BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

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In the Matter of:

DOCKET NO. 20180133-EI

PETITION FOR LIMITED PROCEEDING TO APPROVE SECOND SOLAR BASE RATE ADJUSTMENT (SOBRA), EFFECTIVE JANUARY 1, 2019, BY TAMPA ELECTRIC COMPANY.
_____/

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PROCEEDINGS:	HEARING
COMMISSIONERS PARTICIPATING:	CHAIRMAN ART GRAHAM COMMISSIONER JULIE I. BROWN COMMISSIONER DONALD J. POLMANN COMMISSIONER GARY F. CLARK COMMISSIONER ANDREW G. FAY
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PLACE:	Betty Easley Conference Center Room 148 4075 Esplanade Way Tallahassee, Florida
REPORTED BY:	ANDREA KOMARIDIS Court Reporter

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P R O C E E D I N G S

CHAIRMAN GRAHAM: All right. I'm ready to get started. We will call this meeting to order. It's Docket No. 20180133-EI. Let the record show it is Monday, October 29th. And staff, if I can get you to read the notice, please.

MR. TRIERWEILER: Good afternoon. By notice issued on October 15th, 2018, this time and place has been set for this hearing in Docket No. 20180133-EI, regarding TECO's second solar-based rate-adjustment case. The purpose of the hearing is set out more fully in the notice.

CHAIRMAN GRAHAM: Okay. Let's take appearances.

MR. WAHLEN: Good afternoon, Commissioner. I'm Jeff Wahlen, appearing with James D. Beasley of the Ausley McMullen law firm, on behalf of Tampa Electric Company.

MR. REHWINKEL: Good afternoon, Commissioner. My name is Charles Rehwinkel, Deputy Public Counsel. And I'm appearing here with J.R. Kelly, Public Counsel, on behalf of TECO's customers.

MR. MOYLE: Good afternoon, Mr. Chairman. Jon Moyle with the Moyle Law Firm, appearing on behalf of Florida Industrial Power Users Group, FIPUG.

And Karen Putnal, with our firm, should also be shown as entering an appearance. Thank you.

MR. TRIERWEILER: Walt Trierweiler and Kurt Schrader for Commission staff.

MS. HELTON: Mary Anne Helton. I'm here as your adviser. I'd also like to enter an appearance for your general counsel, Keith Hetrick.

CHAIRMAN GRAHAM: Okay. Staff, preliminary matters.

MR. TRIERWEILER: Yes, Mr. Chairman.

CHAIRMAN GRAHAM: Mic.

MR. TRIERWEILER: Staff has a few items to address. First of all, TECO and their folks worked really hard to achieve a stipulation that is both acceptable to OPC and not objectionable to FIPUG, which is quite an achievement.

(Laughter.)

MR. TRIERWEILER: TECO filed a stipulation resolving all issues in the docket on October 26th, 2018, and soon afterwards, on the same day, OPC filed a letter stating its intent to agree with and to support that stipulation resolving all issues in the docket. It is our understanding that FIPUG does not oppose this stipulation between TECO and OPC.

Chairman, the witnesses have been excused from the hearing and we ask that the prefiled testimony of all witnesses, identified in Section 6, Page 4 of the prehearing order, be inserted into the record as though read.

CHAIRMAN GRAHAM: We will cert- -- we will insert the prefiled testimony of all witnesses into the record as though read.

(Prefiled testimonies inserted into the record as though read.)

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

MARK D. WARD

Q. Please state your name, address, occupation, and employer.

A. My name is Mark D. Ward. My business address is 702 N. Franklin Street, Tampa, Florida, 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Director of Renewables.

Q. Please provide a brief outline of your educational background and business experience.

A. I earned a Bachelor of Science in Mechanical Engineering from University of Alabama in Huntsville in 1984. I have thirty-four years of combined professional experience as a Department of Defense contractor and working for public utilities and independent power producers. Twenty-one years of my experience has been with electric utilities and independent power producers.

I worked for Tampa Electric from 1996 to 2001, where I

served as Manager of Generation Planning and provided management support for the development of Tampa Electric's Bayside Power project. From 2001 to 2007, I served in mid- to senior level management positions at various companies involved in the power industry. These companies included; Entergy Asset Management, an unregulated subsidiary of Entergy, the Shaw Group, an engineering and construction firm, and TXU, a regulated electric utility. From 2007 to 2014, I served as President of the Mesa Power Group. Mesa Power was a renewable energy developer with a primary focus in large scale wind development. From 2014 to 2016, I managed an energy consulting practice with clients primarily in solar, wind and combined heat and power.

I was re-hired by Tampa Electric in December 2016 as Director of Renewables. My responsibilities in this position include management oversight with respect to Tampa Electric's renewable energy strategies and projects. This includes the execution of Tampa Electric's 600 MW of utility scale solar projects described in the 2017 Amended and Restated Stipulation and Settlement Agreement ("2017 Agreement") that was approved by the Commission in Order No. PSC-2017-0456-S-EI, issued in Docket Nos. 20170210-EI and 20160160-EI on November 27,

2017.

Q. Have you previously testified or submitted written testimony before the Florida Public Service Commission ("Commission")?

A. Yes. I submitted direct and rebuttal testimony on behalf of Tampa Electric in Docket No. 19981890-EI (In re: Generic Investigation into Aggregate Electric Utility Reserve Margins Planned for Peninsular Florida). I submitted direct and rebuttal testimony on behalf of Tampa Electric on the prudency of replacement fuel and purchased power costs in Docket No. 19990001-EI (In re: Fuel and Purchased Power Cost Recovery Clause and Generating Performance Incentive Factor). I submitted direct testimony on behalf of Tampa Electric regarding the Gannon Repowering Project in Docket No. 19992014-EI (In re: Petition by Tampa Electric Company to Bring Generating Units into Compliance with Clean Air Act).

In addition, while working for Mesa Power Group, LLC, I submitted direct testimony before the Minnesota Public Utilities Commission on behalf of AWA Goodhue, LLC in MPUC Docket No. IP6701/WS-08-1233 (In the matter of the Application by AWA Goodhue Wind, LLC for a Site Permit

for a Large Wind Energy Conversion System for a 78 MW Wind Project in Goodhue County).

I also served as a member of a panel of witnesses during the November 6, 2017 hearing on the 2017 Agreement, and most recently, I testified before this Commission in Docket No. 20170260-EI, petition for limited proceeding to approve First Solar Base Rate Adjustment ("SoBRA"), effective September 1, 2018, by Tampa Electric Company.

