28 percent of the time vis-a-vis the 75 percent capacity value?

A Well, they are really totally different numbers. The 28 percent capacity factor is an expression of the amount of energy on an annual basis that the units provide divided by the nameplate capacity value times the number of hours in a year.

So essentially saying, well, imagine, hypothetically, that you could run this unit at its full out nameplate capacity for every hour of the year, you know, what percentage of that are you actually expecting to get, you know, in energy?

That's something completely different from the capacity value, which is the measure of what is the firm number of megawatts that you expect to receive at the time of the seasonal peak?

Q Okay. We have talked before about solar, and I asked you a question to compare the all-in cost of solar to combined cycle units, and my recollection is you said they were really, really close, but that was about two or three years ago. If I asked you that same question today, what would your answer be?

A My answer would be that they are still in the ballpark. They are close together. I mean, you know, both have been reduced in costs, you know, over the last couple of years. The capital cost of solar, as Mr. Stout discussed, has progressed downward, and continues to do so.

Interestingly, the folks who build combined cycle combustion turbines have also made some significant advancements in unit efficiency and unit costs, so the costs are falling on both sides of the ledger.

Q And I guess from your answer, then they are probably falling at about the same percentage basis?

A I wouldn't put a number on that without some research, but I will tell you that they are close enough

that, you know, we are still seeing competition between those technologies depending on a number of other factors, you know, having to do with, you know, when do you need the unit, and what other, you know, surrounding assumptions are made about fuel and carbon. And also having to do with, you know, what is your penetration of solar on the system?

I mean, a combined cycle unit is a very different animal in terms of the way that it serves system need than a solar unit, so it's really sort of unfair to compare them head to head.

Q Yeah. And with respect to combustion turbine generation, is that typically higher or lower than combined cycle?

A Well, that depends. The -- you know, the capital cost of the combustion turbine is less than the capital cost of the combined cycle; however, it operates at a lower fuel efficiency, so, you know, it depends a lot on what you are going to do with it.

So, you know, this -- these are questions -- you know, when we do resources planning, you know, it's not a sort of matter of, you know, this one costs five and that one costs 10, because what's really important is how do specific types of units fit together in the service of your overall fleet and meeting your load

shape? And, you know, particularly when we start to have a greater penetration of, you know, a unit like solar units that have their own defined performance behavior as opposed to being truly dispatchable, you know, that interaction becomes more and more complex.

Q But I guess as we sit here today, and Mr. Marshall asked you some of these questions, if you were trying to cover a peak situation, combustion turbine beats solar, is that right?

A Well, I will say that depends. You know, I think that it depends on, you know, where you are in time. It depends on how much solar is on your system, and, you know, kind of what your underlying assumptions are. They are competitive enough that, for the purposes of this modeling, it made a lot of sense to us to go ahead and model combustion turbine.

Q I have two other areas of questions. I was asking some questions yesterday about 105 percent of fixed costs, and asked questions about project variable costs, and I was trying to just get a ballpark of what, you know, the variable costs were compared to the fixed costs on a percentage basis. Could you help me with that, please?

A Sure.

So if you think of very broad buckets, and you

think of the, you know, capital installation costs of the unit, and then you think about the fixed operating and maintenance costs, which in this case is solar, it includes, you know, some replenishment of the equipment over the 30 years, you know, mowing the grass, you know, the guys who, you know, staffing to do preventative maintenance and all of those kinds of things. And then you think of, you know, a true variable cost, which is a cost which, you know, goes up and down depending on how much you use the unit.

I mean, we of use a variable cost in conjunction with conventional units because in the case of conventional units, the maintenance costs are proportional to how much the unit is run. So, you know, by that standard, the variable costs of the solar units is essentially zero. You know, the maintenance that we do is not directly tied to how much they operate, because they operate all the time when the sun is shining.

Q We can talk for a minute about the bill credits. There is a seven-year payback period for subscribers, is that right?

A Yes. That's the way the program is engineered.

Q Yeah. What percentage of your customers

remain customers for seven years?

A I have no idea. That would have been a question you needed to aim at Mr. Huber.

Q Do you know if that was something that was considered when you put together your program?

A That's not in my area. I don't know.

Q All right. And I believe there was a reference to you, that you played a role in sizing the project, is that right?

A Yes.

Q And what role did you play, and how did you ultimately come up with the, you know, the number?

A Well, we considered a lot of factors. I mean, we had input from the folks who were working with Mr. Huber who were talking to customers about, you know, how many customers might subscribe, and, you know, what the level of interest was going to be.

We also looked at the question of what we thought was reasonable and realistic to get interconnected in the time period that we were talking about. And, you know, we also talked about, you know, how to fit into the economics for the overall body of customers.

So taking all the factors together and, you know, looking at, you know, what we thought was the

right balance, we came up with the size of the system. I won't take credit for that. That was something that, you know, collaboratively was established among all the folks working on the project.

Q Okay. And were you involved with making judgments with respect to interconnection cost, or was that somebody else?

A I don't make judgments with regard to what those costs are. I do, you know, look at both our history and our standard projections of interconnections to, you know, kind of evaluate whether they seem reasonable for our use in the modeling.

Q So that was within your scope of responsibility?

A It was within my scope of responsibility to look and see if the costs seemed reasonable for use in the modeling based on, you know, the history of other projects and, you know, what we were looking at in overall costs.

Q Yeah. So just help me with this. I mean, you have, like, 10 projects associated with this, right; 74 megawatts times 10 is 74, is the project size?

A Yes.

Q And did you assume a static number for the interconnection costs for each of the 10 projects, or

did you say, well, this one is an area that is, you know, it's likely to be more constrained, and it will be a higher interconnection cost, just help explain that to me as to how you handled that, if you would.

A Yeah. Well, no, we assumed an average -- static is probably an unfair word -- but an average cost for the 10 projects. And we did that, first of all, recognizing that, you know, the 10 projects had not been sited specifically. You know, talking to our solar development guys, they had a, you know, collection, a pipeline, a hopper, however you might want to think about that, of projects that are under consideration, both retail projects and projects which they are negotiating with other developers.

And so, you know, we kind of looked across the range of those projects combined with the range of costs that we had seen in the SoBRA projects, and we, you know, created what we believed was a very reasonable average cost to apply across the 10 projects.

Q Okay. Do you know what that average cost was, or could you ballpark it?

A I would have to refer to an exhibit or possibly a discovery response to find that number. I don't have it in my -- I mean, I can ballpark and tell you that it's about $15 million, but I don't -- you

know, to get more specific than that, I would have to look.

Q Okay. And just -- I didn't hear you. You said one five, 15, or five zero, 50?

A No, one five, it's between -- or I will say it differently. It's between 10 and 20.

Q Okay. But you believe it's in the record somewhere?

A I am quite confidential of that.

Q Okay. Well, thank you. Thank you for your time.

CHAIRMAN CLARK: Thank you, Mr. Moyle.

Staff, any questions?

MR. STILLER: No questions of this witness.

CHAIRMAN CLARK: Commissioners, any questions? Commissioner Brown.

COMMISSIONER BROWN: Thank you, Mr. Chairman.

And good morning, Mr. Borsch. Thank you for being with us.

THE WITNESS: Good morning.

COMMISSIONER BROWN: I had a discussion with two of your colleagues earlier, Witness Stout and Mr. Huber, regarding providing Duke's commitment to ensuring the lowest installed cost and lowest operational cost. You were present, you heard that

kind of dialogue.

THE WITNESS: Yes.

COMMISSIONER BROWN: And one thing I appreciate in your testimony, you do highlight each of the years' projects the estimated cost. Is there any language in the stipulation agreement that also mirrors those projections in your testimony?

THE WITNESS: I would have to refer to the stipulation, but to my understanding, no.

COMMISSIONER BROWN: That is my understanding as well. I read it several times, and it just has a paragraph that authorizes a recovery of 1.14 billion total program costs. And because I do appreciate your representation and your colleagues' representation of striving for the lowest installed costs, I just want to see where in this stipulation that's presented to us that kind of echos that sentiment that is in your testimony as well as has been conveyed by your colleagues.

THE WITNESS: So I think -- so I will start with this. The paragraph in the stipulation which refers to our commitment to competitively bid, you know, all the component parts of the development of the solar project, you know, and which is

particularly focused on the, you know, construction, which is the lion's share of the cost, the purchasing of the panels, the EPC contracting, you know, that commitment is the part of our overall commitment to build projects both in this stipulation and in general, you know, at the most prudent cost for our customers. So, you know, I would say that that is a direct reference to our efforts to control and minimize the cost of these projects.

You know, as it's represented in my testimony and exhibits, you know, really my testimony and exhibits evaluate the economic impact of those costs without directly, you know, touching on the question of, you know, how do we get to the costs? You know, those -- those costs and, you know, the procedures which drive that, you know, are really highlighted in Mr. Stout's testimony, and, you know, as the commitment to do that kind of competitive bidding are reflected in the stipulation.

COMMISSIONER BROWN: And I do -- I appreciate the prefiled testimony. I think it's -- it is much more detailed than the stipulation with regard to costs. I do find the stipulation lacking in

details on costs.

And to elaborate a little bit more on Duke's commitment to pursue the lowest installed costs, other than the EPC contract being competitively bid, can you direct us to where there are other mentions of your commitment to keep the operational costs low, et cetera? Is there any other place in the stipulation?

THE WITNESS: I don't believe that the operational costs are directly discussed in the stipulation. I think the stipulation talks about a number of different aspects of the construction, not only EPC but the, you know, purchasing of major equipment that might be done Duke separately inspecting the solar panels themselves.

You know, our commitment to minimizing operational costs is something that, you know, is part and parcel of our regular rate update, you know, before the Commission. You know, as we have periodic rate proceedings, the Commission will review our operational costs for prudence, and, you know, those operational costs are going to occur over 30 years. You know, that may not be a thing for the stipulation, per se. You know, that is something which is appropriately reviewed by the

Commission, you know, over the course of 30 years as we come in for progressive rate proceedings.

COMMISSIONER BROWN: Unlike your SoBRA which you come in for, you know, different tranches, and the Commission has had an opportunity to review them and the costs, and scrutinize those costs, this would be different. This -- we would only have an opportunity to look at whether you are on target with your projections in your prefiled testimony during the fuel clause -- the annual fuel clause, is that right? Or that would only give the Commission discretion to look at the credits being distributed to the participants.

THE WITNESS: I think that they come in at different times. And, you know, I may not be the best person to answer this question, but the prudence of the capital costs which are, after all, the lion's share of the costs that you are talking about, you know, would be reviewed in -- whenever the next current rate proceeding would be.

I think, you know, both Mr. Stout and Mr. Foster have talked to the fact that, you know, we recognize that the Commission will scrutinize these items, and that if, you know, for whatever reason the costs are not in keeping with the

projections that we've made, you know, we would, you know, go back and, you know, really scrub that to try and get those costs back together, because we do, you know, view that we are making a commitment, you know, over all to the effectiveness of the project, if not to, you know, a specific number in one cost bucket or another.

COMMISSIONER BROWN: So then the Commission -- the Commission would have an opportunity in the next base rate case proceeding to scrutinize the costs and whether they are in target, as well as during the fuel clause regarding the subscription -- pardon me -- the credits?

THE WITNESS: Yes, that's what --

COMMISSIONER BROWN: That is your understanding?

THE WITNESS: That is my understanding, yes.

COMMISSIONER BROWN: Okay. Thank you.

CHAIRMAN CLARK: Thank you, Commissioner Brown.

Commissioner Fay.

COMMISSIONER FAY: Thank you, Mr. Chairman.

And thank you for your testimony, Mr. Borsch.

I am going to point you to, let's see, page nine of your direct, where basically, I guess, it

starts on line 18.

We talk about the CPVRR, we've had a lot of discussion about that, in your testimony you talk about that. And then the last sentence starting on line 18, you say: This also provides a qualitative benefit since in an era of evolving clean energy technology, opportunities to defer gas generation may bring opportunities to introduce other technologies.

So as the Commission, we obviously give weight to that quantitative analysis of the CPVRR to make the determination a standard is met from our perspective, but this qualitative discussion to me is interesting, and I wanted to see if you can elaborate on maybe what those other technologies are, or what we could give weight to in there to make our decision, and if you think that that qualitative component is appropriate to weigh in a public interest test.

THE WITNESS: Yeah. So I think, you know, you have heard the extensive conversation I had with Mr. Marshall a few minutes ago, and, you know, broadly to think -- as we think about the question of solar and storage technologies in particular, you know, and other clean energy technologies which

may be evolving, that the cost of all of those technologies are projected to fall over time; and, you know, that the cost-effectiveness, as well as the technologies themselves are improving.

I mean, solar efficiency from a, you know, panel efficiency standpoint, you know, has risen substantially over time, and continues to do so. Battery technology is a moving target, you know, not only from the standpoint of cost of the technologies that we have today like lithium ion, but also the, you know, potential commercialization of other technologies.

So, you know, as we have the opportunity to defer the investment in conventional generation, that gives us the opportunity -- you know, in other words, if I don't have to build more conventional generation in 2027, if I can move that to 2029, you know, move some of this out further in the future, you know, that creates a space which, you know, means that, you know, I am not evaluating the cost of the, you know, clean energy technologies in 2025 to meet a 2027 need. Maybe I am evaluating them in '27 or '28 to meet a need that's closer to 2030. And, you know, because those technologies continue to advance, our assumption is that they will be

more cost-effective, more efficient and serve the grid better as we go further down in time.

So the opportunity here for the Clean Energy Connection units to defer our need for, you know, for any generation, but, you know, what would presumably be conventional generation in the relatively near future, you know, creates that space for clean energy technologies to continue to improve in efficiency and cost, and gives us the opportunity to, you know, invest in those technologies at a, you know, at that lower cost, at that better production down the line.

COMMISSIONER FAY: Okay. And just to clarify, when you are talking about the reduction of cost for the solar equipment, that's something that's taken into account in the quantitative analysis, correct? So I just want to make sure we are not duplicating the benefits to that.

So when you are running your numbers, as you go years out, the cost of building solar arguably declines, and this specific sentence, and the idea of a delay that would allow more technology to be brought forward to reduce cost is in addition to the presumption that you have that reduced solar cost will take place?

THE WITNESS: Yeah, that's true. I mean, it also takes into account the fact that, you know, the technology and the cost of that technology, you know, that progress is uncertain.

You know, obviously, if you look at, you know, our projections of cost and you compare them to projections of costs from various other entities, you will come up with a range. You know, we try to stay towards the middle of that range, you know, but, you know, there may be highs and lows relative to that.

And so, you know, to the extent that we defer that decision-making, you know, there may be greater technology progress than, you know, what is necessarily incorporated in the modeling, you know, because we have to sort of take a line of sight with what we can see today.

COMMISSIONER FAY: Right.

And then, Mr. Chairman, just one more question.