Q. What are the purposes of your prepared direct testimony?

A. The purposes of my prepared direct testimony are to: (1) explain the company's plans to build solar photovoltaic generating facilities to serve its customers; (2) describe the company's Second SoBRA projects ("Second SoBRA ") expected to be in service by January 1, 2019; and (3) demonstrate that the projected installed costs for the five (5) Second SoBRA projects are below the $1,500 per kilowatt alternating current ("kW_{ac}") installed cost cap contained in the 2017 Agreement.

Q. Have you prepared an exhibit to support your prepared direct testimony?

A. Yes. Exhibit No. _____ (MDW-1) was prepared under my direction and supervision. It consists of the following five (5) documents:

Document No. 1	Lithia Solar Project Specifications and Projected Costs
Document No. 2	Grange Hall Solar Project Specifications and Projected Costs
Document No. 3	Peace Creek Solar Project Specifications and Projected Costs
Document No. 4	Bonnie Mine Solar Project Specifications and Projected Costs
Document No. 5	Lake Hancock Solar Project Specifications and Projected Costs

Q. How does your prepared direct testimony relate to the prepared direct testimony of the company's other two witnesses?

A. My prepared direct testimony describes the five (5) Second SoBRA projects (Lithia, Grange Hall, Peace Creek, Bonnie Mine, and Lake Hancock) for which cost recovery is requested as well as their projected in-service dates and installed cost per kW_{ac}. Tampa Electric's witness R. James Rocha uses the projected installed project cost in my

direct testimony to calculate the annual revenue requirement for the Second SoBRA. The company's cost of service and rate design witness, William R. Ashburn, uses the annual revenue requirement to develop the proposed customer rates for the Second SoBRA.

TAMPA ELECTRIC'S SOLAR PLANS

Q. Please describe the company's overall plan to install solar photovoltaic ("PV") generating facilities.

A. Over the next three (3) years, Tampa Electric plans to add six million solar modules in 10 new solar PV projects across its service territory in West Central Florida. This amounts to a total of 600 megawatts ("MW") of cost-effective solar PV energy, which is enough electricity to power more than 100,000 homes. When the projects are complete, about six percent of Tampa Electric's energy will come from the sun.

These solar additions are a continuation of Tampa Electric's long-standing commitment to clean energy. The company has long believed in the promise of renewable energy because it plays an important role in our energy future. As a member of the Emera family of companies, Tampa Electric is committed to transitioning its power

generation to lower carbon emissions with projects that are cost-effective for customers.

The 600 MW of cost-effective solar PV will be added to the company's generating fleet in four tranches. In May 2018, the company received approval for 144.7 MW of PV solar generation with an in-service date of September 1, 2018. Tampa Electric plans to place another 278 MW in-service as of January 1, 2019, and approximately 127 MW in-service by January 1, 2020, with the balance, approximately 50 MW, in-service by January 1, 2021.

The focus of my prepared direct testimony is the company's planned Second SoBRA projects, totaling 278 MW with a projected in-service date of January 1, 2019. The maximum allowable MW that may be included for cost recovery as part of Second SoBRA, including unused carry-over capacity from the First SoBRA, is 260.3 MW. The MW to be constructed will exceed the maximum SoBRA amount available for cost recovery due to available land plot sizes, project economies of scale and operational efficiency considerations, but the company is only seeking cost recovery for 260.3 MW in this proceeding. In his direct testimony, witness Rocha discusses how the company is complying with the provisions of the 2017

Agreement, including the maximum solar generation that can be recovered for the Second SoBRA.

SECOND SOBRA PROJECTS

Q. Please describe the five (5) Second SoBRA projects.

A. The five (5) Second SoBRA projects are known as the Lithia, Grange Hall, Peace Creek, Bonnie Mine, and Lake Hancock Solar Projects. The projects use single axis tracking systems, each designed to produce the optimal energy output for the particular site conditions. The 74.5 MW Lithia Solar Project is located in Hillsborough County, Florida on 580 acres of old orange groves. The 61.1 MW Grange Hall Solar Project is located in Hillsborough County, Florida on 447 acres of agricultural land. The 55.4 MW Peace Creek Solar Project is located in Polk County, Florida on 417 acres of agricultural land. The 37.5 MW Bonnie Mine Solar Project is located in Polk County, Florida on 352 acres of a reclaimed phosphate mine. The 49.5 MW Lake Hancock Solar Project is located in Polk County, Florida on 358 acres of agricultural land. My exhibit contains project specifications, a general arrangement drawing, and projected installed costs in total and by category for each project.

Q. When does the company expect the Second SoBRA projects to begin commercial service?

A. Based on the current engineering, procurement and construction schedules, the company expects the five (5) projects to be complete and in-service on or before January 1, 2019.

Q. What arrangements has the company made to design and build the Second SoBRA projects?

A. The Second SoBRA projects were designed and will be built using the same general arrangements and processes that were used for the First SoBRA and as described in my prepared direct testimony in Docket No. 20170260-EI.

The company used a competitive process to review qualifications and experience and identify and select full-service solar developers. Three full-service solar developers were selected to enter into contract negotiations to provide project development and EPC services for the 600 MW of Tampa Electric solar projects.

Tampa Electric employed a Request for Information (“RFI”) process to collect information from the bidders with

respect to their qualifications, capabilities and experience as full-service solar developers. The RFI was provided to more than 60 companies with whom Tampa Electric had met or discussed the development and construction of utility scale solar projects. Tampa Electric received more than 30 responses from solar developers or solar EPC companies. The company used the information from the RFI responses to select a shortlist of four full-service solar developers.

The shortlisted developers were asked to provide pricing for seven solar PV projects that ranged in size from 20 to 74.5 MW_{AC}. The pricing information was broken out for engineering and permitting, equipment, balance of system, installation and interconnection. The projects were based on sites that Tampa Electric has purchased or for which it has site control. During the pricing phase of the selection process one developer withdrew. The pricing evaluation was conducted during May 2017 and included interviews with each developer.

Tampa Electric selected First Solar Electric, LLC as its full-service solar developer and EPC contractor for the Grange Hall, Peace Creek, and Lake Hancock projects; Invenergy as its developer and EPC contractor for the

Lithia Solar Project; and Swinerton as the developer and EPC contractor for the Bonnie Mine Solar Project.

The contractors were selected based on their qualifications, experience, and proposed project costs. First Solar Electric is based in Tempe, Arizona and has engineered, developed, and installed more than five gigawatts of solar generation worldwide. Invenergy is based in Chicago, Illinois; it is an Independent Power Producer that has developed and constructed more than 26 gigawatts of natural gas, wind, and solar powered generation. Of the 26 gigawatts developed by Invenergy, 635 MW are PV solar. Swinerton is a renewable energy construction company that has constructed more than three gigawatts of PV solar projects. Invenergy and Swinerton were selected as contractors based on qualifications, experience, proposed project costs, and because they originated their respective project sites.