CHAIRMAN CLARK: Yes, sir.

COMMISSIONER FAY: Mr. Marshall mentioned it, but in your exhibit, I guess it's BMHB-3, which I think is Exhibit 4 on the Comprehensive Exhibit List, we've got that chart there that lays out the

savings in the fuel price, and then the CO2 costs at the bottom there.

I know -- I believe you submitted this testimony in July. I think your rebuttal was submitted in October. The -- I think this is a really important component of the analysis because you do have these quantitative basis as to what the future might hold.

But the part that I am wondering if you have any clarification on based on your testimony is we are now in a position where we have a President Elect that has some aggressive policies towards carbon and some discussion about what would be done on a federal level. So as we weigh that, when those variables change, it seems like the Commission would have to give more weight towards those costs being assessed. But what I think is interesting is some of the folks who would be advocates for those costs being assessed through a government measure would be the same ones that would argue it shouldn't be quantified in these types of analysis. So I am just trying to see how do we get at a basis for a broader decision?

THE WITNESS: Well, I think, you know, our view of this has been that, you know, the client

and the overall, you know, public interest in the potential and significant effect of CO2 emissions and greenhouse gas buildup, and those impacts on the climate, you know, are a real thing which, you know, will necessitate regulatory action at some level.

And, you know, in keeping with that, you know, we have thought about a variety of things. And the first one, and the one which quantitatively drives the values that you see on that chart, you know, is Duke Energy's commitment to a progressive carbon reduction, you know, over time, leaving our target of an enterprise goal of 50 percent reduction by 2030 from our 2005 baseline, and a net zero by 2050.

So we use that as, you know, to drive the quantitative evaluation. But, you know, broadly, I would say, you know, there are a lot of proposals on the table which, you know, have different shapes. You know, some start out, as ours does, with a sort of modest carbon price and, you know, accelerate that price over time. Some start out with a much higher carbon price and, you know, a lower escalation rate. You know, you have tax programs, concentrated programs. I mean, there is

a whole variety of things.

It remains to be seen, and I think, you know, broadly we would say that, you know, the results of the most current election validate, you know, at a high level the assumptions that we have made. The -- but, you know, we are also not an entity that looks at, you know, kind of what's happening today or tomorrow. You know, we are looking at these over a long haul, over a 30-year period.

So, you know, as I kind of talked to Mr. Marshall about, you know, we believe that the savings ascribed here, that we, you know, we create an external carbon price for the purpose of being able to focus on and quantify those costs, but they may come in a whole host of different ways. They may come, for instance, in, you know, a selection in the future of a more expensive but carbon free -- more capital expensive but carbon free technology. You know, say for instance, whether it's an investment in a hydrogen fuel system, or in small modular nuclear, you know, or in, you know, a large array of batteries, you know, or any number of things that are going to promote that, you know, move to a carbon free future.

So, you know, I look at this number as a

proxy, you know, which we believe is a reasonable proxy from a quantitative standpoint, which, you know, may take a number of forms.

I, you know, have obviously, as I'm sure all of us, have been reading, you know, a lot about the number of proposals that are on the table with the incoming administration. You know, I think we are not yet at the point where we can really say, you know, aha, this is what's likely to pass. But, you know, I think directionally, you know, I believe that, you know, this validates the approach that we are taking.

COMMISSIONER FAY: Okay. Thank you. I appreciate that.

And I will tell you at least, you know, that only the folks in North Florida are really feeling the brunt of this election cycle in that we have the Georgia elections commercials running in North Florida, where we can't vote for those Georgia candidates. So we will see where it goes, but I know my colleagues don't envy that.

Thank you.

CHAIRMAN CLARK: Thank you, Commissioner Fay.

Commissioners, other questions?

I have a couple I would like to ask, and it

kind of plays a little bit off of what Commissioner Fay was talking about, as well as some of the lines of questioning that Mr. Moyle asked.

Mr. Borsch, in terms of Duke's overall load profile, are you a winter peaking or summer peaking facility, your highest peak?

THE WITNESS: Well -- so we make a distinction, we are a winter peaking utility but we are a summer planning utility.

CHAIRMAN CLARK: And what have you seen over the last 20 years in terms of the winter peak differential between that and your maximum summer peak? Has it grown or has it decreased?

THE WITNESS: That's a really difficult question because, you know, the winter peak in Florida is really not something which is effectively subject to averaging because, you know, as you are well aware, we may go through a series of mild winters and then, you know, suddenly have a, you know, single, very cold winter which we have to be prepared for.

You know, so for instance, while you may look at the last, you know, eight or nine years and say, well, we had a whole series of very mild winters in which the, you know, the winter peak was actually,

I would say, eight out of nine of those years been below the summer peak, you know, we are also aware of the fact that our record peak was set in January of 2010, you know, when I think most people remember that we had a week of very cold weather which drove the peak to, you know, a really high level, frankly above our then and current planning numbers.

CHAIRMAN CLARK: So how do you meet -- in terms of a 2010 winter, how do you meet that additional requirement? Do you do that through purchase power agreements, or do you self-generate during that time?

THE WITNESS: Well, I mean, you know, we've got -- I mean, you know, if 2010 occurs again, or when it does, you know, we will do what we did then, which is to take a kind of an all-hands-on-deck approach. You know, we predominantly intend to meet that need through Duke-owned generation. You know, we do supplement that with purchased power agreements. We supplement that with energy sharing, capacity sharing among the utilities. You know, if for instance the, you know, peak has not progressed as far south as FPL, they, you know, do make emergency

power available.

We also, you know, have our demand response programs. You may recall that in 2010, we had some short bursts of activation of the demand response programs, especially early in the morning.

So, you know, it -- you know, to meet that kind of severe peak, you know, Florida's version of the polar vortex, if you will, you know, we rely on a variety of different contributions to get there.

CHAIRMAN CLARK: In terms of your ability to do an installation that would cover that, what would you be looking for in terms of your ability to meet that? Let's say we had a long, rough winter, you needed peaking facilities, would you looking at gas facilities to do those, or would you be looking at renewable options?

THE WITNESS: Right now, we would be looking at gas generation to meet those needs. You know, I do think that there will come a time in the foreseeable future when we may meet a portion of those needs, you know, through the combination of renewable power and storage. But, you know, if we were doing it today, and based on the, you know, the portfolio of units that we have in the ground today, we are meeting that need primarily through

gas generation.

CHAIRMAN CLARK: You stated a few moments ago that your goal was to be carbon neutral by, I believe, 2050. With technology the way it is today, and the known available generating assets that are out there, is that possible?

THE WITNESS: You know, I mean, if we had to try -- you know, if you hypothetically had a situation where you said to me, you know, rebuild the fleet today using today's technology to meet that goal, you know, just start over with a clean sheet of paper, I would say that that would be extremely difficult. You know, there are technologies that would get us there, you know, particularly, you know, potential for hydrogen generation and combustion, you know, potentially combined with, you know, some other technologies, I think if we had to do it today, we would talk about the question of whether we could import renewable power from other parts of the country --

CHAIRMAN CLARK: I'm sorry, did you say nuclear?

THE WITNESS: -- local solar, nuclear would certainly be on the table, but --

CHAIRMAN CLARK: Are you considering --

THE WITNESS: -- you know, you can --

CHAIRMAN CLARK: -- are you considering nuclear as part of your -- as part of your net zero carbon emissions?

THE WITNESS: I think the answer to that question is, you know, as we look out towards the 2040s and, you know, we recognize the need for a dispatchable resource, a high energy dispatchable resource, you know, the possibility of new nuclear technology is certainly something that, you know, we are considering. You know, we participate in technology evaluations that include the development of the small modular nuclear reactors, but we are not -- you know, at this point, that's too far away to say that we are committed.

We are also participating in technology development projects related to hydrogen combustion and also into, you know, storage. So, you know, 2040 is a long way from today, and, you know, we are looking at, you know, the wide range of available technologies that will help us meet that goal.

CHAIRMAN CLARK: One final question regarding one of the questions I believe that -- I believe Mr. Marshall asked was regarding the potential

future costs, and considering a scenario where you had a medium carbon cost tax imposed at some point in the future, and looking at mid, low and high gas prices. And the big question there is in making your assumptions and running your models, what happens to the customer, and how does that compare to the scenario that you are presenting today in terms of adding the solar generation?

Worst-case scenario in a mid carbon cost future, where gas prices continue to drop as it relates to the net cumulative benefit to the consumer and the solar system, we are in agreement that that is negative, it is less positive return that they are getting; is that correct?

THE WITNESS: Well, I think to the -- I think that's yes, because I think what you are asking me is, you know, if there is still a carbon price or a proxy that, you know, is a part of that cost but the price of gas is less, then obviously the offset fuel costs from these solar projects will be less. I think, you know, if you look at our --

CHAIRMAN CLARK: So the general body of ratepayers at that particular time, are they benefiting or are they losing?

THE WITNESS: Well, you know, in the scenario

that's shown in my exhibit, what you can see is that the -- even in the lowest price fuel scenario, you know, assuming that there is, in fact, you know, a carbon cost, then the general body of ratepayers are still, you know, saving money relative to not building the combined -- the Clean Energy Connection unit.

CHAIRMAN CLARK: All right. Thank you, Mr. Borsch.

Any other questions from any Commissioners?

All right, redirect?

MS. TRIPLETT: Just very briefly, please.

FURTHER EXAMINATION

BY MS. TRIPLETT:

Q Mr. Borsch, Mr. Marshall asked you some questions about the fish curve. Do you recall those questions?

A Yes.

Q I just -- how does the recovery from customers in terms of the shape of the fish curve that was shown in the exhibit relate to CEC, how does that compare to if you had a fish curve for another type of generation project that was recovered from customers not under CEC?

A It's very much the same. If you had our SoBRA fish curves, for instance, they would be almost exactly

the same shape.

Q Thank you.

And Commissioner Brown asked you some questions about Duke's commitment to limit costs to the program. Do you recall those questions?

A Yes.

Q I just want to make sure the record is clear. Does DEF have an obligation to prove that its costs are prudently incurred if its costs exceed the cost that has been included in this filing for CEC?

A I believe that we do.

Q Thank you.

MS. TRIPLETT: That's all my questions.

And I would ask that Mr. Borsch's Exhibits 2 through 6 be entered into evidence.

CHAIRMAN CLARK: All right. So ordered.

(Whereupon, Exhibit Nos. 2-6 were received into evidence.)

CHAIRMAN CLARK: Any other exhibits?

MR. MARSHALL: LULAC would move in hearing Exhibits 31 and 32 into evidence.

CHAIRMAN CLARK: So ordered.

(Whereupon, Exhibit Nos. 31 & 32 were received into evidence.)

CHAIRMAN CLARK: Anyone else?

All right. Would you like your witness excused, or is he coming back as well?

MS. TRIPLETT: He is coming back. I think he would like to be excused, but he will come back.

CHAIRMAN CLARK: Sorry about that. Hang around with us for a few more minutes.

All right. Let's move right along -- I tell you what, we're probably looking like at least an hour here to wrap up. Let's take a 10-minute break. I know hour court reporter probably needs to rest her hands just a couple minutes, so let's take a 10-minute quick break.

(Brief recess.)

CHAIRMAN CLARK: All right. Let's go ahead and get started back. Everybody on the line? Everybody is still attached. That's what counts.

All right. I believe that our next witness is going to be Mr. Karl Rábago. Mr. Marshall, it's your witness.

MR. MARSHALL: LULAC calls Mr. Rábago.

Whereupon,

KARL RÁBAGO

was called as a witness, having been previously duly sworn to speak the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

EXAMINATION

BY MR. MARSHALL:

Q Mr. Rábago, were you previously sworn yesterday?

A Yes, I was.

Q And can you please state your name and business address for the record?

A My name is Karl Rábago. I am the principal of Rábago Energy LLC, with a home office address of 2025 East 24th Avenue, Denver, Colorado.

Could you hear me okay and did I answer everything?

CHAIRMAN CLARK: Mr. Marshall, we lost your volume, I believe. We can't hear you.

MR. MARSHALL: I am sorry, Mr. Chairman, can you hear me now?

CHAIRMAN CLARK: We just got you back live.

MR. MARSHALL: I apologize, my phone that I was connected to suddenly just cut out.

BY MR. MARSHALL:

Q I believe I was asking you on whose behalf are you testifying, Mr. Rábago?

A I am testifying on behalf of --

CHAIRMAN CLARK: Mr. Marshall --

THE WITNESS: I'm testifying on behalf of the

League --

CHAIRMAN CLARK: Let's hold on -- hold on one second. We've got some really serious feedback. Mr. Marshall, it could be you have two audios on right now, that may be causing the problem.

MR. MARSHALL: The phone I was using is turned off. I could try calling back in using the method I was using.

CHAIRMAN CLARK: I think it just fixed itself. It sounds great now.

Can you hear him okay, Mr. Rábago?

THE WITNESS: I can hear fine. Thank you.

CHAIRMAN CLARK: Okay. We are back good. Go ahead.

BY MR. MARSHALL:

Q On whose behalf are you testifying today?

A I am testifying here today on behalf of the League of United Latin American Citizens of Florida.

Q On October 2nd, 2020, did you prepare and cause to be filed direct testimony and exhibits?

A Yes, I did.

Q Do you have that testimony and those exhibits with you today?

A Yes, I do.

Q If I asked you the same questions today, would

your answer be the same?

A Or substantially the same, yes.

Q Do you have any changes to your prefiled testimony or exhibits?

A I have two very minor edits. They are really just from sort of redundancy exuberance. On page seven, line nine, we should delete the words "growth of". And on page 27, line seven, should delete the word "planned". Other than that, the testimony is correct as best I can tell.

Q All right.

MR. MARSHALL: Mr. Chairman, with those corrections, at this point I would like to have Mr. Rabago's prefiled direct testimony entered into the record as though read.

CHAIRMAN CLARK: So ordered.

(Whereupon, prefiled direct testimony of Karl Rábago was inserted.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Duke Energy Florida, LLC's Petition for a limited proceeding to approve Clean Energy Connection Program and Tariff and Stipulation	Docket No. 20200176-EI

TESTIMONY OF KARL R. RÁBAGO
ON BEHALF OF
LEAGUE OF UNITED LATIN AMERICAN CITIZENS OF FLORIDA

October 2, 2020

I. INTRODUCTION AND OVERVIEW

Q. Please state your name, business name, and address.

A. My name is Karl R. Rábago. I am the principal of Rábago Energy LLC, a New York limited liability company, located at 2025 E. 24th Avenue, Denver, Colorado.

Q. On whose behalf are you appearing in this proceeding?

A. I appear here in my capacity as an expert witness on behalf of the League of United Latin American Citizens of Florida ("LULAC").

Q. What is LULAC's interest in this proceeding?

A. LULAC wants to ensure that the transition to clean, renewable energy is conducted in an equitable fashion that does not disproportionately burden low- and moderate-income communities.