Q. Has the company procured the land necessary for the solar projects?

A. Yes, Tampa Electric has purchased land for the five projects that will be located in Hillsborough and Polk Counties. Tampa Electric employed a screening and due

diligence process to select its solar sites. The sites were evaluated and selected after considering environmental assessments, size of the project sites, proximity to Tampa Electric transmission facilities, cost of land, and suitability of the sites for solar PV construction. The five (5) sites are between approximately 352 and 580 acres in size.

Q. What is the status of project design and engineering for the Second SoBRA?

A. Lithia, Grange Hall and Peace Creek are permitted and in various states of construction. Bonnie Mine and Lake Hancock are in the later stages of engineering and design, with documentation and permit applications completed and submitted to state and local permitting agencies. Long lead time equipment has been or is being procured for all projects.

Q. Has the company purchased PV modules necessary to construct the projects?

A. Yes. The company entered into a contract for the purchase of PV modules (i.e., solar panels) from First Solar, Inc. First Solar is obligated to complete the delivery of the

modules needed for the Second SoBRA projects before the end of November 2018. The delivery of modules to the Second SoBRA projects will be staged over several weeks between August 2018 through November 2018 to ensure the projects are operational by January 1, 2019.

Q. What other procedures did the company use to ensure that the costs of the projects are reasonable?

A. Tampa Electric's used the RFI process to ensure that the costs of the projects are reasonable. The four (4) shortlisted candidates were selected from the 30 respondents to the RFI. Each of the four (4) candidates were provided several sites that Tampa Electric had purchased or controlled and were asked to provide proposals for the specific sites. The proposals were reviewed, and meetings were held with the candidates. The cost proposals submitted by the candidates for sites similar in size to the Second SoBRA fell within a range of three to seven percent of one another.

Tampa Electric also monitors published costs of other projects, particularly those in Florida. The most recent NREL report that benchmark's EPC solar costs, "U.S. Solar Photovoltaic System Cost Benchmark: Q1 2017" shows 100 MW

utility scale PV systems with single axis tracking as $1,274/kW_{ac}$ for EPC only costs. Tampa Electric's Second SoBRA EPC cost average $1,211/kW_{ac}$.

Lastly, in Docket No. 20170001-EI another Florida investor owned utility requested cost recovery for their PV all-in-solar project costs for fixed tilt systems that range in cost from $1,462/kW_{ac}$ to $1,534/kW_{ac}$. In comparison, Tampa Electric's Second SoBRA average cost is $1,476/kW_{ac}$.

Q. Are the costs of the solar modules to be used in the Second SoBRA subject to increase from tariffs or import duties?

A. No. In a recent Section 201 Trade Case, the United States International Trade Commission found that solar module manufacturers Suniva and SolarWorld suffered economic injury by solar modules from overseas, which could result in the future imposition of tariffs or import duties on certain solar modules manufactured outside the United States. Tampa Electric mitigated its exposure to this potential cost increase by executing a module purchase agreement with U.S. manufacturer First Solar, Inc. for 600 MW of modules at prices that are competitive with

module prices prior to the Suniva filing. This ensures that Tampa Electric's Second SoBRA is competitive with the imposition of the import duties.

Q. Have steel tariffs affected the Second SoBRA project costs?

A. Yes. The recent enactment of steel tariffs has affected Peace Creek, Bonnie Mine and Lake Hancock project costs. The EPC contracts for these projects weren't executed until after the enactment of the steel tariffs. Estimated cost impacts are approximately $20 to $30 per/$kW_{ac}$ project. Tampa Electric and its developers are attempting to minimize these cost impacts by locking in prices for steel to avoid additional increases as the steel market adjusts to the tariffs.

PROJECTED INSTALLED COSTS

Q. What are the projected installed costs for the Second SoBRA Projects?

A. The projected installed costs of the Second SoBRA are shown in the following table:

Second SoBRA Projects	Cost/kW_{ac}
Lithia Solar Project	$1,494
Grange Hall Solar Project	$1,437
Peace Creek Solar Project	$1,492
Bonnie Mine Solar Project	$1,464
Lake Hancock Solar Project	$1,494

Q. What costs were included in these projections?

A. The projected total installed cost broken down by major category for the Second SoBRA are shown on Documents Nos. 1 through 5 of my exhibit.

The projected costs shown in my exhibit reflect the company's best estimate of the cost of the projects; they include the types of costs that traditionally have been allowed in rate base and are eligible for cost recovery via a SoBRA. These costs include: EPC costs; development costs including third party development fees, if any; permitting and land acquisition costs; taxes; utility costs to support or complete development; transmission interconnection cost and modules and equipment costs; costs associated with electrical balance of system, structural balance of system; Allowance for Funds Used During Construction ("AFUDC") at the weighted average

cost of capital from Exhibit B of the 2017 Agreement; and other traditionally allowed rate base costs.

Q. How were the projected cost amounts in your exhibit developed?

A. Tampa Electric has worked continuously with the developers to determine the all-in-costs for the Second SoBRA while also maximizing cost-effectiveness. It has been an iterative approach to develop project costs as site due diligence and engineering and design have been conducted. This includes negotiating and executing the module supply agreement, reviewing equipment specifications and pricing, reviewing the scope of work and balance of system costs, and acquiring land and cost estimates to engineer, permit and construct the projects.

Q. Are the projected installed costs shown in your exhibit eligible for cost recovery via a SoBRA pursuant to the 2017 Agreement?

A. Yes. The SoBRA mechanism in the 2017 Agreement includes a strict cost-effectiveness test and a $1,500 per kW_{ac} installed cost cap to protect customers. The projected installed costs shown in my exhibit are lower than the

$1,500 per kW_{ac} installed cost cap, so the first test for cost recovery under the 2017 Agreement has been met. Witness Rocha demonstrates that the five (5) projects are cost-effective in his prepared direct testimony filed in this docket.

The actual installed costs will be trued up through the SoBRA mechanism once the projects are complete and the work orders have been closed.

Q. Is the projected weighted average combined cost of the First SoBRA and Second SoBRA $1,475/$kW_{ac}$ or less?

A. Yes. The weighted average cost of the First SoBRA and Second SoBRA are $1,404/$kW_{ac}$ and $1,476/$kW_{ac,}$ respectively. The projected weighted average cost of the First SoBRA and Second SoBRA together, is $1,446/$kW_{ac}$.