Q. Please summarize your experience and expertise in the field of electric utility regulation.

A. I have worked for more than 30 years in the electricity industry and related fields. I am actively involved in a wide range of electric utility issues across the United States. My previous employment experience includes Commissioner with the Public Utility Commission of Texas, Deputy Assistant Secretary with the U.S. Department of Energy, Vice President with Austin Energy, Executive Director of the Pace Energy and Climate Center, Managing Director with the Rocky Mountain Institute, and Director with AES Corporation, among others. A detailed resume is attached as Exhibit KRR-1.

Q. Do you have a specific experience relating to solar energy development, policy, and regulation?

A. Yes. I have extensive experience working in the field of solar energy. That experience includes regulation of electric utilities in Texas as a public utility commissioner from

1992-1995, which included review and approval of rates, tariffs, plans, and programs proposed by electric utilities. During that time, I co-chaired the Sustainable Energy Development Council of Texas, which created a blueprint and plan for powering Texas with sustainable energy resources. After that, I served as a deputy assistant secretary for the U.S. Department of Energy, with responsibility for overseeing research, development, and deployment programs for all renewable energy technologies at laboratories, universities, and through cooperative agreements with businesses and foreign countries. For twenty-five years, I have served on the board of the Center for Resource Solutions, which created and administers the Green-e Certification program for green power products and renewable energy certificates ("RECs"). I co-authored the seminal treatise on distributed energy resource value, titled "Small Is Profitable,"[1] when I was a managing director at the Rocky Mountain Institute. I have also published several articles and essays relating to the topic, as detailed in my resume. As a vice president for Distributed Energy Services for Austin Energy, I had responsibility for all of the utility's customer-facing programs relating to distributed solar generation, energy efficiency, demand management, low-income weatherization, energy storage, electric transportation, building energy ratings and codes, and the utility's electric vehicle initiatives. While with Austin Energy, one of the largest municipal electric utilities in the nation, I developed and implemented the nation's first distributed solar tariff based on objective and comprehensive valuation of solar generation and avoided system energy costs, often referred to as the "Value of Solar Tariff." In my position with the Pace Energy and Climate Center, based at the Pace University Elisabeth Haub School of Law in White Plains, New York, I led a team actively engaged as a public interest intervenor in the groundbreaking "Reforming the Energy Vision" process administered by the New York Public

Service Commission. During that time, I participated in an industry and stakeholder group as a party, on issues of community solar development in New York before the PSC, and also provided expert witness support to Boston Community Capital in the Massachusetts SMART solar program, specifically on the issue of low-income customer focused community solar tariff and program design. I currently have a retainer relationship with the Coalition for Community Solar Access, a group that includes competitive community solar developers from across the country and have assisted the organization on several projects impacting community solar. I have engaged as an advisor and expert witness in more than 100 regulatory proceedings across the country, including many relating to distributed energy resources of all kinds, rates and tariffs, low-income energy issues, grid modernization, return on equity, and other issues. I am a frequent speaker, author, and commentator on issues relating to electric utility regulation, distributed energy resource markets and technologies, and electricity sector market reform.

Q. Have you ever testified before the Florida Public Service Commission ("Commission") or other regulatory agencies?

A. I have submitted testimony before the Commission in the past in several proceedings, including the FEECA proceedings in 2014 (Docket Nos. 130199-EI, 130200-EI, 130201-EI, and 130202-EI), the Florida Power & Light CCPN case for the Okeechobee Plant (Docket No. 150166-EI), and the Gulf Power general rate case in 2017 (Docket No. 160186-EI). In the past six years, I have submitted testimony, comments, or presentations in proceedings in Alabama, Arkansas, Arizona, California, Colorado, Connecticut, District of Columbia, Florida, Georgia, Guam, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Missouri, Nevada, New Hampshire, New York, North

Carolina, Ohio, Pennsylvania, Puerto Rico, Rhode Island, Vermont, Virginia, Washington, and Wisconsin. I have also testified before the U.S. Congress and have been a participant in comments and briefs filed at several federal agencies and courts. A listing of my previous testimony is attached as Exhibit KRR-2.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to share my evaluation of the Duke Energy Florida, LLC ("Company") petition for a limited proceeding to approve its "Clean Energy Connection" program and tariff ("CEC" or "program"), as well as the proposed stipulation entered into with the Company by several parties. In this testimony, I describe the numerous fatal flaws in the program that can be identified from the very limited record provided in the Company's petition. I further explain why the program would not be in the public interest and would, if approved, result in rates that are unfair, unjust, unreasonable, and that grant undue preference to customers that would become program participants. At the conclusion of this testimony, I offer specific and concrete recommendations for redesign of the program.

Q. How would you characterize the Company's proposed program at a high level?

A. The CEC program proposed by the Company has several major flaws. First, and foremost, the program is not really a *community* solar program at all. Rather than creating a customer aggregation platform with representative community participation, the program actually appears to be nothing more than a vehicle for the exercise of market power and the allocation of monopoly rents to deliver cash benefits to mostly large customers that might otherwise leave the Company's system or invest in self-generation in pursuit of truly cost-effective, unsubsidized renewable energy supply. Further, the program does not align with best practices identified by the Interstate Renewable Energy Council ("IREC") for shared solar program design.

Second, the program is designed to require the general body of non-participating Company customers to subsidize voluntary program participants so that those participants can be guaranteed solar credits worth more than the fees required for program participation. Third, the proposed program allocates these subsidies to a relatively small number of customers with an unreasonably large share of the program allocation going to very large customers that can well-afford to develop solar energy resource options or obtain solar energy supply without cross subsidies. The proposed allocation would leave less than 5% of program scope for low-income customers. The allocation formula for shares of its cross-subsidized program do not align with the Company's customer sales. Fourth, the program assigns all the RECs associated with the program to participating customers, leaving the general body of customers with nothing but "null energy" and risk of further costs to make up for emissions credits transferred to participant customers and out of the system mix. Fifth, the program rests its claims of cost-effectiveness on major assumptions about value derived from avoided costs over the next thirty years, and significantly, places all the risk of forecast error on non-participating customers while guaranteeing profitable credit distribution to program participants. Finally, the Company's program places an extremely significant rate burden—in the several hundreds of millions of dollars—on captive, non-participating customers, while actually eliminating costs in the short-run for program participants. Thus, the program converts what could be cost-effective solar resources benefitting the broader body of customers into a subsidy program for the very few, and a travesty of the concept of community shared solar aggregation.

Q. What law and regulatory precedent guides the Commission decision in this matter?

A. Florida's renewable energy policy reflects the Florida Legislature's intent that

the Commission promote the development of renewable energy[2] that results in fair, just, and reasonable rates,[3] and as the Commission has noted, "without undue preference."[4]

Q. Wouldn't the Company's proposal result in more renewable energy in Florida?

A. Yes, it would. But the specific program proposed is not a necessary or desirable way to achieve that result. If the Company's cost-effectiveness evaluation is believed, the solar resources proposed in this plan should be added on behalf of all customers. Using inter- and intra-class cross subsidies to secure program subscriptions appears to be an abuse of market power that will displace ~~growth of~~ non-utility voluntary solar market growth. The development of renewable energy resources through unfair, unjust, and unreasonable cross-subsidy schemes is not sustainable and, in the end, would frustrate rather than advance Legislative intent.

Q. The Commission has recently approved a proposal very similar to the one in this case. Should that case decide the issues in this proceeding?

A. No. Florida Power & Light Company's program was roughly half the size of the Company's proposed program given the relative size of the utilities. The rate burden for non-participating customers in the Company's program is thus correspondingly about double the impact Florida Power & Light Company's non-participating customers are expecting.[5]

Q. What specific elements of the Company's proposal are manifestly unfair?

A. The clearest way to see the unfairness in the proposal is to compare and contrast how the Company would treat program participants versus non-participants:

- The fees that participants must pay to participate in the program are guaranteed; the total costs for non-participants are not.

- The renewable energy claims are guaranteed to participants through REC assignments and transfers on request; non-participants are left with "null energy."[6]
- Subscribers only pay for program blocks they choose and receive; non-participants must cover the costs of unsubscribed program blocks and do not even receive the RECs from those blocks.
- All participants will benefit from the program; all non-participants are guaranteed a high level of early program year costs and are promised benefits that are uncertain.
- All participants are guaranteed a credits escalator of 1.5% per year for 27 years; non-participants will be responsible for making up any actual differences and payment of a subsidy to participants.
- Participants get a seven-year payback on their fee payments; non-participants remain on the hook for administrative costs and benefits shortfalls for all 30 years of the program.
- The participants get program participation; non-participants have to pay $16.8 million to the Company to administer the program for participants.
- The Company originally planned to give even more of the program benefits, 75%, to large customers that could well-afford to invest in their own solar projects; only a measure of advocacy by settling parties seems to have reduced that share by a little, to 65%.
- Participants may cancel or reduce participation at their pleasure; non-participants have no choice but to pick up any costs that result.

On a cumulative present value of revenue requirements basis, in return for $465 million in estimated benefits, non-participating customers must surrender 100% of REC value, accept 100% of risk of unsubscribed costs, pay 100% of program costs, and pay profits to the Company for the $1.14 billion in increased capital investment by the utility, plus

direct expense treatment of all bill credits paid. Participants put less than the cost of the projects into the program, get $68 million in guaranteed profits (present value), and receive 100% green REC credits as a result. This is literally greenwashing—laundering and comingling payments by participants and non-participants to create a "green" product for the benefit of participants alone.

II. BEST PRACTICES GUIDANCE FOR COMMUNITY/SHARED SOLAR PROGRAMS

Q. Is there general guidance available regarding design of community or shared solar programs?

A. Yes. In 2013, IREC first published a paper setting out model rules for shared renewables programs.[7] That paper provides guidance built around four general principles:

> **First, shared renewable energy programs should expand renewable energy access to a broader group of energy consumers, including those who cannot install renewable energy on their own properties.** [M]ost Americans are currently unable to benefit directly from renewable energy generation because they cannot install renewable energy on-site. As a matter of equity between energy consumers this barrier should be removed as it unnecessarily limits participation in generally available renewable energy programs. Moreover, shared renewables programs allow greater energy consumers to participate in renewable energy generation, unlocking a substantial new market for renewable energy developers and thereby

strengthening the renewable energy industry.

Second, participants in a shared renewable energy program should receive tangible economic benefits on their utility bills. By providing credits on participating customers' utility bills, shared renewable energy programs offer a clear, intuitive way for customers to save money by choosing renewable energy…Keeping the benefits of participation in a shared renewables program on customers' bills maintains the linkage between a customer's participation in the program, their reduced energy use, and their lower bill. Even in cases where participants may pay more initially for participation in a shared renewable energy program, programs should be designed such that participants receive a valuable hedge benefit by locking in a rate through their participation in the program, which will save them money as standard electricity rates rise over time.

Third, shared renewable energy programs should be flexible enough to account for energy consumers' preferences. Consumers are more likely to purchase a product that is specifically tailored to suit their personal values and priorities. Therefore, we recommend that shared renewable energy programs be flexible with regard to business models so that developers and utilities can innovate to meet consumer desires. This can include preferences for specific technologies, project locations, or ownership models. For example, in IREC's experience, consumers are highly motivated to participate in shared renewable

energy when the generation facilities are located in or nearby their communities. Structuring a program to allow for the realization of these preferences can broaden interest and participation in the program.

Fourth, and finally, shared renewable energy programs should be additive to and supportive of existing renewable energy programs, and not undermine them. Over the previous decades, renewable energy companies have invested considerable resources in building their businesses. This private investment in time and resources has helped expand markets for renewable energy in partnership with utility-run renewable energy programs. The success of both wholesale and retail oriented distributed generation programs has resulted in dramatic reductions in the cost of renewable energy.

Q. How does the Company's proposal stack up against these principles?

A. The Company program fails to meet the language and objectives of these principles. First, the program is designed primarily to benefit large customers that are perfectly capable of investing and participating in renewable energy projects themselves. What the Company calls a community solar program doesn't empower customers that lack access to solar. Rather, it taxes those customers so that the Company can induce large customers not to pursue free market options. The second principle is about program design that provides participants with the benefit of the bargain they strike by becoming solar investors. Again, the Company does not honor that principle. Instead of tying solar credit compensation rates to the value of the solar generation in the

system and the market, it locks in a specific escalation rate of 1.5% per year after the first three years of program subscription[8] in order to guarantee the subsidy-delivering nature of the program. Third, rather than structuring the program design around community preferences, the Company designed a program to satisfy the desires of a few large business and institutional customers. The Company appears to have made a few minor concessions in order to secure signatories to its stipulation, but the fundamental nature of the program remains a corporate hand-out program, not a community solar program. Finally, the fourth principle is about structuring community solar programs to add to, rather than subtract from broader clean energy development. The Company's program doesn't bring new renewable energy to the system, it charges captive non-participating customers so they can subsidize renewable energy benefits for a select few.

Q. Is the program designed with any opportunity for non-utility solar generation development and operation in mind?

A. No. This is a monopoly project that will not grow the market for competitive solar developers unless they are willing to work for the monopoly. By building solar facilities that are subsidized by non-participant captive customers, the Company has an unfair competitive advantage against non-utility competitive developers. The only real opportunity for competitive solar developers is to build facilities and immediately sell them to the utility or seek work as an engineering performance contractor. Either way, this reduces or eliminates the opportunity for competitive developers to participate profitably (and without cross subsidies) in the more lucrative "build, own, operate" market.

Q. Does the program include a component for true community-based solar that does not require Company plant construction and rate-based treatment at a smaller scale than 75 MW per plant?

A. No. There is no true community solar component to the program.

III. DEFICIENCIES IN PROGRAM DESIGN

Q. Company witness Huber presents the overall program structure on behalf of the Company in his direct testimony. What deficiencies in program design do you identify in that testimony?

A. Mr. Huber asserts that the CEC program is structured to "maximize the benefits to the entire DEF system and to minimize the costs to non-participating customers."[9] I find no evidence of such design intent. Rather, the program requires subsidization of participants by non-participating customers on an involuntary basis. In my experience, this is out of step with generally accepted practices among regulatory agencies that are obligated to ensure just, reasonable, and fair rates that are in the public interest. It is also out of step, as I understand it, with long-standing regulatory policy at the Florida Commission.[10]

Q. Mr. Huber also asserts that the reason for this proposal is to "meet substantial demand from DEF customers who are seeking expanded access to solar energy, but do not have the ability or the desire to construct it on their property."[11] What evidence did the Company provide that large corporate and institutional customers, in particular, lack the ability or desire to self-build or contract for renewable generation?

A. I assume everyone would have a desire for subsidized solar energy, but there is no evidence that any large corporate or institutional potential participants do not have the

ability to construct it on their own property. Mr. Huber reports having conversations with and building a list of willing program participants.[12] They and their financial unwillingness or inability to develop self-build solutions should be detailed by the Company.