I am presenting these calculations, which are based on projected costs, only because they relate to footnote 3 on page 10 of the 2017 Agreement and the text on pages 11 and 12 of the 2017 Agreement, which addresses the trigger for the last 50 MW of solar that can be constructed for cost recovery in 2021 under the SoBRA provisions in the 2017 Agreement. The projected weighted average costs

presented above will be re-calculated with actual costs once the First SoBRA and Second SoBRA projects are complete and in service. Actual weighted average costs will be used to assess whether the company has met the requirements for the last 50 MW of solar capacity under the 2017 Agreement.

SUMMARY

Q. Please summarize your prepared direct testimony.

A. Tampa Electric is developing five (5) single axis tracking solar PV projects for an in-service date on or before January 1, 2019. The 74.5 MW Lithia Solar site is located in Hillsborough County, Florida. The 61.1 MW Grange Hall Solar site is located in Hillsborough County, Florida. The 55.4 MW Peace Creek Solar site is located in Polk County, Florida. The 37.5 MW Bonnie Mine Solar site is located in Polk County, Florida. The 49.5 MW Lake Hancock Solar site is located in Polk County, Florida. The sites are between 350 and 580 acres in size and will support the respective projects. The anticipated cost for each project will range from $\$1,438/kW_{ac}$ to $\$1,494/kW_{ac}$. Each of the five (5) projects qualifies for SoBRA cost recovery under the 2017 Agreement.

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

R. JAMES ROCHA

Q. Please state your name, address, occupation, and employer.

A. My name is R. James Rocha. My business address is 702 N. Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Director of Business Strategy and Resource Planning. My responsibilities include leading the resource planning group, identifying the need for future resource additions, and analyzing the economic and other operational impacts to Tampa Electric's system associated with the addition of resource options.

Q. Please provide a brief outline of your educational background and business experience.

A. I graduated from the Georgia Institute of Technology with a Bachelor's degree and a Master of Science degree in Nuclear Engineering. I earned a Master's degree in Business Administration from the University of Tampa, and I am a registered Professional Engineer in the State of

Florida.

In 1984, I was employed by Commonwealth Edison Company as a nuclear fuel engineer in the modeling of unit operation. In 1987, I joined Florida Power Corporation and became a resource planning engineer in the Generation Planning Department. In 2000, I became Manager of Financial Analysis at TECO Energy, responsible for business development and asset management. Since 2006, I have held several positions at Tampa Electric responsible for budgeting, business strategies and North American Electric Reliability Corporation ("NERC") Critical Infrastructure Protection ("CIP") and non-CIP NERC compliance.

I have over thirty years of accumulated electric utility experience working in the areas of resource planning, business and financial analysis, and engineering. I was appointed to my current position in December 2011.

Q. Have you previously testified before the Florida Public Service Commission ("Commission")?

A. Yes. In 2012, I testified in Docket No. 20120234-EI in support of the company's petition for determination of need of the Polk 2-5 Combined Cycle Conversion Project.

On November 6, 2017, I served on the company's panel of subject matter experts during the hearing for the 2017 Amended and Restated Stipulation and Settlement Agreement ("2017 Agreement"). Most recently, I testified before this Commission in Docket No. 20170260-EI, petition for limited proceeding to approve the First Solar Base Rate Adjustment ("First SoBRA"), effective September 1, 2018, by Tampa Electric Company.

Q. What are the purposes of your prepared direct testimony?

A. The purposes of my prepared direct testimony are to: (1) describe the provisions in the 2017 Agreement recently approved by the Commission that allow cost recovery of solar generation projects through a Solar Base Rate Adjustment ("SoBRA"); (2) sponsor and explain the calculation of the revenue requirement for the company's SoBRA for the five (5) projects comprising the company's second tranche of solar generation ("Second SoBRA") effective January 1, 2019; and (3) demonstrate that the five (5) projects in the company's Second SoBRA satisfy the cost-effectiveness test specified in the 2017 Agreement.

Q. Have you prepared an exhibit to support your prepared

direct testimony?

A. Yes. Exhibit No. ___ (RJR-1) was prepared by me or under my direction and supervision. It consists of the following four (4) documents:

Document No. 1	Demand and Energy Forecast
Document No. 2	Fuel Price Forecast
Document No. 3	Revenue Requirements for Second SoBRA
Document No. 4	Cost Effectiveness Test for Second SoBRA based on the entire 278 MW being constructed
Document No. 5	Cost Effectiveness Test for Second SoBRA based on the 260.3 MW allowed in the Second SoBRA

Q. How does your prepared direct testimony relate to the prepared direct testimony of Tampa Electric witnesses Mark D. Ward and William R. Ashburn?

A. Tampa Electric witness Ward’s prepared direct testimony describes the five (5) solar projects (Lithia, Grange Hall, Peace Creek, Bonnie Mine, and Lake Hancock) for which cost recovery is requested via the company’s Second SoBRA, as well as their projected in-service dates and installed

cost per kilowatt alternating current ("kW_{ac}"). I use the projected installed project cost in witness Ward's prepared direct testimony to calculate the annual revenue requirement for the Second SoBRA. The company's cost of service and rate design witness, William R. Ashburn, uses the annual revenue requirement described in my prepared direct testimony to develop the proposed customer rates for the Second SoBRA.

2017 AGREEMENT

Q. Please explain the origins of the 2017 Agreement.

A. The 2017 Agreement is an amendment and restatement of the company's Stipulation and Settlement Agreement ("2013 Agreement"), which resolved all of the issues in the company's last general base rate proceeding (Docket No. 20130040-EI).

Therein, among other things, Tampa Electric agreed that the general base rates provided for in the 2013 Stipulation would remain in effect through December 31, 2017 and thereafter until the company's next general base rate case. The 2013 Agreement also specified that Tampa Electric would forego seeking future general base rate increases with an effective date prior to January 1, 2018, except in limited

circumstances.

The Florida Public Service Commission ("FPSC" or "Commission") approved the 2013 Agreement and memorialized its decision in Order No. PSC-2013-0443-FOF-EI, issued September 30, 2013 ("2013 Agreement Order").

In late 2016, recognizing that the period in which Tampa Electric agreed to refrain from seeking general base rate increases would expire at the end of 2017, Tampa Electric and Office of Public Counsel ("OPC") began discussing whether the company would be willing and able to (a) refrain from seeking a general base rate increase beyond December 31, 2017 and (b) extend the terms of the 2013 Agreement for an additional period. During those discussions, OPC requested and Tampa Electric provided extensive financial and other information to OPC regarding its financial condition and future business plans. The Florida Industrial Power Users Group, Florida Retail Federation, Federal Executive Agencies, and West Central Florida Hospital Alliance later joined the discussions and made their own requests for information. As a result of this extensive and time-consuming process, the five Parties reached an agreement with Tampa Electric to extend the 2013 Agreement with limited amendments, subject to

Commission approval.

The Commission approved the 2017 Agreement on November 6, 2017 and memorialized its approval in Order No. PSC-2017-0456-S-EI, issued on November 27, 2017.

Q. Please generally describe the 2017 Agreement.

A. The 2017 Agreement amends and restates the 2013 Agreement, extends the general base rate freeze included in the 2013 Stipulation, limits fuel hedging and investments in natural gas reserves, protects customers after federal tax reform and replaces the Generation Base Rate Adjustment ("GBRA") mechanism in the 2013 Agreement with a SoBRA mechanism.

The SoBRA mechanism in the 2017 Agreement includes a strict cost-effectiveness test and a $1,500 per kW_{ac} installed cost cap ("Installed Cost Cap") to protect customers.

The SoBRA mechanism enables the company to significantly reduce its carbon emissions profile and its dependence on carbon-based fuels by installing and receiving cost recovery for up to 600 MW of photovoltaic single axis tracking solar generation. This major addition of solar

generation continues the company's transformation into a cleaner, more sustainable energy company, thereby improving fuel diversity and reducing its exposure to financial and other risks associated with burning carbon-based fuels. Because the fuel cost of solar generation is zero, it will provide an important measure of price stability to customers. The 2017 Agreement also allows the company to take maximum advantage of the existing 30 percent solar investment tax credit before the credit is reduced in future years for the benefit of customers.

Q. What are the key SoBRA cost recovery provisions in the 2017 Agreement?

A. There are several key provisions in the 2017 Agreement. First, subparagraph 6(b) of the 2017 Agreement authorizes Tampa Electric to seek recovery of up to 250 MW of new solar generation to be in-service on or before January 1, 2019 through a SoBRA. Per the 2017 Agreement, the effective date of the Second SoBRA can be no earlier than January 1, 2019, and its maximum incremental annual revenue requirement may not exceed $50.9 million.

Second, subparagraph 6(d) of the 2017 Agreement specifies that the installed cost of each individual project to be

recovered through a SoBRA may not exceed $1,500 per kW_{ac}. Witness Ward's prepared direct testimony presents the projected installed costs per kW_{ac} for the five (5) projects in the Second SoBRA and shows that the projected costs are below this cap.

Third, subparagraph 6(g) of the 2017 Agreement states that the cost-effectiveness for the projects in a SoBRA tranche shall be evaluated in total by considering whether the projects in the tranche will lower the company's projected system Cumulative Present Value Revenue Requirement ("CPVRR") as compared to such CPVRR without the solar projects.

Fourth, subparagraphs 6(a) through 6(c) of the 2017 Agreement specify that, subject to the revenue requirement limits in subparagraph 6(b) of the 2017 Agreement, the Second SoBRA revenue requirements will be calculated using the company's projected installed cost per kW_{ac} for each project in the tranche (subject to the Installed Cost Cap); reasonable estimates for depreciation expense, property taxes and fixed O&M expenses; an incremental capital structure reflecting the then current midpoint Return On Equity and a 54 percent equity ratio, adjusted to reflect

the inclusion of investment tax credits on a normalized basis.

Fifth, subparagraph 6(d) of the 2017 Agreement specifies that the types of costs of solar projects that traditionally have been allowed in rate base are eligible for cost recovery via a SoBRA, and lists the following types of costs as examples: Engineering, Procurement and Construction (“EPC”) costs; development costs including third-party development fees, if any; permitting fees and costs; actual land costs and land acquisition costs; taxes; utility costs to support or complete development; transmission interconnection costs; installation labor and equipment costs; costs associated with electrical balance of system, structural balance of system, inverters, and modules; Allowance for Funds Used During Construction (“AFUDC”) at the weighted average cost of capital from Exhibit B of the 2017 Agreement; and other traditionally allowed rate base costs.

Sixth, subparagraph 6(m) of the 2017 Agreement specifies that if the actual installed cost is less than the Installed Cost Cap, the company and customers will share in any beneficial difference with 75 percent going to customers and 25 percent serving as an incentive to the

company. If applicable, this incentive will be added to the revenue requirement calculation.

Seventh, Subparagraph 6(j) of the 2017 Agreement allows the company to seek recovery of unused capacity in a future petition for approval if the amount of capacity recovered in the SoBRA is below the maximum amount specified in Subparagraphs 6(b) and 6(c). For instance, because the First SoBRA was 144.7 MW, which is less than the 150 MW maximum allowed for in the 2017 Agreement, the remaining 5.3 MW from the First SoBRA may be included in the Second SoBRA, for a maximum cumulative total of 400 MW for the First SoBRA and Second SoBRA, of which the Second SoBRA MWs may also be adjusted upward subject to the “two percent variance”.

Specifically, Subparagraph 6(c) of the 2017 Agreement allows for up to a two percent variance in the 2019 maximum 250 MW amount to be recovered (up to 5.0 MW variance) to allow for efficient planning and construction of the solar generation. Thus, the company has included an additional 5.0 MW in its Second SoBRA revenue requirement calculations for 2019.

Finally, paragraph 6(j) authorized the company to include

unused capacity from an earlier SoBRA in a future SoBRA. The company has used this carry-over provision for the Second SoBRA in this proceeding.

ANNUAL REVENUE REQUIREMENT

Q. What is the annual revenue requirement for recovering costs associated with the five (5) projects included in the Second SoBRA?

A. The annual revenue requirement is $45,866,000 without the incentive and $46,045,000 including the incentive. Those amounts were calculated using the projected installed costs of the five (5) solar projects (Lithia, Grange Hall, Peace Creek, Bonnie Mine, and Lake Hancock) in witness Ward's prepared direct testimony and in accordance with the revenue requirement cost recovery provisions of the 2017 Agreement.

The annual revenue requirement for the Second SoBRA was calculated using the approach used for the First SoBRA and as described in my prepared direct testimony in Docket No. 20170260-EI. A summary of the annual revenue requirement calculation is shown in Document No. 3 of my exhibit. This annual revenue requirement amount is approximately $5 million less than the revenue cap for Second SoBRA in

subparagraph 6(b) of the 2017 Agreement.

Q. Please explain the assumptions used in your calculation of the annual revenue requirement.

A. I calculated the annual revenue requirement for the Second SoBRA in accordance with the specification in the 2017 Agreement. I began with the projected installed costs for the five (5) projects in the Second SoBRA as presented by witness Ward. I used the following capital structure specified in the 2017 Agreement: a 10.25 percent return on common equity using a 54 percent equity ratio and a 4.3 percent long-term debt rate on the remaining 46 percent debt in the capital structure. The Investment Tax Credits ("ITC") associated with the Second SoBRA were normalized over the 30-year life of the assets in accordance with applicable Internal Revenue Service regulations. My calculation included the projected impact of the recently enacted property tax exemption for solar projects.