Q. For customers seeking renewable supply, is self-build construction on their own property or through utility rate-based assets the only choice?

A. No. The vast majority of community solar projects in the U.S. are private business investments. In addition, a great many corporate customers are getting their renewable energy through purchased power agreements ("PPAs"), which do not require non-participant subsidization at all. In fact, in 2019, nearly 20 Gigawatts of renewable energy was procured by corporate customers, with the vast majority of that in the U.S., and through such PPA arrangements.

Q. Who is this program designed to primarily serve?

A. The overwhelming conclusion from the current record is that the Company has designed a program to serve very large private and institutional customers. These large customers are described as anchor customers that provide the financial foundation for the program, add stability to the program, and reduce overall program administrative costs.

Q. What do you think of anchor tenant justification for the program's heavy focus on large commercial and industrial customers?

A. I find it dubious at best, and very misleading. In large-scale retail development, in gas pipeline development, and in many other kinds of consortium development activities, anchor customers are used. These customers make early large commitments to project participation that make it possible to attract additional participants and round out the project. A Macy's or Neiman Marcus in a big suburban mall is the classic example of

an anchor tenant, and when they commit to a lease, that commitment can help secure project financing for the entire mall and attract dozens of small businesses that open stores and kiosks in the same mall. The Company proposal is like forcing the community to subsidize a Wal-Mart based on the argument that it will also allow a small hotdog stand to set up business in the parking lot. With this program, the "anchor" customers were recruited with subsidies and the Company now seeks the Commission's approval to require other community citizens who will never be able to participate in the program to pay those subsidies. Although there is no evidence that these subsidies are required, the Company portrays this mandatory subsidization by non-participants as a feature of the program, not a bug.[13] The anchor tenant analogy fails.

Q. If there is no evidence that the subsidy structure in the program is required in order to engage large customers or that the program is based on an anchor tenant model that secures large customer participation in order to attract smaller customers into the mix, what rationale explains the Company's program design?

A. Having found no real evidence that the program design was necessary to support cost-effectiveness or subscription, I am left with the rationale offered by FPL in the model that the Company seeks to emulate. That is, that subsidized inducements to these large customers are intended to dissuade those customers from becoming self-generators and growing the competitive market for solar development in Florida.[14]

Q. Is that an acceptable rationale for structuring a program to require non-participants to subsidize wealthy and profitable businesses' participation in a voluntary program?

A. No. And worse, it is anti-competitive. It will frustrate and inhibit, rather than support, the development of renewable energy markets in Florida.

Q. Does any rate making principle support the Company's approach in the proposed program?

A. No. The closest example that I can conceive of is inverse elasticity pricing, or Ramsey-Boiteux pricing, which argues for assignment of costs greater than marginal costs onto customers with low elasticity coefficients in order to keep customers from leaving the system. But even in that generally disfavored theory of pricing, large customers with high elasticity are at least priced at the marginal cost of electricity service. In this case, the Company wants to price solar program subscriptions at below cost for those customers. This violates traditional cost of service rate making in a most fundamental way.

Q. Doesn't the program include carve-outs for customers that are not the largest commercial and industrial customers?

A. Yes. The distribution of participation opportunities, however, is hardly equitable or reasonable. As proposed,[15] of the 749 MW of solar generation planned, 65% (486.85 MW) of the program is reserved for large corporate customers and institutions, but less than 39% of the Company's sales go to *all* commercial and industrial customers—including the small businesses Duke has excluded from the 65% program allotment.[16] In fact, 53% of the Company's sales serve residential customers,[17] but only 25% (187.25 MW) of the program is reserved for them and the small business customers they must share that opportunity with. Local governments are allocated 10% (74.9 MW) of the program. The Company assumes that residential customers will subscribe to half of the 25% allocated to residential and small commercial customers and has allocated 27.7% (26 MW) of that half to low-income customers.

The Company uses the 27.7% number because this is the share of residential customers that it asserts are eligible for low-income energy efficiency programs.[18] This means that less than 3.5% of the total program is allocated to the low-income customers who actually represent roughly 15% of Duke's total electric sales.[19]

Q. Isn't the program good for the small customers that do get to participate?

A. Yes. The fact that residential, small business, government, and low-income customers will get a small chance to access the benefits of renewable energy is a good thing. But given that the Company believes the solar energy projects will generate benefits net of costs anyway, it is not at all clear why this program is required.

Q. What do you mean?

A. Large customers can access renewable energy without subsidies and with savings through mechanisms like PPA contracts with non-utility providers. Customers can aggregate their demand through true community solar projects that don't require subsidies from non-participant customers. The utility can pursue the most cost-effective resources—solar and efficiency—with better site plans and resource planning in general. There is no evidence that the general body of ratepayers must subsidize any customer's desire to get the benefits of solar energy today.

Q. The Company states that the low-income carve out is not a subsidy to low-income customers.[20] Do you agree?

A. No. While the Company witness chose his words quite cleverly, it appears that while low-income customers that get a chance to participate in the program will not be subsidized by other customers within the program, subsidies will still flow from all non-participant customers to the program, including the 99% of low-income customers who will not be able to participate.[21] All this means is that in creating the low-income carve out, the credit and fee structure was modified to create early year

benefits at the cost of later year benefits. The result is that the subsidies flowing to large private commercial, industrial, and institutional customers from the general body of rate payers will not be reduced in order to support low-income participation in the program. This is the very antithesis of "community." I find this approach cynical at best. In the competitive markets I am familiar with, community solar developers find innovative and just ways to engage all program participants in the economics of low-income customer participation.

Q. Is the program open to all low-income customers?

A. No. The set-aside is limited, and low-income customers must be participants in some kind of government subsidy program in order to participate in the Company's program.

Q. Is the universe of low-income customers the same as the universe of low-income customers participating in a government subsidy program?

A. No. The program design rations participation only to low-income customers who receive other government benefits. This is a relatively good thing because presumably, these are the low-income customers most in need of a break on their high electric bills. But it is hardly an evidence-based justification for such rationing.

Q. The Company witness testimony includes the question "Will low income customers ever see their bill increase as a result of program participation?"[22] and the answer, an unqualified "No." Do you agree with this characterization of the proposal?

A. Again, the response is clever but not complete. The relatively few low-income customers that get a chance to become participants will get a fixed subscription rate for the life of the program.[23] They will also receive a fixed bill credit rate which is set higher than the subscription rate, also for the life of the program. There are two

additional points that are necessary to provide a complete answer, and which reveal the unfairness in the program proposal. First, while a fixed subscription rate is reasonable for renewable resources with little or no marginal energy costs, the program provides no opportunity for low-income customers to participate in the upside benefits that could accrue over time. At least for non-low-income customers the Company includes its 1.5% automatic upward adjustment feature. Second, the overwhelming majority of low-income customers that do not get a chance to participate in the program will have to help pay for the subsidies built into the program. In the early years of the program, these costs will be quite high, as I explain later in this testimony.

Q. How are benefits for participants secured?

A. The program is designed with flat rate escalators of 1.5% per year in credits regardless of costs or benefits.[24] Non-participants are the guarantors for this commitment.

Q. What does that mean for participants?

A. The program was designed to provide participants with a seven-year payback,[25] which even outperforms traditional net metering in the vast majority of states. As such, it also constitutes an abuse of market power—through cross-subsidies—to secure an economic advantage over net metered self-generation as well. Non-participants remain the guarantors of this payback rate for customers and for participant credits for 30 years.

Q. Are the new solar plants expected to create benefits for non-participant customers, as asserted by Company witness Huber?[26]

A. The answer, of course, depends on “compared to what?” The Company estimates that non-participant customers will benefit—have reduced costs for electric service—

compared to the Company's business-as-usual plans. The Company estimates that those benefits will occur even with the requirement that non-participants subsidize participant customer benefits. The Company estimates that the benefits to the participant customers will be greater, per unit of energy, than the benefits to non-participant customers. The savings to non-participants would be greater if they were not required to subsidize participant customers.

Q. How much are program administrative costs estimated to be, and who does the Company propose should pay them?

A. There is some confusion in the petition regarding administrative costs. Company witness Huber states that the costs will be $16.5 million over the life of the program.[27] However, Company witness Foster's exhibit TGF-1 says they will be $16.8 million. Either way, the Company proposes that non-participating customers also be required to subsidize the administrative costs of the program on behalf of participants and pay for these costs as a base rate recoverable cost.[28] This is unfair and unreasonable.

Q. Many of the benefits of the program in the future are dependent on reduced operation of fossil fuel plants that generate fuel costs and pollution control costs. Does the Company commit to backing out and retiring such generation?

A. No. The Company won't even evaluate solar plus storage in lieu of any projected gas combustion turbine until 2023[29]—and there is no commitment to defer, avoid, or retire plants as a result of the program. For the environment and for captive non-participant customers, the CEC Program is a "pig in a poke"—a mere promise of unspecified value.

Q. The stipulation includes a commitment to competitive solicitations for work to be performed in constructing the planned solar units. Isn't this meaningful?

A. No. A competitive solicitation is the least good thing the Company could do. It makes no commitments on local hiring, local services procurement, tax payments or payments in lieu of taxes, local siting considerations, environmental justice considerations, or local community engagement of any kind. The stipulation provides only that the Company "plans" to work with third parties on a wide range of issues.[30]

Q. Are the costs that non-participant customer may be required to pay set?

A. No, program costs are not even finalized. Within two years, the Company could announce plans to add more cost to the project for storage technology to be deployed for and on behalf of large customers.[31]

IV. PROGRAM TREATMENT OF RENEWABLE ENERGY CERTIFICATES

Q. What is the default method of handling the RECs created as a result of solar energy generation?

A. The Company proposes as a default to retire all RECs on behalf of participants and not on behalf of non-participating customers.[32] The Company also plans to register all RECs with the North American Renewables Registry.[33] Both of these steps are reasonable and appropriate to ensure that participants maintain integrity in the claims they will make about their subscriptions.

Q. What if a participant wants to take the RECs themselves?

A. If the customer participant is a large customer or a local government, the Company will allow that the customer to have their RECs transferred to an account in their name.[34] RECs associated with subscriptions will be retired on behalf of all participants. Large customers and local governments may request informal

attestation of their subscription from DEF at no cost.

Q. Is this significant?

A. Yes. The registration of RECs by the Company is important to ensure against double-counting. When a REC is assigned to a particular customer, no other customer can make any of the claims associated with the creation of that REC. That also means that the electricity mix for non-participating customers is not, by definition, getting any cleaner or more renewable. The environmental benefits of renewable energy generation can be assigned to participants, to the Company, or the compliance with a regulatory program—but only to one of these at a time. All that non-participating customers receive under the Company proposal is "null energy" because all the environmental attributes and claims belong exclusively to the participant customers. Furthermore, if the participant customer elects to take the RECs into their own account, they can do with them what they want—including using them to offset emissions in another state or even another country. As a result, non-participant solar customers could very well be subsidizing the continued operation of coal plants operated by another utility but serving an affiliate of a multi-state or multi-national corporate customer. For this outcome, the Company would require non-participating customers to pay a supporting subsidy to such customers.

Q. What happens if the program is undersubscribed and RECs are not all assigned to participating customers?

A. In that event, the Company plans to hold the unsubscribed RECs.[35] So even if the RECs are not subscribed and non-participant customers must pay the costs for the RECs and the unsubscribed capacity, they will not get the environmental benefits of those RECs.

V. COST EFFECTIVENESS

Q. Does the Company need to build solar plants with subsidies from non-participating customers in order to design and offer a cost-effective community solar program?

A. No. As Company witness Stout testifies, the Company has considerable experience with solar development. All that is necessary to offer a cost-effective community solar program without subsidies is to reduce the subsidies to zero and let program participants participate in the upside savings of solar without a golden safety net held by non-participant customers. I address the Company's cost-effectiveness analysis to a greater extent later in this testimony.

Q. The Company states that non-participants will also receive many indirect benefits such as unspecified numbers of jobs, economic benefits where the plants are located, and unspecified tax benefits in some locations. The plants might even attract other clean energy business, asserts the Company. Is this, as the Company states, "an important byproduct" of the program?[36]

A. Yes. But those benefits can be obtained by changing the resource mix for all customers and without requiring non-participating customers to subsidize a very few, very large private industries, businesses, and institutions.

Q. Do you have any other concerns about the Company's cost-effectiveness evaluation?

A. Yes. As of the filing of my testimony, the record in this proceeding is completely undeveloped. There has been no discovery or opportunity to probe the assumptions and methods used by the Company in its proposal.

Q. From the filed petition and stipulation materials, what do you understand about the cost-effectiveness evaluation put forth by the Company?

A. The Company's cost-effectiveness evaluation is driven by a number of assumptions about solar generation costs and the system costs or planned system costs that the solar energy could avoid. Fuel price savings benefits comprise $827 million of the assumed savings, the largest single component of savings assumed by the Company. Other major savings are based on assumptions about avoided carbon emissions compliance costs ($434 million) and avoided capital costs for an avoided methane gas combustion turbine plant ($353 million). The Company evaluates fuel savings benefits and cost effectiveness under low, mid, and high fuel price scenarios.[37] I lack the data and resources to evaluate whether these scenarios are reasonable. However, the use of such sensitivities is generally a reasonable approach. In this case, the Company assumed that the low fuel price would be 15% lower than the base case assumption, and that the high fuel price would be 35% higher. Since cost-effectiveness improves with higher price assumptions, this lack of symmetry raises questions about the integrity of these estimates that should be evaluated through a better-developed record. Notwithstanding this issue, even with the Company's assumptions total savings can disappear under a low-price scenario before adding in estimated carbon benefits.[38]

Q. How does the Company estimate carbon benefits?

A. The Company appears to rely on an assumed price of carbon regulation compliance, most likely denominated in dollars per ton of CO2-equivalent. The Company's assumptions do not appear to include carbon price sensitivities. The carbon emissions values in the Company's analysis appear to be based on a single carbon price, with changes in savings levels varying only as fuel prices vary. The difference in the carbon cost savings for the low fuel price sensitivity is a statistically tiny 1.1% while the savings for the high fuel sensitivity is projected at 2.7%. The ratio of these two

numbers is very close the same as the ratio for the fuel cost sensitivities.

Q. Company witness Borsch testifies that the program will be cost-effective.[39] Does that establish the program as fair, just, reasonable, and without due preference?

A. No. Cost effectiveness, as used by the Company in this case, means that the sum of benefits as projected by the Company exceeds the projected costs. Solar is cost effective today in virtually every place on the globe. The key criteria in determining compliance with Florida law is how the costs and benefits are allocated under the program. As explained in this testimony, in that regard, the program fails. The program requires non-participant customers to subsidize privatized benefits for participant customer despite the resource being cost effective.

Q. Are the purported costs and benefits for non-participating customers known or estimated?

A. For the reasons stated below, the benefits that are supposed to make this program a good deal for captive non-participating customers are assumptions. These assumptions are subject to fundamental uncertainty, unlike the Company's commitment to escalate participant credits by 1.5% each year after the first three years of the program.

Q. What are the key assumptions and how are they uncertain?

A. The first assumption is that load will match Company forecasts developed for the Company's more recent Ten-Year Site Plan. If load is substantially lower than anticipated, the impact of costs allocated to captive non-participant customers will be greater. In addition, the relative value of the new solar facilities would also be lower, all other things being equal, under conditions of very low load growth because of the high amount of fossil generation that would be still in the Company's generating mix.

The Company's cost effectiveness evaluation is also dependent on the quality of its fuel price forecasts, because a great deal of the value of the program is said to derive from avoided fuel costs. So, if fuel costs are substantially lower—say because more progressive and climate-responsible utilities close their fossil generating plants and weaken fuel demand—then the avoided fuel benefits of the program for non-participants will also be lower.

The Company also depends on its CO2 allowance price forecast in deriving a substantial portion of the purported benefits to non-participating customers. As with fuel prices, rapid decarbonization across broad sectors of the economy, such as a major shift away from fossil fuel generation by utility companies, could substantially reduce prevailing carbon emissions prices due to weakened demand. There is at least a reasonable chance that the Company's carbon emissions price forecast is too high, and that the benefits to non-participating customers will not materialize as expected.

Q. Are there any other issues associated with the carbon emissions forecast?

A. Yes. As previously discussed, the Company proposes to assign all RECs to program participants. Large corporate and government customers are free to do what they will with those RECs, including selling them in the marketplace. Since both the customer and the Company cannot both claim the carbon emissions reduction credits, the Company's program design sets up, at best, a moral hazard, but more significantly, a potential violation of federal law.[40]

Q. Please explain.

A. What is left after RECs have been transferred to a participant customer is "null energy" that cannot support a claim that the energy or the facility is still a renewable energy generator. If the Company, as a for-profit entity, makes a marketing claim that it is operating a renewable energy facility after it has conveyed the RECs to another

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party, but lacks the associated renewable energy attributes embodied in the REC, then the claim is deceptive under federal law.[41]

Q. Are there other major contributing assumptions in the Company's cost-effectiveness estimation?

A. Yes. The Company projects that the 750 MW of new solar generation will allow the Company to reduce its planned new gas plant construction amount by 3.7%, or 225.8 MW out of the ~~planned~~ 6,167 MW it plans to add through the year 2046. This assumption generates additional savings of $353 million. It is not clear from the Company's filing how much of the avoided fuel and other variable cost savings are directly associated with the assumption about this combustion turbine plant. However, this savings assumption is also sensitive to the accuracy of the Company's sales forecast. If electricity sales increase dramatically, say through electrification of transportation or thermal loads, the plant may not be in fact avoidable. Of course, under such a scenario the increased sales would help spread the added costs of the additional plant, but a rate impact analysis would be required to assess those impacts.

Q. What is the quantitative significance of these assumptions within the Company's cost-effectiveness evaluation?

A. I reconstituted and extended the table in Exhibit BMHB-3 provided by Company witness Borsch in order to gauge the extent to which these key assumptions drive the cost-effectiveness conclusions reached by the Company. As shown in the table below, about half of the anticipated savings is in the form of fuel savings (49%), and about a fourth of the savings is associated with avoided carbon emissions compliance costs (26%) and avoided gas plant capital costs (21%), each. Other unspecified avoided variable costs make up the balance of the estimated savings.

Table KRR-1: Cost Effectiveness (CPVRR) Analysis Results[42]

CPVRR Through Year 2053 2020$M	Clean Energy Connection Solar minus No CEC Solar		
	Low Fuel	**Mid Fuel**	**High Fuel**
Proposed Solar Plants	$ 1,140	$ 1,140	$ 1,140
Conventional Generation	$ (353)	$ (353)	$ (353)
Fuel Cost	$ (702)	$ (827)	$ (1,113)
Variable Costs	$ (67)	$ (65)	$ (64)
Environmental Costs without Carbon	$ -	$ (1)	$ (3)
Program Administrative Costs	$ 7	$ 7	$ 7
Total Solar Savings before CO2 Costs	**$ 25**	**$ (99)**	**$ (386)**
CO2 Cost	$ (429)	$ (434)	$ (446)
Solar Project CPVRR (Savings)	**$ (404)**	**$ (533)**	**$ (832)**
Benefits	$ (1,551)	$ (1,679)	$ (1,976)
Costs	$ 1,147	$ 1,147	$ 1,147
Fuel as % of Benefits	45%	49%	56%
Carbon as % of Benefits	28%	26%	23%
Avoided Combustion Turbine as % of Benefits	23%	21%	18%
Total	**96%**	**96%**	**97%**

Q. What does this mean as a value proposition for participating customers?

A. Nothing, really. The base program credit rate will be set based on the first three years of realized savings,[43] when the precision of the savings estimates should be better than for later years. But after the rate is set, credit value is guaranteed to increase by 1.5% a year,[44] meaning that participating customers bear no risk relating to the key assumptions underlying the cost-effectiveness evaluation.

Q. What does the cost-effectiveness analysis mean as a value proposition for non-participating customers?

A. Under the Company's proposal, non-participating customer bear effectively 100% of the risk of the program performing as expected.

Q. In your experience, is it common to have uncertainty allocated in such a fashion?

A. No. In my thirty years in electricity regulation and rate making practice, the overwhelming majority of voluntary programs are designed to protect

non-participating customers from risks associated with key uncertainties.

Q. What is the likelihood that the savings assumptions will not be borne out as expected?

A. While I cannot assign an exact probability, as I stated, there are reasonable scenarios under which the assumptions will turn out to be wrong, and even if they are not completely wrong, reality may differ sufficiently to eliminate all or a substantial portion of the savings. If the program ends up costing more than it saves, the Company has designed it so that participants are protected while non-participants bear that risk as well. In my view, this approach is not fair, just, or reasonable, and it certainly reflects an undue preference.

Q. Company witness Foster sets out the financial modeling and results that shows the stream of benefits and costs over the proposed program life. What does the Mr. Foster's testimony indicate about the stream of costs and benefits and the relative impacts on participating and non-participating customers?

A. The results of the Company's program design show that the timing and shares of benefits and costs is not fair to non-participants and grants undue preference to program participants. As shown in Table KRR-2,[45] over the life of the program, non-participants realize about $2.9 billion in benefits, though without the avoided carbon compliance benefits, the net benefits are only about $977 million. If system benefits are excluded, the program results in a net cost to non-participating customers of about $211 million. Over the program life, participating customers are expected to come out ahead with benefits exceeding costs by $291 million. However, during the years 2021 through 2028, the story is quite different. In those years, non-participating customers must pay an added $336 million in rates, and if emissions benefits or system benefits do not materialize, the cost is $416 million. During those same initial years,

participants will actually be ahead, with participant credits ($438 million) exceeding fees ($435 million) by $3 million dollars.

Q. Is there a relatively easy fix to this unfair, unjust, and unreasonable program design that grants undue preference to participant customers?

A. Yes. As shown in Table KRR-2, the simple fix—which addresses the rate impacts problems only—would be to limit the guarantee for participant credits to an amount no greater than the total amount of credits paid. If actual market conditions result in greater credit value than anticipated, participants should be able to participate in that "upside" benefit along with non-participant customers.

Q. What other corrections must be made to ensure the program is fair, just, reasonable, and does not provide undue preference?

A. The Company should redesign the program so that allocation shares of total capacity match the relative shares of sales revenues from the various customer classes. The Company should retain all RECs for the benefit of non-participating customers but allow participant customers to purchase those RECs for an additional participant fee based on fair market value. Finally, the Company should be required to serve as a platform and provide billing services at reasonable costs to non-utility competitive community solar program developers, including those sponsored by government bodies such as municipalities.

Table KRR-2: Early Years and Life of Program Impacts on Non-Participants and Participants, with Revenue Neutral Scenario that Caps Guaranteed Credits

	2021-2028 Nominal Cost (Benefits)	Life of Program - as Proposed	"Revenue-Neutral" - Credits Capped at Fees-Paid Level
Non-Participants	$ 336	$ (2,862)	$ (3,153)
Without emissions	$ 375	$ (977)	$ (1,269)
Without system benefits or emissions	$ 416	$ 211	$ (81)
Participant Fees	$ 435	$ (2,251)	$ (2,251)
Participant Credits	$ (438)	$ 2,542	$ 2,251
Net Participant Impacts	$ (3)	$ 291	$ -

VI. RECOMMENDATIONS

Q. Based on your review of the Company's proposal, what do you recommend?

A. The Commission should disapprove the Company's application and proposed stipulation on the grounds that there is insufficient evidence to support a finding that the CEC program will be in the public interest. Further, the Commission should disapprove the application and proposed stipulation because as proposed it would result in rates and charges that are unfair, unjust, unreasonable, and would grant undue preference to participating customers. Finally, the Commission should grant the Company leave to correct the deficiencies and injustice in its program design and submit a revised program that addresses the issues raised in this testimony.

Q. What are some of those redesign options?

A. The first and most obvious solution would be to abandon the program entirely. As described, the program is not a "community solar program" in any true sense of the term. Given the confidence that the Company has in the cost-effectiveness of the solar resource option, it should build the proposed solar plants as assets to serve and save

money for all customers. For customers that seek higher levels of renewable energy supply, the Company should consider a revenue-neutral green pricing program and/or the creation of an option for all customers to participate in PPA arrangements with competitive renewable energy resource providers. The Company should also work with local municipalities and counties to develop a Community Choice Aggregation program that would allow those bodies to procure renewable energy supply through PPA arrangements with competitive solar developers on a non-discriminatory basis. The Company should also leverage its market position to develop and offer true small-scale community solar projects that focus on maximizing service to low-income customers and customers living in environmentally and economically disadvantaged communities. By actively engaging with community representatives, the Company can identify innovative and cost-effective ways to serve these customers.

Q. Does that conclude your testimony?

A. Yes.

[1] Amory B. Lovins, et al., Small is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size (2002). Witness Rábago was a co-author of this book.
[2] Fla. Stat. § 366.92 (2019).
[3] Fla. Stat. § 366.06 (2019).
[4] Commission Order No. PSC-2020-0084-S-EI, Docket No. 20190061-EI, *In re: Petition for Approval of FPL SolarTogether Program and Tariff, by Florida Power & Light Company* (hereinafter "SolarTogether Docket") (Fla. P.S.C. Mar. 20, 2020) at 5, *available at* http://www.psc.state.fl.us/library/filings/2020/01555-2020/01555-2020.pdf.
[5] FPL's highest projected impact on the general body of customers is $125.1 million in 2021. Ex.36, SolarTogether Docket, (Fla. P.S.C. Jan. 15, 2020), attached as Ex. KRR-3. In 2021, FPL expects ultimate sales of 111,934 GWh. Schedule 2.2, FPL Ten Year Site Plan (2020), http://www.psc.state.fl.us/Files/PDF/Utilities/Electricgas/TenYearSitePlans/2020/Florida%20Power%20and%20Light%20and%20Gulf%20Power%20Company.pdf, excerpt attached as Ex. KRR-4. This works out to (in perfect ratemaking) a cost of an additional $0.0011 per kWh. For the average residential customer with 13,094 kWh of use in 2021, *id.*, this works out to an average impact of an extra $14.63 in 2021. Duke's highest projected impact on the general body of customers is $84.2 million in 2024. Ex. TGF-1. Duke expects ultimate sales of 40,704 GWh that year. Schedule 2.2.1, Duke Ten Year Site Plan, *available at* http://www.psc.state.fl.us/Files/PDF/Utilities/Electricgas/TenYearSitePlans/2020/Duke%20Energy%20Florida.pdf, attached as Ex. KRR-5. This works out to (in perfect ratemaking) a cost of an additional $0.0021 per kWh. For the average residential customer with 12,194 of use in 2024, *id.* at Schedule 2.1.1, this works out to an average impact of an extra $25.22 in 2024.
[6] As explained in this testimony, null energy is the term used to characterize renewable energy that has been stripped of its characteristic RECs, and as a result, is no longer renewable energy or anything else as regards such attributes.
[7] Interstate Renewable Energy Council, Model Rules for Shared Renewable Energy Programs (Jun. 2013) at 3-4, https://irecusa.org/publications/model-rules-for-shared-renewable-energy-programs/.
[8] Company witness Huber at 16, lines 9-10.
[9] *Id.* at 4, lines 15-16.
[10] Staff Recommendation, Docket No. 20190061-EI, SolarTogether Docket (Fla P.S.C. Feb. 21, 2020), *available at* http://www.psc.state.fl.us/library/filings/2020/01010-2020/01010-2020.pdf.
[11] Huber at 5, lines 6-9.
[12] *Id.* at 8, Table A, and accompanying testimony.
[13] *See id.* at 9, lines 9-12.
[14] Hearing Transcript Volume 3, p. 688-89 (Witness Valle), Docket No. 20190061-EI, SolarTogether docket (Fla. P.S.C. Jan. 15, 2020), *available at* http://www.psc.state.fl.us/library/filings/2020/00430-2020/00430-2020.pdf.
[15] PSC Docket No. 20200176-EI, *In re: Duke Energy Florida, LLC's Petition for a Limited Proceeding to Approve Clean Energy Connection Program and Tariff and Stipulation*, Ex. A, Stipulation at 2.
[16] Company Ten Year Site Plan, Schedule 2.2,1, *available at* http://www.psc.state.fl.us/Files/PDF/Utilities/Electricgas/TenYearSitePlans/2020/Duke%20Energy%20Florida.pdf. (15,161 GWh in 2019 sold to commercial and industrial customers out of 39,187 GWh of sales).
[17] *Id.* (20,775 GWh in 2019 sold to residential customers out of 39,187 GWh of sales).
[18] Huber at 13, lines 10-13.
[19] 27.7% of 53% is about 15%.
[20] Huber at 13, lines 21-23.
[21] The solar from this proposal is expected to generate 1,837,147 MWh per year. Stout at 12. This would equate to 63,773 MWh generated as part of the low-income program (3.47% of panels dedicated to the low-income program, multiplied by 1,837,147). Using the year 2024 again as an example, when 21,315 GWh of sales are expected to go to residential customers, Schedule 2.1.1, Duke Ten Year Site Plan, and 27.7% of that to low-income customers, equates to total sales of 5,904,255 MWh to low-income customers. 63,773 is 1.1% of sales to low-income customers (63,773 divided by 5,904,255).