These assumptions were included in a model that considered the solar project costs along with the company's incremental capital costs and agreed upon capital structure to arrive at a revenue requirement amount.

Q. Does your calculation of the revenue requirement include the effects of tax reform implemented by the Tax Cuts and Jobs Act of 2017?

A. Yes. The calculated revenue requirement utilized the lower federal tax rate of 21 percent as implemented in 2018 by the Tax Cuts and Jobs Act of 2017. The tax rate affects the after-tax weighted average cost of capital ("ATWACC") used in the calculation of the solar project revenue requirements and the projected system CPVRR used to determine cost-effectiveness, as described later in my prepared direct testimony. The ATWACC is used as the discount rate for all present value calculations.

Q. How many MW of solar generation is the company requesting cost recovery of in its Second SoBRA?

A. As I described earlier in my prepared direct testimony, according to the 2017 Agreement, Tampa Electric may recover a maximum cumulative amount of 400 MW of solar generation costs between its First SoBRA and Second SoBRA, which includes 150 MW for the First SoBRA and 250 MW for the Second SoBRA, and the 250 MW Second SoBRA total is subject to the 2 percent variance provision for the 2019 amount, as specified in the agreement.

Tampa Electric proposes to recover the costs for 260.3 MW of solar generation in the Second SoBRA. This amount includes 250.0 MW, which is the 2019 annual maximum capacity, plus 5.0 MW representing the 2 percent variance provision applied to the 2019 annual maximum capacity, plus 5.3 MW, which is the unused capacity that was below the maximum amount specified in the First SoBRA [250.0 + 5.0 + 5.3 = 260.3].

Q. Please describe the calculation of the 5.3 MW difference in the First SoBRA maximum and approved amounts to be included in the Second SoBRA.

A. The First SoBRA was approved for 144.7 MW of capacity, leaving 5.3 MW of the 150 MW annual maximum capacity as available to include in the Second SoBRA [400.0 – 250.0 – 144.7 = 5.3].

Q. Please explain the calculation of the annual revenue requirement for the Second SoBRA as presented in Document No. 3 of your exhibit.

A. Using the capital expenditures presented by witness Ward, I calculated the book depreciation and the cost of capital using the capital structure above adjusted for accumulated

deferred taxes. I also added property taxes and fixed operating expenses.

The as-built capacity of the Second SoBRA is expected to be 278 MW. However, the revenue requirements for the Second SoBRA will be based only upon 260.3 MW, per the requirements of the 2017 Agreement. The annual revenue requirement was calculated using the lowest total installed cost per-kW_{ac} solar energy resources in this second tranche up to 260.3 MW.

Q. Is this a final revenue requirement amount and how are customers protected?

A. No. Subparagraph 6(g) of the 2017 Agreement specifies that this annual revenue requirement amount will be trued up for the actual installed cost and in-service dates of the projects covered by the Second SoBRA. Once the difference between the estimated and actual costs is known, the true-up amount will be included in the Capacity Cost Recovery Clause rates, with interest applied.

Regarding the First SoBRA, the projected in-service date is September 1, 2018, so actual costs are still being incurred and are not yet known in total. Therefore, no

true-up for the First SoBRA will be calculated at this time but will be calculated when all actual costs are known, consistent with the 2017 Agreement.

Q. Does the annual revenue requirement presented in your exhibit reflect an incentive savings adjustment?

A. Yes. Subparagraph 6(m) of the 2017 Agreement contains an incentive designed to encourage Tampa Electric to build solar projects for recovery under a SoBRA at the lowest possible cost. According to subparagraph 6(m), if Tampa Electric's actual installed cost for a project is less than the Installed Cost Cap, the company's customers and the company will share in the beneficial difference with 75 percent of the difference inuring to the benefit of customers and 25 percent serving as an incentive to the company to seek such cost savings over the life of this 2017 Agreement. The company has included the effect of the incentive in its revenue requirement for the Second SoBRA based on projected costs.

Q. Does the 2017 Agreement include an example of how the incentive mechanism would work?

A. Yes. According to subparagraph 6(m), if the actual

installed cost of a solar project is $1,400 per kW_{ac}, the final cost to be used for purposes of computing cost recovery under this 2017 Agreement and the true-up of each SoBRA would be $1,425 per kW_{ac} [0.25 times ($1,500 - $1,400) + $1,400].

Q. Please describe the incentive calculations for the Second SoBRA based on the company's projected installed costs.

A. Witness Ward projects the installed costs for the Lithia, Grange Hall, Peace Creek, Bonnie Mine, and Lake Hancock Solar projects to be $1,494/$kW_{ac}$, $1,437/$kW_{ac}$, $1,492/$kW_{ac}$, $1,464/$kW_{ac}$, and $1,494/$kW_{ac}$ respectively, including interconnection, AFUDC, and land costs. The calculation of the installed costs including the incentive for each project is shown in the following table.

Project	**Installed Cost Including Incentive per kW_{ac}**
Lithia	0.25 * ($1,500 - $1,494) + $1,494 = $1,496
Grange Hall	0.25 * ($1,500 - $1,437) + $1,437 = $1,453
Peace Creek	0.25 * ($1,500 - $1,492) + $1,492 = $1,494
Bonnie Mine	0.25 * ($1,500 - $1,464) + $1,464 = $1,473
Lake Hancock	0.25 * ($1,500 - $1,494) + $1,494 = $1,496

The incentive for all projects averages about $6 kW_{ac}.

COST-EFFECTIVENESS TEST

Q. Please describe the cost-effectiveness standard in the 2017 Agreement.

A. Subparagraph 6(g) of the 2017 Agreement states that the cost-effectiveness for the projects in a SoBRA tranche shall be evaluated in total by considering only whether the projects in the tranche will lower the company's projected system CPVRR as compared to such CPVRR without the solar projects.

Q. Have you evaluated the five (5) projects covered by the Second SoBRA as required by this cost-effectiveness test?

A. Yes. The five (5) Second SoBRA projects lower the company's projected system CPVRR as compared to such CPVRR without the solar projects; therefore, the projects covered by the Second SoBRA satisfy the cost-effectiveness test in the 2017 Agreement. The calculations used to support this conclusion are based on the projected installed costs presented in witness Ward's prepared direct testimony and the SoBRA incentive and are contained in Document No. 4 of my exhibit. The cost effectiveness calculation for the Second SoBRA was performed using the approach used for the First SoBRA and as described in my

prepared direct testimony in Docket No. 20170260-EI.

Q. Please explain the underlying assumptions used to determine the projected system CPVRR, as reflected in Document No. 4 of your exhibit.

A. The base assumptions for the cost-effectiveness calculation are the company's demand and energy forecast shown in Document No. 1 of my exhibit, the fuel forecast shown in Document No. 2 of my exhibit, and the solar property tax exemption. In addition, Tampa Electric developed a reference expansion plan with no additional solar and a second expansion plan case including the projects of the Second SoBRA.

As I explained previously, the as-built capacity in this second tranche is expected to be 278 MW but the amount that is recoverable through the Second SoBRA is limited to 260.3 MW in accordance with the 2017 Agreement. In order to ensure a comprehensive analysis, the cost effectiveness test has been performed on both the annual revenue requirement associated with the entire 278 MW being constructed and the 260.3 MW of capacity recoverable through the Second SoBRA.

Q. Please explain the projected system CPVRR calculations reflected in Document No. 4 and 5 of your exhibit.

A. For the entire 278 MW being constructed, the differential CPVRR is favorable for customers by $12.6 million before any value for reduced emissions is included and $39.4 million when the value of reduced emissions is included. The CPVRR fuel savings for the entire 278 MW are $345.7 million, averaging $34.9 million per year. Tampa Electric tested these savings to customers using sensitivities on fuel prices and the market price forecast for carbon. The results show that customer savings occur under the base case and high fuel forecast sensitivities.

For the 260.3 MW allowed in the Second SoBRA, the differential CPVRR is favorable for customers by $14.2 million before any value for reduced emissions is included and $39.0 million when the value of reduced emissions is included. The CPVRR fuel savings for the 260.3 MW allowed in the Second SoBRA are $324.9 million, averaging $32.7 million per year. Tampa Electric tested these savings to customers using sensitivities on fuel prices and the market price forecast for carbon. The results show that customer savings occur under the base case and high fuel forecast sensitivities.

Q. Please discuss other benefits of the Second SoBRA, including lower emissions.

A. The five (5) solar projects included in the Second SoBRA will decrease carbon dioxide ("CO_2") emissions by over 300,000 tons per year, while in the early years, they will decrease nitrogen oxide ("NO_x") emissions by hundreds of tons per year and sulfur dioxide ("SO_2) emissions by thousands of tons per year. Since the company will place 278 MW of solar in-service on January 1, 2019, but only recover through the Second SoBRA the cost associated with 260.3 MW, the company's general body of ratepayers will receive, through the fuel clause, the fuel savings from the energy produced by the excess solar capacity above 260.3 MW that serves the needs of the general body of ratepayers without paying for the fixed cost of generating that energy until that excess is either included in a future SoBRA or a general rate case. Additionally, the solar projects will result in increased construction jobs and additional property tax revenues for the county. All the while, Tampa Electric will maintain competitive rates for customers which are expected to remain among the lowest of Florida's investor-owned utilities.

SUMMARY

Q. Please summarize your prepared direct testimony.

A. The annual revenue requirement for the Second SoBRA is $45,866,000 without the incentive and $46,045,000 including the incentive. The five solar projects being constructed in conjunction with the Second SoBRA (278 MW) will yield CPVRR savings of $12.6 million. The recoverable amount of solar projects of the Second SoBRA (260.3 MW) will yield CPVRR savings of $14.2 million. These projects will reduce air emissions and increase fuel diversity and improve price stability for customers. The assumptions used in my cost effectiveness calculations are reasonable, the methodology used is sound, and the results comport with the provisions of the 2017 Agreement and the cost-effectiveness standards of the Commission. Tampa Electric, accordingly, requests approval of the Second SoBRA by the Commission.

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

WILLIAM R. ASHBURN

Q. Please state your name, address, occupation, and employer.

A. My name is William R. Ashburn. My business address is 702 N. Franklin Street, Tampa, Florida 33602. I am employed by Tampa Electric Company ("Tampa Electric" or "company") as Director, Pricing and Financial Analysis.

Q. Please provide a brief outline of your educational background and business experience.

A. I graduated from Creighton University with a Bachelor of Science degree in Business Administration. Upon graduation, I joined Ebasco Business Consulting Company where my consulting assignments included the areas of cost allocation, computer software development, electric system inventory and mapping, cost of service filings and property record development. I joined Tampa Electric in 1983 as a Senior Cost Consultant in the Rates and Customer Accounting Department. At Tampa Electric I have

held a series of positions with responsibility for cost of service studies, rate filings, rate design, implementation of new conservation and marketing programs, customer surveys and various state and federal regulatory filings. In March 2001, I was promoted to my current position of Director, Pricing and Financial Analysis in Tampa Electric's Regulatory Affairs Department. I am a member of the Rate and Regulatory Affairs Committee of the Edison Electric Institute ("EEI").

Q. Have you previously testified before the Florida Public Service Commission ("Commission")?

A. Yes. I have testified or filed testimony before this Commission in several dockets. Most recently, I filed testimony before this Commission in Docket No. 20180045-EI, Consideration of the Tax Impacts Associated with Tax Cuts and Jobs Act of 2017 for Tampa Electric. I also recently testified before this Commission in Docket No. 20170260-EI, petition for limited proceeding to approve first solar base rate adjustment ("SoBRA"), effective September 1, 2018, by Tampa Electric Company. I testified for Tampa Electric in Docket No. 20170210-EI as a member of a panel of witnesses during the November 6, 2017 hearing

on the 2017 Amended and Restated Stipulation and Settlement Agreement ("2017 Agreement"). I also testified on behalf of Tampa Electric in Docket No. 20130040-EI regarding the company's petition for an increase in base rates and miscellaneous service charges and in Docket No. 20080317-EI which was Tampa Electric's previous base rate proceeding. I testified in Docket No. 20020898-EI regarding a self-service wheeling experiment and in Docket No. 20000061-EI regarding the company's Commercial/Industrial service rider. In Docket Nos. 20000824-EI, 20001148-EI, 20010577-EI and 20020898-EI, I testified at different times for Tampa Electric and as a joint witness representing Tampa Electric, Florida Power & Light Company ("FP&L") and Progress Energy Florida, Inc. ("PEF") regarding rate and cost support matters related to the GridFlorida proposals. In addition, I represented Tampa Electric numerous times at workshops and in other proceedings regarding rate, cost of service and related matters. I have also provided testimony and represented Tampa Electric before the Federal Energy Regulatory Commission ("FERC") in rate and cost of service matters.