[22] Huber at 15, lines 12-14.
[23] Company's proposed tariff sheet 6.407, page 3 of 3.
[24] Huber at 16, lines 9-11.
[25] *Id.* at 17, lines 1-8.
[26] *Id.* at 18-19, section VI.
[27] *Id.* at 24, lines 1-2.
[28] Company's Petition at 5, ¶11.
[29] Stipulation at 8, ¶. 9.
[30] *Id.*, ¶8.
[31] *Id.*, ¶9.
[32] *See* Huber at 19, line 20.
[33] *Id.* at 20, line 5.
[34] *Id.*, lines 18-19.
[35] *Id.* at 21, lines 9-10.
[36] *Id.* at 19, lines 7-14.
[37] Borsch Ex. BMHB-3 at 1.
[38] *Id.*
[39] Borsch at 5, lines 6-9.
[40] *See* 16 CFR §260.15 (providing Federal Trade Commission guidance relating to environmental claims under the Deceptive Trade Practices Act).
[41] *See id.*
[42] Borsch Ex.. BMHB-3 at 1.
[43] Huber at 16, lines 8-9.
[44] *Id.*, lines 9-10
[45] Company Ex.. TGF-1.

BY MR. MARSHALL:

Q Mr. Rábago, did you prepare a summary of your testimony?

A Yes, I did.

Q Would you please go ahead and give us your summary?

A Yes.

And one bit of notice for you, Mr. Marshall, you are suffering a little bit of latency, about a full second of latency, so I am going to try to hold my breath while I wait for you to answer -- or ask questions, or speak anyway.

So I am appearing today on behalf of LULAC. I am actually very proud to do that. LULAC was formed in Texas, in Corpus Christi, back in 1992. I got to be the first ever Latino public utility commissioner appointed in the state of Texas.

LULAC has taken the rather unusual step of intervening in this proceeding as part of its goal of ensuring that the transition to clean, renewable energy is conducted in an equitable fashion, that does not disproportionately burden low and moderate income communities, communities that include many LULAC members and other people of color.

My background is detailed in an attachment to

my testimony that summarizes my more than 30 years of working in the electricity industry in wide variety of positions, including as a public utility commissioner, a utility executive and as a federal executive.

The purpose of my testimony is to lay out in detail the fundamental flaws in Duke Energy Florida's so-called Clean Energy Connection Program, any one of which would justify a denial of the company's petition.

The company proposes an unconscionable and massive cost shift from a select few voluntary participant customers to captive nonparticipant customers. These captive customers, whose misfortune it is to have to continue to need electric service from the monopoly would have no reasonable or affordable alternative to paying those cost subsidies that the monopoly seeks to collect from them if this program is approved.

If I leave you with no other fundamental understanding, it must be that according to the company's own analysis, there is simply no need or good rate-making justification for imposing CEC Program costs and performance risks on nonparticipating captive ratepayers. This is not energy efficiency, which requires participation of some customers in order to secure benefits for all. The company wants the

Commission to approve a cross-subsidy in order to make its program a good deal for the few mostly large customers. And the company wants the Commission to force nonparticipants to bear all the risk associated with overall investment, plus all the administrative costs of the program, plus $300 million of potential benefits to fund guaranteed credits for the participating few.

If every optimistic prediction offered by the company comes true, nonparticipants might come out ahead, but they will still be $300 million behind where they would have been if they weren't forced to subsidize program participants, many of whom don't need the subsidy at all. That is not how voluntary programs should be proposed or approved.

The program has numerous other flaws detailed in my testimony. My testimony recommends that the program application be denied, and that the company be directed to start over and create a voluntary program that does not succeed only on the backs of customers who don't have choice.

My testimony is that if the company believes more solar is good for its captive ratepayers, it should propose that generation as part of its planning process, not through a cynical exercise of monopoly power and

extracting rents, and as far as I can tell, seeking to quash emerging competitive options.

I understand clearly that some parties have signed on to a settlement proposal designed to secure program approval without full regulatory examination of the many flaws and injustices proposed, and I understand that some of these parties may find the compromise of fundamental anti cost shift principles to be an acceptable price to get Duke Energy Florida to finally build a significant amount of new solar generation for any reason at all, but the flaws in the proposal absolutely prevent it from resulting in anything but rates and charges that are unfair, unreasonable and that grant undue preference to participating customers.

That concludes my summary.

MR. MARSHALL: Mr. Chairman, we tender the witness for cross-examination.

CHAIRMAN CLARK: All right. Thank you very much.

Ms. Triplett.

MS. TRIPLETT: Thank you. We have no questions.

CHAIRMAN CLARK: All right. SACE.

MR. CAVROS: SACE has no questions, Chairman. Thank you.

CHAIRMAN CLARK: Vote Solar.

MS. OTTENWELLER: No questions, Mr. Chairman. Thank you.

CHAIRMAN CLARK: Walmart.

MR. NAUM: No questions, Your Honor. Thank you.

CHAIRMAN CLARK: All right. I believe that covers everybody. OPC or FIPUG, I assume no.

So, Mr. Stiller -- Mr. Moyle.

MR. MOYLE: That's right. FIPUG has no questions.

MR. STILLER: No questions from staff.

CHAIRMAN CLARK: Commissioners?

COMMISSIONER BROWN: I have a question.

CHAIRMAN CLARK: Commissioner Brown.

COMMISSIONER BROWN: Thank you.

And thank you, Mr. Rábago, for participating in our proceedings here in Florida. And you have such an extensive, impressive career in this energy space, so I wanted to ask your opinion and get your input on what you believe community solar is and the direction that community solar is going in in this country.

THE WITNESS: Yes. Thank you for the opportunity to be here. Thanks you for taking up

this issue and spending all your time addressing these things.

Commissioner Brown, I think the simplest answer about what community solar can be is that i's a new opportunity for customers to aggregate their demand, particularly for solar energy, but also it can be for other renewable resources in a way that they don't already get through the universal service obligation to serve utility monopoly, and that is that it allows relatively few customers to act together in a true sense of community to add solar generation to their community that they can participate in and achieve economies of scale that they might not enjoy as individual customers. That seems to be the trend.

I think the fundamental thrust of community or shared solar development is that it is also a major instrument for bringing market expansion to the electricity services and generation sectors. It enables more actors into the game. It animates -- as we used to say in New York in the REV proceeding, it animates markets for distributed energy resources, and it mobilizes nonutility capital to expand the options and resources available in the marketplace.

COMMISSIONER BROWN: Thank you.

And are you familiar with the prior docket that this commission approved with FPL, SolarTogether?

THE WITNESS: Very generally. I reviewed some of the features of it, and I understand that Duke modeled its program, albeit in twice the size in terms of ratepayer impact, on that approved FPL settlement proceeding.

COMMISSIONER BROWN: And I am assuming that's the reason why you are here today rather than participating in the prior SolarTogether docket, because of the concerns that you have in this particular proposal?

THE WITNESS: Well, this one -- this one seems to amp up what happened there. My experience in regulation is that once can be a pilot and a learning experience, but unfortunately, twice can start signaling a trend, and this trend is not a good one as far as I am concerned.

COMMISSIONER BROWN: Thank you.

Are you aware of any other similar proposals? One of the witnesses testified for Duke that there was a Minnesota proposal similar to Duke's petition. I wasn't aware of that.

THE WITNESS: I am not -- it's not my belief that what's going on in Minnesota is similar this. I believe that Xcel, who, you know, used to be Northern States Power, is performing more as a platform for community solar development. That is, they are making available their considerable investment in billings and collections, crediting, providing, like I said, sort of platform services, but that there are, I think, now nearly 70 different programs that have been proposed in Minnesota to achieve about 700 or so megawatts of community solar.

And also, by the way, rather than using regulated rate values, or, you know, those sort of -- those kind of proposed numbers for the credits, the Minnesota, I am kind of tickled to say, is using value of solar analysis to establish the compensation rate.

COMMISSIONER BROWN: I was aware of that, too.

You, in your opening comments, you made a comment equating the project as proposed is trying to be similar to the benefits of energy efficiency. If you would like to elaborate a little bit on that, that peaked my interest a little bit.

THE WITNESS: Well, what I was trying to do is

draw a sharp contrast.

Energy efficiency is one of those places, and the reason why some states still, for example, use the ratepayer impact measure analysis approach as a way of reviewing energy efficiency programs is that energy efficiency programs can have an impact on nonparticipating ratepayers. If I get a discount on a lightbulb, that discount gets spread out to all other customers, and if my use of the lightbulb doesn't reduce system costs by the amount that those customers have to bear, then it fails the ratepayer impact measure examination.

And so it has been suggested that, well, this is just like a really big energy efficiency program in which some customers -- all customers are required to chip in a little to pay to support the solar credits going to the subscribers. And what I wanted to point out was I think that is -- there are stark and important differences.

First, there is the hypocrisy of utilities that continue to assert that the ratepayer impact measured examination should be used as a filter for efficiency but not for cross-subsidization of solar.

Second, there is a fundamental difference in

the mechanics. That savings to the system that comes from me installing the lightbulb can't happen unless I install and operate the lightbulb. But in this case, all the savings that the company identifies with solar can be achieved by installing this solar as part of its system mix.

So I was trying to draw a shorthanded distinction, and I appreciate the opportunity to explain what my little shorthand was trying to communicate.

COMMISSIONER BROWN: Thank you. Thank you for your testimony.

CHAIRMAN CLARK: Thank you, Commissioner Brown.

Any other questions?

All right. Then, Mr. Marshall, redirect?

THE WITNESS: I am sorry, I see Commissioner Fay raising his hand.

CHAIRMAN CLARK: I am sorry, Commissioner Fay. You are in a dark corner down here on my screen. I didn't see you.

COMMISSIONER FAY: That's okay, Chairman Clark, I appreciate it.

I appreciate your testimony, too, Mr. Rábago, and your service to our country also. You do, like

Commissioner Brown said, you do have an extensive resume.

I wanted to get your take on -- in your testimony, you were asked about a previous program that the Commission had approved, a similar program, and you spoke a little bit about the proportion difference to -- from that program to this program. And I know, as you know from working with a number of commissions, there is a sense of the Commission making decisions that create some regulatory certainty in their environments and their states. And when you raised the proportional issue, I have to get your opinion on.

Is it as these projects get bigger, as there is more proposals that are arguably different or innovative, depending on how you want to word it -- is it better that these proposals are at a larger scale, or would you be more inclined to support them if they were at a smaller scale? What's the -- what sort of weight should the Commission give depending on the size of the program and its process?

THE WITNESS: That's a really interesting question, and it reminds me of the awesome responsibility that the Commission and the

Commissioners individually bear to balance so many sometimes competing variables when making decisions, especially about new things like this.

If I were to be so presumptuous, I would suggest to you that there are two major factors that you should give weight to. The first is scale, as you suggested. What size of a project is necessary to achieve the potential benefits? And size in the resource acquisition field comes to the length of time over which the costs are stretched and the economies of project scale that are necessary in order to make the program most cost-effective.

Solar is extremely cost-effective at sizes much smaller than that proposed here. This program, at 750 megawatts, is nothing like an individual community solar program proposed anywhere else. It should be evaluated as a resource acquisition for the general body of ratepayers as opposed to a boutique community or shared solar program. So it is way above in scale.

And as I pointed out in footnote five of my testimony -- I think it's footnote five -- that because of that, the cumulative impact on ratepayers, especially the near-term versus

long-term benefits are pretty egregious, right. Captive customers are dishing out money for this program through 2028 under the mid gas scenario, and don't even make it back until 2036 just on a nominal basis because of the structure of this program, while participants get paid off in seven years. So one factor is scale. What scale is necessary?

And then the second factor, as I just alluded to, is impacts. I am keenly aware from having done a few hundred rate cases that the allocation of joint and common costs is sometimes difficult.

When you do a program, sometimes you have the CEO's program is on a voluntary program that's supposed to bear its own costs, and sometimes it's on operations for the entire customer base. Dividing among those is hard.

So keeping the scale down and keeping the impacts, especially the cross-subsidy and cross-shift impacts as low as possible is the other key factor that I would put for you.

So what I -- what got me about this proposal is not that, gee, we can't assess out the allocation of a few marginal sense of program impact. This program is built on a $300 million

cost shift, and that impact is a egregiously high in my opinion.

So those two factors, scale, what's necessary to achieve and how does that impact -- how does that affect impacts are where I would direct your attention in looking at, you know, what you might call innovative programs.

COMMISSIONER FAY: Great. Thank you.

And then just one quick follow-up. I didn't want to presume -- sometimes when we get testimony, if something isn't raised specifically, you have to be careful not to make a presumption that there is not an objection or a point to it.

You mentioned the scale related to the other program that the Commission had approved. Are there any other distinctions from that program that you thought were worthwhile to raise in this docket?

THE WITNESS: Let me think just for a moment. No, that -- nothing beyond what I went through in my testimony. I mean, I did address a number of different things, you know, the opportunity for low-income customers to participate. And I know there are some differences between the program on that, some of those resulting from settlement

negotiations, but nothing else that I could draw your attention to beyond what's in my testimony.

COMMISSIONER FAY: Okay. Great. I just wanted to make sure you had the opportunity to raise those if you wanted to.

Thank you, Mr. Chairman. That's all I had.

CHAIRMAN CLARK: All right. No other questions?

Mr. Marshall?

MR. MARSHALL: We have no redirect, and after moving Exhibits 12 through 16 into the record, would ask that Mr. Rábago be excused.

CHAIRMAN CLARK: All right. The exhibits are entered and the witness is excused.

(Whereupon, Exhibit Nos. 12-16 were received into evidence.)

CHAIRMAN CLARK: Thank you, Mr. Rábago, for your testimony today.

THE WITNESS: You are very welcome. Thank you.

(Witness excused.)

CHAIRMAN CLARK: All right. Moving next into rebuttal testimony. Ms. Triplett, I believe Mr. Borsch is up next.

Ms. Triplett, we do not have any volume from

you. I am sorry.

THE WITNESS: Let's do that again.

MS. TRIPLETT: Sorry about that. It was poetry. I am sorry. One sec.

Whereupon,

BENJAMIN M.H. BORSCH

was recalled as a witness, having been previously duly sworn to speak the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

EXAMINATION

BY MS. TRIPLETT:

Q Mr. Borsch, I would remind you you are still under oath.

Have you filed rebuttal testimony in this proceeding?

A Yes, I have.

Q Do you have any of changes to make to your prefiled rebuttal testimony?

A No, I do not.

Q If you asked you the same questions in your prefiled rebuttal today would you give the same answers?

A Yes, I would.

MS. TRIPLETT: Mr. Chair, we request that the prefiled rebuttal testimony be entered into the record as if it were read today.

CHAIRMAN CLARK: So ordered.

(Whereupon, prefiled rebuttal testimony of Benjamin M.H. Borsch was inserted.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

REBUTTAL TESTIMONY OF

BENJAMIN BORSCH

ON BEHALF OF

DUKE ENERGY FLORIDA

DOCKET NO. 20200176-EI

October 19, 2020

Q. Please State Your Name and Business Address.

A. My name is Benjamin M. H. Borsch. My business address is Duke Energy Florida, LLC, 299 1st Avenue North, St. Petersburg, Florida 33701.

Q. By whom are you employed and what is your position?

A. I am employed by Duke Energy Florida, LLC ("DEF" or the "Company") as the Director, IRP & Analytics.

Q. Have you previously filed testimony in this docket?

A. Yes.

Q. Have your duties or responsibilities with the Company changed since you last filed testimony in this docket?

A. No.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to respond to statements made in the testimony of LULAC witness Rabago specifically with regard to the treatment of Renewable Energy Credits (RECs) under the CEC Program, the cost effectiveness of DEF's Clean Energy Connection Program (the CEC Program), and DEF's approach to planning as it applies to this matter. I would note that if I have failed to address any particular point raised by Mr. Rabago, it does not mean that I agree with that statement.

Q. Please provide a summary of your testimony.

A. The Commission should approve the CEC Program as filed. The issues raised by Witness Rabago, specifically with regard to the treatment of RECs represent a misstatement of the issues. Witness Rabago confuses the concepts of RECs and emissions offsets. Witness Rabago also suggests that DEF's presentation of the cost benefit analysis is somehow incomplete. It is not and the information filed is consistent with DEF's cost benefit analyses in numerous other filings reviewed and approved by the Commission.

Q. Are you sponsoring any exhibits?

A. No.

DEF's Consideration of RECs for the CEC Program is Appropriate and Does Not Violate Federal Laws Regarding Deceptive Trade Practices

Q. Please explain the characteristics of RECs and how they are different from emissions offsets.

A. RECs convey use of renewable electricity generation and thus underlie renewable electricity use claims and therefore are created and measured in terms of MWh. These are intended to expand consumers' electricity service choices and support renewable electricity development. In some jurisdictions, RECs may have a monetary value where there are mandates for achieving specific targets for renewable energy generation. Emission offsets represent greenhouse gas (GHG) emissions reductions and are measured in equivalent tons of gaseous (usually carbon dioxide) emissions. To the extent that offset certificates may be issued, they provide support for emissions reduction activities and where there are markets for trading them, may lower costs of GHG emissions mitigation.

The two concepts are not the same. A REC is a specific attribute associated with renewable generation. A carbon offset represents the impact of a carbon reduction activity. They can be confused, specifically in this instance where renewable generation is offsetting fossil fuel fired generation. Because these two attributes are uniquely different, Mr. Rabago's comments around null energy are misplaced. These two concepts are addressed in a guide published by the U.S. EPA where the differences between these two concepts are described in detail in the U.S. EPA GHG Protocols.[1]

[1] U.S. EPA GHG Protocol Project. "Offsets and RECs: What's the Difference?" EPA Green Power Partnership, February 2018, www.epa.gov/sites/production/files/2018-03/documents/gpp_guide_recs_offsets.pdf.

As such, DEF is not double counting the RECs and is otherwise appropriately considering environmental attributes in the design of the CEC Program.

Q. How does this distinction affect the treatment of the RECs under the CEC Program?

A. Under the CEC Program, DEF has provided the participants the option to have the RECs associated with their subscribed blocks placed in their own NAR tracking accounts if the participants are willing to provide notice and pay the transfer fee. This may provide the participants with the transparency and formal tracking mechanism they desire to claim to use renewable electricity from a zero-emitting resource as part of their sustainability goals. By contrast, all DEF customers will benefit from the avoidance of various emissions, including CO_2, from fossil fired generation that is displaced by the energy generated by the CEC Program portfolio. To the extent that those emissions have a cost, as DEF expects they will, under a future regulatory policy, all customers will benefit from the cost reduction associated with the avoided (i.e. offset) emissions.

Q. Since the CEC Program allows participants to own the RECs associated with their subscriptions, isn't DEF double counting when they also claim a CO_2 benefit for the CEC Program?

A. No. The CO_2 benefit described in DEF's cost benefit analysis for this program does not derive directly from the REC created by the renewable generation. Rather it derives from the avoidance of CO_2 emissions associated with fossil fired generation that would

occur were it not for the CEC Program generation projects. While DEF does not forecast a specific regulatory framework for these costs, they could be associated, for instance, with CO_2 emissions allowances or with a carbon tax, two structures that have been laid out in proposed legislation.

Q. What about the RECs that are tied to the CEC Program blocks that are unsubscribed?

A. Contrary to Mr. Rabago's assertions, in the event that there are unsubscribed blocks from the CEC Program portfolio, these portions of the CEC Program will be assigned to benefit all DEF customers just like any other generating asset. As the CEC Program projects are shown to be cost effective, all customers will benefit from this solar generation. To the extent that any RECs associated with unsubscribed blocks from the CEC Program portfolio have monetary value, this value will flow to all customers as a reduction in the cost of generation in the same way as emission allowance reductions, fuel cost reductions and other similar system cost reductions.

Q. Based on your testimony here, do you agree with Witness Rabago's assertion that DEF's treatment of the RECs presents "a moral hazard" and a potential violation of law?

A. No. Witness Rabago conflates RECs and carbon emission offsets in his paradigm to create the "potential" of deceptive practices that simply does not exist in the CEC Program. The CEC Program is very clear on the creation, use, transfer, and ownership

of RECs including the use of a transparent, nationally recognized REC registry tracking system.

DEF's Cost Effectiveness Evaluation is Complete and Consistent with Prior Proceedings

Q. In Mr. Rabago's Testimony, he describes the record concerning the cost effectiveness of the CEC Program "completely undeveloped." How do you respond to this?

A. First, I wholly disagree that the record concerning the cost effectiveness of the CEC Program is "completely undeveloped." The data provided with the filing is consistent with the level of detail and information provided with most DEF cost recovery filings, similar to the several filings under the DEF SoBRA program. That said, it is normal for Commission staff to request significant discovery in these matters and in this instance, both Staff and LULAC have served discovery requests to which DEF is in the process of responding.

Q. Can you elaborate on some of the details used in developing the cost effectiveness demonstration that Mr. Rabago considers "underdeveloped"?

A. Yes. Consistent with the approach DEF uses in the demonstration of cost effectiveness for a number of projects, DEF assembles two cases, one with the proposed project, in this instance the portfolio of the CEC Program solar generating units and one without the proposed project. In the latter case, the generating capacity necessary to make up the deficit from removing the CEC Program generating units is filled with an optimal

configuration of conventional generating units, primarily gas fired combustion turbines. The two cases are compared on the basis of the Cumulative Present Value Revenue Requirements (CPVRR).

Mr. Rabago identifies three particular areas of the savings which he questions: fuel savings, carbon costs, and conventional generation costs. I will address each of these items and explain why Mr. Rabago's assertions are incorrect. First, regarding the fuel savings benefit, due to the presence of the CEC Program solar generating units, the amount of fuel consumed in the CEC Program case is substantially lower than in the no-CEC Program case. DEF uses an industry accepted production cost model, PROSYM, a part of the ABB Planning and Risk suite, to project the system production costs over the 30-year life of the CEC Program assets. One of the key inputs to this model is the fuel cost. DEF's fuel price assumptions in this filing are consistent with those in the 2020 Ten-Year Site Plan and are shown in Exhibit BMHB-2.

DEF's base case fuel price forecast was developed using short-term and long-term spot market price projections from industry-recognized sources. The base cost for coal in the near term is based on existing contracts and spot market coal prices and transportation arrangements between DEF and its various suppliers. For the longer term, the prices are based on spot market forecasts reflective of expected market conditions. Oil and natural gas prices are estimated based on current and expected contracts and spot purchase arrangements as well as near-term and long-term market forecasts. Specifically, for natural gas DEF uses five years of NYMEX forward spot price curves and then transitions over a five-year period to a fundamentally driven forecast. Natural gas firm transportation cost is determined primarily by pipeline tariff

rates. For the low and high fuel price scenarios, DEF developed ranges of natural gas and coal prices around the reference forecast based on the range of prices seen in the Energy Information Administration's high price (Low Oil and Gas Resource and Technology Case) and low price (High Oil and Gas Resource and Technology Case) forecasts.

Given that the prices of natural gas and coal are currently at historically low levels, it is reasonable that the spread of high and low prices would be asymmetric with a greater "upside" risk in the price. In a system portfolio, solar power acts as a fuel price hedge. In the event that fuel prices rise, the solar power provides increasing savings. If, as Mr. Rabago suggests could happen, fuel prices decrease significantly, the value of the solar price decreases, but it does so in an environment in which the total price to the customer is decreasing. In the low fuel price sensitivity compared to the mid or reference fuel price case, the fuel savings is reduced by $126 million in CPVRR. However, this occurs in an environment in which customers are still saving over $700 million in fuel costs and in which the total fuel expenditure for the fleet is reduced by over $3 billion in CPVRR compared to the reference projection.

The second input which Mr. Rabago addresses is the cost of carbon. The CO2 allowance price projections used in this filing are also DEF's latest projections used in the development of the 2020 TYSP. DEF projects a cost of carbon sufficient to force changes in operation and future technology adoption required to meet the Duke Energy goal of achieving a 50% reduction in emissions from the 2005 baseline by 2030 and to reach a net-zero CO_2 footprint by 2050. To create this price forecast, Duke Energy estimated the CO_2 reductions that would be required to meet this goal and used Duke

Energy's production cost modeling tools to create an estimate of the costs that would be incurred to meet those reduction targets. In the absence of actual market information, Duke Energy assumed that the emissions reduction costs would be representative of the market and that these costs could be used as a proxy for CO_2 emission prices. Based on the set reduction targets, DEF and its customers could incur these costs either through increased operating costs to achieve the reductions, through allowance purchases or a "carbon tax." From the standpoint of total system cost and CPVRR, these would yield effectively the same result.

DEF recognizes that there is today no specific regulatory policy which restricts carbon dioxide emissions or places a specific cost on them. DEF projects the likelihood that this cost will materialize and the savings which would be associated with avoiding these costs. As has been common practice in its filings for over ten years, DEF breaks out the cost savings ascribed to the reduction in carbon emissions as a separate line item to make it transparent how the project cost benefit evaluation would look without these savings. As shown in Exhibit BMHB-3, the selection of the option with the CEC Program project portfolio is cost effective in both the mid and high fuel price scenarios. Only in the low fuel price scenario with no CO_2 emission cost is the no-CEC option less cost effective by $25 million in CPVRR, although, as noted above, this occurs in a circumstance in which the customer's cost of fuel is over $3 billion less than it is in the reference fuel price case. As discussed in regard to the fuel cost, the additional solar generation acts as a hedge against future CO_2 emissions costs.

The third item Mr. Rabago raises is the savings in conventional generation costs. As I mentioned earlier, DEF assembles two resource plans, one with and one

without the CEC Program solar generation portfolio. These plans are developed using System Optimizer, an industry recognized capacity expansion modeling tool which is also part of the ABB Planning and Risk suite of tools. The two resource plans are shown in Exhibit BMHB-4. DEF is a summer planning utility. The solar generation from the planned CEC units provide an initial capacity benefit of 427 MW (57% of the nameplate capacity) at the time of the summer peak. This capacity results in the deferral of combustion turbines that would otherwise be projected to be needed throughout the 30-year life of the solar units and in the end is projected to eliminate the need for one of the projected combustion turbines. The fixed and capital costs for these units are calculated including the direct costs of the units, the associated transmission upgrades, projected fixed operating costs and the costs of fixed gas transportation charges. The costs for each resource plan are compared on a CPVRR basis resulting in a savings of $353 million for the case including the CEC Program solar generating portfolio. Mr. Rabago notes that the filing does not include a commitment by DEF not to build a combustion turbine per se. This is true. All the units identified in the resource plan are projected and may or may not be selected or constructed in the future. However, the presence of the CEC Program solar generation portfolio will reduce DEF's need for additional generating capacity in the future and can be expected to result in a reduction in the future need for combustion turbine capacity.

Value of DEF's Commitment to Consider Third-Party Projects

Q. Is there an opportunity for competitive power developers to participate in the CEC Program?

A. Yes. While DEF will own and operate all the CEC Program solar generation power plants, DEF will consider projects in development by third parties for acquisition depending on the attributes of those projects including location, position in the interconnection queue, required transmission upgrades, community acceptance, environmental permitting status, and other factors. DEF's commitment to consideration of third-party projects is detailed in Mr. Matt Stout's direct testimony and the Stipulation included with DEF's Petition.

Q. Why does DEF feel it is important to maintain ownership of all the CEC Program solar power plants?

A. The rate design of the CEC Program specifically includes certain elements to make the program appealing to potential participants and to DEF's general body of customers (e.g., net cost to participate, payback period, and impacts to general body of customers). As a result, DEF needs to have a high degree of certainty and control over the project criteria and reliable performance in order to keep the program on target consistent with customer demand and expectations. Unexpected variations in costs and, in particular, uncertainty in annual solar production per project, or risks to the in-service date of the projects, will damage the program, risking a failure to meet the commitment to customers, and thereby greatly reduce its chance of success. As such, DEF is working with in-house and third-party developers to develop, construct and operate a portfolio of low-cost and cost-effective solar projects that will provide the greatest certainty for the performance of the CEC Program.

Q. Does that conclude your testimony?

A. Yes.

MS. TRIPLETT: And we are going to waive summary and we tender Mr. Borsch for cross.

CHAIRMAN CLARK: Thank you.

Mr. Marshall.

MR. MARSHALL: Thank you.

EXAMINATION

BY MR. MARSHALL:

Q Mr. Borsch, if I could direct your attention to page six, lines -- line 20 of your rebuttal testimony.

A One second. For some reason I have a copy of my testimony that doesn't have any page numbers on it. Three, four, five, six -- line 20?

Q Yes.

A Is this in response to a question about the cost-effectiveness being underdeveloped?

Q Yes. That's correct.

A Yes.

Q And here on this line, you refer to the two cases that Duke assembled, one with the proposed project, in this instance, the portfolio of the CEC Program solar generating units, and one without the proposed project; is that right?

A Yes.

Q And are these two cases the two resource plans

that we were discussing earlier?

A Yes, they are.

Q And just to be clear, the two cases are not 750 megawatts of solar under Clean Energy Connection as proposed versus the same 750 megawatts of solar without the Clean Energy Connection Program subscription model?

A No, they are not. They are with the 750 megawatts of solar under Clean Energy Connection, or without the 750 megawatts of solar.

Q If I could direct your attention next to page seven of your rebuttal testimony, lines eight through nine. Just flip the page.

And here again, you refer to how the amount of fuel consumed in the Clean Energy Connection Program case is substantially lower than in the non-Clean Energy Connection Program case?

A That's correct.

Q And just to be clear, the non-Clean Energy Connection Program case discussed in this line, two, does not include the 750 megawatts of solar?

A Right. It's the same case you asked me about before.

Q If I could next direct your attention to your rebuttal testimony, page nine, lines nine through 10?

A Okay.

Q And you agreed here that there was no specific regulatory policy which restricts carbon dioxide emissions, or places a specific cost on them?

A Not one which is applicable to Florida. That's correct.

Q Thank you.

MR. MARSHALL: That's all my questions.

CHAIRMAN CLARK: Thank you, Mr. Marshall.

Mr. Rehwinkel?

MR. REHWINKEL: Once again, no questions.

CHAIRMAN CLARK: Thank you, Mr. Rehwinkel.

Mr. Moyle?

MR. MOYLE: FIPUG has no questions.

CHAIRMAN CLARK: Thank you very much.

Staff?

MR. STILLER: No questions.

CHAIRMAN CLARK: Commissioners?

No questions.

All right. Back to you, Ms. Triplett.

MS. TRIPLETT: No redirect -- I'm sorry. No redirect, and there are no exhibits, and this time I will ask that Mr. Borsch be excused.

CHAIRMAN CLARK: All right. The witness is excused. Thank you very much for your testimony, Mr. Borsch.

(Witness excused.)

CHAIRMAN CLARK: Next witness, Ms. Triplett, is Mr. Foster.

MS. TRIPLETT: Yes.

Actually, I don't want Mr. Borsch to disrupt the conference room so he may stay, but not for purposes of questioning. I just don't want him to make a distraction.

CHAIRMAN CLARK: No problem.

Whereupon,

THOMAS G. FOSTER

was recalled as a witness, having been previously duly sworn to speak the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

EXAMINATION

BY MS. TRIPLETT:

Q Okay. Mr. Foster, you are still under oath, correct?

A Yes.

Q Okay. And have you filed rebuttal testimony in this proceeding?

A Yes.

Q Do you have any changes to make to your prefiled rebuttal?

A No.

Q If I asked you the same questions in your prefiled rebuttal, would you give the same answers?

A Yes.

MS. TRIPLETT: We request that the prefiled rebuttal testimony be inserted in the record as though read.

CHAIRMAN CLARK: So ordered.

(Whereupon, prefiled rebuttal testimony of Thomas G. Foster was inserted.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

REBUTTAL TESTIMONY OF

THOMAS G FOSTER

ON BEHALF OF

DUKE ENERGY FLORIDA

DOCKET NO. 20200176-EI

October 19, 2020

Q. By whom are you employed and in what capacity?

A. I am employed by Duke Energy Florida ("DEF" or the "Company") as Director of Rates and Regulatory Planning.

Q. Have you previously filed testimony in this docket?

A. Yes, I provided direct testimony on July 1, 2020.

Q. Have your duties or responsibilities with the Company changed since you last filed testimony in this docket?

A. No.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to rebut four specific matters that Witness Rabago, on behalf of the League of United Latin American Citizens of Florida, raises in direct testimony with respect to DEF's proposed Clean Energy Connection Program (CEC

Program). Those four items are: 1) the Florida Power & Light Company's (FPL's) SolarTogether case should not decide issues in the proceeding given the relative size of the utilities; 2) the CEC Program violates traditional rate making; 3) the amount of CEC Program administrative costs; and 4) the CEC Program is not fair to non-participants and grants undue preference to program participants. I would note that if I have failed to address any particular point raised by Mr. Rabago, it does not mean that I agree with that statement.

Q. Please provide a summary of your testimony.

A. The Commission should approve DEF's CEC Program as filed, with no modifications. Mr. Rabago's claims are unfounded and do not warrant any changes to the CEC Program. As discussed below, the CEC Program is not twice as large as FPL's SolarTogether program; rather, as addressed more thoroughly by Witness Huber, it is sized based on customer demand and with their needs in mind. Similarly, Mr. Rabago's claims about ratemaking are untrue. Under the CEC Program, the general body of customers do not pay for any fixed revenue requirements over the life of the Program since participants are paying 104.9% of the fixed revenue requirements via their subscription fee. This is a $39.2M benefit to the general body of customers. Further, there is no undue preference to CEC Program participants, because the participants are paying a fixed subscription fee that is projected to more than cover the fixed costs of the CEC Program. Finally, my testimony clarifies that there is no confusion regarding the amount of administrative costs; rather the amount included in the direct filing is stated as a nominal cost figure and a revenue requirement figure.

Q. Are you sponsoring any exhibits?

A. No.

Q. On Page 7, lines 13 – 19, of Witness Rabago's testimony he states that the recently Commission approved FPL's SolarTogether program should not be used to decide issues in this proceeding. Do you agree with this assertion?

A. No. First, Witness Rabago fails to acknowledge that FPL's SolarTogether has all the same fundamental features he decries while also ignoring the innovative add-ons DEF made to the proposed CEC Program. DEF designed the CEC Program so that, as compared to the FPL SolarTogether program, the participants bear a greater percentage of the costs and the general body of customers share in a greater percentage of the benefits of the CEC Program. Specifically, DEF's general body of customers receive 87.3% of the benefits while FPL's general body of customers receive 45%. Second, I do not agree that DEF's CEC Program is twice as big as FPL's program given the relative size of the utilities. DEF's CEC Program is relatively bigger but not twice as big, and it was sized based on feedback from customers as discussed more fully by DEF Witness Huber. Third, what Witness Rabago goes on to explain is that the relative rate impact in the year with the highest negative impact is about twice as high of an impact for DEF's CEC Program as compared to FPL's program. While the rate impact is not twice as high based on the math Mr. Rabago shows in his Note 5, the impact for DEF is higher. However, he fails to mention that DEF's impact is also higher in the years where there is a favorable rate impact, given that DEF's program provides $2.9B in favorable net revenue requirements to the general body of customers compared to

FP&L's $1.8B, when considering the entire period. Witness Rabago seems to base his assertion that the FPL program and DEF's CEC Program are not similar enough to merit similar regulatory treatment on an assertion based on a difference in rate impact in a single year. While DEF agrees this is a consideration the FPSC can take into account, using Witness Rabago's own numbers the average monthly impact in the year with the highest impact to the general body of customers is on average ~$0.88 per month higher for the CEC Program than for SolarTogether. This is a far cry from a dramatic difference and is overwhelmed by the additional favorability in the latter years of the program. For the above reasons I believe Witness Rabago's assertion is flawed and irrelevant.

Q. On Page 15, lines 22 – 24, to page 16, lines 1- 12 of Witness Rabago's testimony he implies that DEF's program is structured to require non-participants to subsidize wealthy and profitable businesses and claims that DEF wants to price solar program subscriptions at below cost and that it violates traditional cost of service rate making in a most fundamental way. Do you agree with Witness Rabago's claim?

A. No. Under traditional ratemaking processes, the cost of new generation is recovered from the general body of customers as a rate increase that is offset by the benefits (typically avoided costs that result from the addition of the new generation) that decreases rates over the life of the new generating asset. DEF's CEC Program design allows for the sharing of the benefits of the voluntary Program between the participants and general body of customers while the full cost of the Program is paid for by the

participants over the program life. The intent of this feature is to allow both participants and the general body of customers to benefit from the environmental and financial benefits that result from the addition of new solar generation to the DEF system. The general body of customers do not pay for any fixed revenue requirements since participants are paying 104.9% of the fixed revenue requirements via their subscription fee. This is a $39.2M benefit to the general body of customers. The general body of customers also receive $425.9M on a CPVRR basis of the variable revenue requirement benefits, yielding a total CPVRR of $465.1M or 87.3% of the total program benefits. Participants will pay 104.9%, or $833.4M on a CPVRR basis, of the fixed revenue requirements and are expected to receive approximately $901.0M in variable revenue benefits, yielding a CPVRR of $67.6M or 12.7% of the total program benefits.

Q. Do you agree with Mr. Rabago's testimony where he states that the timing and shares of benefits and costs associated with DEF's CEC Program proposal is not fair to non-participants and grants undue preference to program participants?

A. No. Witness Rabago states that in the years 2021 – 2028 non-participating customers must pay an added $336M in rates while during the same period of time the participants will be ahead by $3M. First, it should be noted that participants are part of the general body of ratepayers and they are paying their portion of the $336M Witness Rabago cites over the 2021-2028 timeframe. So, it is more accurate to say that participants will pay their portion of the $336M in that timeframe and will receive a slight benefit from the net of bill credits and subscription fees ($2.2M, not the $3M Witness Rabago claims). Second, Witness Rabago appears to be intentionally short-sighted in his

analysis. Although he clearly states in his testimony that non-participants realize over the life of the Program about $2.9B in savings, he focuses his analysis on a period of time from 2021 – 2028 rather than the entire life of DEF's CEC proposal. When stating that the program grants undue preference to participants, he fails to recognize that the participants are paying a fixed subscription fee that is projected to more than cover the fixed costs of the Program. This is consistent with the recently approved Solar Together program and it can be seen in Exhibit KKR-3 of Witness Rabago's testimony that if you add up the same numbers over the 2020-2027 timeframe for FPL you will see the General Body of Customers paying ~$500M while participants pay their share of that but receive a slight benefit of ~$5M from the net of the subscription credits and subscription charges. Therefore, the Commission has clearly considered this structure before and determined that it is not unfair to non-participants.

Q. On Page 20, lines 7 – 15, of Witness Rabago's testimony he states there is some confusion in the petition regarding administrative costs. Do you agree with Witness Rabago's statement?

A. No. There is no confusion regarding the projected administrative costs for the CEC Program. The approximate $16.5M in administrative costs referenced by Witness Huber refers to the program administration costs. As stated in Witness Huber's testimony, the administration costs include "labor for one program manager and one specialist, IT expenses to implement the program in the billing system and on the website, marketing and REC registration fees charged by NAR." My direct testimony included a figure of $16.8M, which represents the revenue requirement associated with

the approximate $16.5M administrative costs in nominal terms. Therefore, the figure included in my testimony is a nominal revenue requirement number which includes some return associated with a minimal amount of IT capital, while Witness Huber's number is the cost number before converting to a revenue requirement.

Q. Does that conclude your testimony?

A. Yes.

MS. TRIPLETT: We are going to waive summaries, so Mr. Foster is available for cross.

CHAIRMAN CLARK: All right. Mr. Marshall?

EXAMINATION

BY MR. MARSHALL:

Q Hello, Mr. Foster. If I could direct your attention to page five, line four of your rebuttal testimony.

A I am there.

Q And here, you claim that the general body of customers do not pay for any fixed revenue requirements for the program, is that right?

A That is what I say. Yes, that's correct.

Q Isn't it true that in the years that there is a net benefit -- you know, that there is a net payment from participants in the program, the years -- well, first of all, let me ask this: Isn't it true that it's only in the years 2022 through 2025 that Duke projects that there will be a net payment from participants towards the program?

A A net payment specific to bill credits, and forgive me, is there bill credits and subscription fees, and you said '22 through '25. Looking back at my direct testimony, Exhibit TGF-1, that is correct.

Q And in each of those years, isn't it true that

that net payment from participants is less than one percent of the actual revenue requirements for those years?

A I have not done that math.

Q If you could just eyeball it, does that seem about right?

A Going back to my TGF-1 from my direct?

Q Yes.

A And what numbers are you comparing?

Q The net payment from participants in those years to the net revenue requirements?

A So the bottom number to the top?

Q It would be the row participant net distribution, or payment -- and in this case, we are talking payments -- compared to the row net revenue requirements?

A The row -- oh, okay, I see it. I am sorry. I was looking at the bottom row. And your statement was does that appear to be one percent-ish?

Q Or even less than one percent, for the most part?

A Yeah, that looks like that's accurate.

Q And starting in 2026, participants are actually getting a net payment?

A That's correct.

Q And there are -- and Duke still projects there to be revenue requirements to be paid for in the year 2026?

A However, the subscription fees are what are covering the fixed costs, that's how this program was structured, and I addressed it pretty extensively in my direct testimony, that the 104.9 relates to how the subscription fees were developed to make sure we covered more than the fixed cost of the program, which they do at 104.9 percent.

And then I think you are -- you are just aggregating. The bill credits are really based around the benefits that the program creates, right? And so over the life of the program, the bill credits are designed, as we have stated numerous times, to give some benefit to participants, they are getting to share roughly 12.7 on the CPVRR, less than that if you are looking nominal, of the benefits that the program creates.

Q So I guess my question is -- sorry. Go ahead.

A Oh, no. I apologize for interrupting. Go ahead.

Q And so I guess my question is, that 104.9 percent of the subscription fees that you just referred to, that doesn't take into account the bill credits

going to the participants?

A The fixed costs are defined in my testimony, and they are shown in my -- in my direct testimony, TGF-1, what they are based on. And they are the costs to develop and build the solar plants as well as offsetting costs for not building other types of generation.

Q And so my question is, you know, when you are talking about recovering that money, you know, 104 percent -- 104.9 percent of those fixed revenue requirements via subscription fees, you are not netting that -- those subscription fees with the bill credits going to participants?

A No, we are not netting that. That's correct. And I think, again in my direct, I was very specific about how that was calculated, right?

Q Thank you.

MR. MARSHALL: That's all my questions.

CHAIRMAN CLARK: Thank you.

Mr. Rehwinkel?

MR. REHWINKEL: We have no questions. Thank you, Commissioner.

CHAIRMAN CLARK: Mr. Moyle?

MR. MOYLE: No questions for FIPUG.

CHAIRMAN CLARK: Staff?

MR. STILLER: No questions.
CHAIRMAN CLARK: Commissioners?
No questions.
Ms. Triplett?
MS. TRIPLETT: And no redirect, and no rebuttal exhibits.
CHAIRMAN CLARK: All right.
MS. TRIPLETT: And may Mr. Foster be excused?
CHAIRMAN CLARK: Yes. We are excusing Mr. Foster.
(Witness excused.)
CHAIRMAN CLARK: I believe that has covered all of our witnesses. Have we missed anyone?
MR. STILLER: No, Mr. Chair.
CHAIRMAN CLARK: All right. Are there any other matters that need to be addressed today?
MR. STILLER: Yes, sir.
Post-hearing briefs are due on December 1st, 2020. Briefs should be no longer than 40 pages, and position summaries should be no more than 100 words offset with asterisks.
CHAIRMAN CLARK: All right. Do any of the parties have any additional matters today?
Commissioners, any comments or questions before we adjourn?

All right. Thank you all very much for your participation today. Have a great week.

(Proceedings concluded.)

CERTIFICATE OF REPORTER

STATE OF FLORIDA)
COUNTY OF LEON)

I, DEBRA KRICK, Court Reporter, do hereby certify that the foregoing proceeding was heard at the time and place herein stated.

IT IS FURTHER CERTIFIED that I stenographically reported the said proceedings; that the same has been transcribed under my direct supervision; and that this transcript constitutes a true transcription of my notes of said proceedings.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

DATED this 7th day of December, 2020.

DEBRA R. KRICK
NOTARY PUBLIC
COMMISSION #HH31926
EXPIRES AUGUST 13, 2024