Q. What are the purposes of your prepared direct testimony?

A. The purposes of my prepared direct testimony are to: (1)

describe the provisions in the 2017 Agreement recently approved by the Commission that govern the cost of service and rate design for a SoBRA and (2) sponsor and explain the proposed rates and tariffs for the company's Second SoBRA, effective the first billing cycle of January 2019.

Q. Have you prepared an exhibit to support your direct testimony?

A. Yes. Exhibit No. ____ (WRA-1) was prepared under my direction and supervision. It consists of the following seven documents:

Document No. 1	Development of Second SoBRA Base Revenue Increase by Rate Class
Document No. 2	Base Revenue by Rate Schedule for Second SoBRA
Document No. 3	Rollup Base Revenue by Rate Class for Second SoBRA
Document No. 4	Typical Bills Reflecting Second SoBRA Base Revenue Increase
Document No. 5	Determination of Fuel Recovery Factor for Second SoBRA
Document No. 6	Redlined Tariffs Reflecting Second SoBRA Base Revenue Increase

Document No. 7 Clean Tariffs Reflecting Second SoBRA Base Revenue Increase

Q. How does your prepared direct testimony relate to the prepared direct testimony of Tampa Electric witnesses Mark D. Ward and R. James Rocha, filed concurrently in this docket?

A. Tampa Electric witness Mark D. Ward's prepared direct testimony describes the five (5) solar projects (Lithia, Grange Hall, Peace Creek, Bonnie Mine, and Lake Hancock) for which cost recovery is requested via the company's Second SoBRA, as well as their projected in-service dates and installed cost per kilowatt alternating current ("kW_{ac}"). Tampa Electric witness R. James Rocha's prepared direct testimony presents the annual revenue requirement for the company's Second SoBRA using the projected installed project costs presented in witness Ward's prepared direct testimony. I use the annual revenue requirement from witness Rocha's prepared direct testimony to develop the proposed base rate adjustment for the Second SoBRA.

2017 AGREEMENT GUIDANCE FOR SOBRA

Q. Please describe how the 2017 Agreement calls for the SoBRA

revenue requirements to be allocated to rate classes.

A. The 2017 Agreement directs that the SoBRA revenue requirements be allocated to rate classes using the 12 Coincident Peak ("CP") and 1/13th Average Demand ("AD") method of allocating production plant and be applied to existing base rates, charges and credits as described by the following two principles:

1. Only 40 percent of the revenue requirement that would otherwise be allocated to the lighting rate class under the 12 CP and 1/13th AD methodology shall be allocated to the lighting class through an increase to the lighting base energy rate, and the remaining 60 percent shall be allocated ratably to the other classes.
2. The 12 CP and 1/13th AD allocation factor used to derive the revenue requirement allocation shall be based on factors used in Tampa Electric's then most current energy conservation cost recovery ("ECCR") clause filings with the Commission.

Q. Once the revenue requirement has been allocated to rate classes, how will the SoBRA rates to recover each class's revenue requirement be designed?

A. The 2017 Agreement requires the following three principles be employed when designing the base rate adjustments for SoBRA:

1. The revenue requirement associated with SoBRA will be used to increase demand charges for rate schedules with demand charges and energy charges for rate schedules without demand charges.
2. Within the GSD and IS rate classes, the allocated SoBRA revenue requirement will be applied to non-standby demand charges only.
3. The billing determinants used to derive the base rate adjustments shall be based on factors and determinants used in Tampa Electric's then most current ECCR clause filings with the Commission.

Q. Do you provide an exhibit that shows the results of applying the allocation methodology called for in the 2017 Agreement?

A. Yes. Document No. 1 of my exhibit was prepared for that purpose. That document, titled "Development of SoBRA Base Revenue Increases by Rate Class," shows how the revenue requirement increase described in witness Rocha's prepared direct testimony was allocated across the rate classes. Second, the 12 CP and 1/13th AD allocation factor

utilized to set 2019 ECCR clause rates was used to allocate the total revenue requirement increase to all rate classes. Then, the part that was allocated to the Lighting class was split 60/40, with 40 percent recovered from the Lighting class and the remaining 60 percent reallocated to the other rate classes using the same 12 CP and 1/13th AD allocation factor (less the lighting portion).

Q. Does the 2017 Agreement provide for a true-up mechanism to be applied to SoBRA rates?

A. Yes. The 2017 Agreement provides that each SoBRA tranche will be subject to a true-up for the actual cost of the approved project. Once the difference between the estimated and actual costs is known, the true-up amount will be included in the Capacity Cost Recovery Clause rates, with interest applied. The second tranche actual costs are still being incurred and are not yet known in total. Therefore, no true-up will be calculated at this time but will be calculated when known, with interest applied.

PROPOSED RATES AND TARIFFS FOR SOBRA

Q. Having completed the allocation of the SoBRA revenue

requirement to rate classes, what is the next step to derive the base rate adjustment?

A. Using the methodology called for in the 2017 Agreement described above, certain rates in each rate class were increased to recover the identified revenue requirement.

Q. Do you have exhibits that show the results of that base rate adjustment design?

A. Yes. Document No. 2 of my exhibit was prepared for that purpose. It presents the company's proposed rate changes to recover the Second SoBRA class revenue requirements by rate and rate schedule in the format required by Minimum Filing Requirement ("MFR") Schedule E-13c. Document No. 3 of my exhibit rolls up the rate schedule amounts to rate class using the MFR Schedule E-13a format, which then can be compared to Document No. 1 of my exhibit to show how close the rate design comes to collecting the allocated revenue requirements. Document No. 4 of my exhibit utilizes the format of MFR Schedule A-2 to show the impact of the Second SoBRA increase on typical RS, GS, GSD and IS bills. Finally, Document No. 5 of my exhibit shows the determination of the rate impact associated with the Second SoBRA fuel cost savings.

Q. Please explain the fuel impact of the Second SoBRA and how that affects rates in 2019.

A. The second tranche of solar generation that will begin service January 1, 2019 is expected to provide fuel savings of approximately $17 million during 2019. Those expected fuel savings will be included in the company's proposed 2019 annual fuel cost recovery factors to be submitted to the Commission on August 24, 2018. The savings represent an estimated $0.88 reduction on the 2019 residential customer 1,000 kWh monthly bill.

Q. Do you provide an exhibit that shows the redlined changes to tariff sheets affected by implementation of the Second SoBRA?

A. Yes. Document No. 6 of my exhibit was prepared for that purpose. It shows the proposed rates in comparison to the company's proposed 2017 tax impacts associated with Tax Cuts and Job Act of 2017 filed for approval in Docket No. 20180045-EI.

Q. Do you provide an exhibit that shows the clean tariff sheets affected by implementation of the Second SoBRA?

A. Yes. Document No. 7 of my exhibit was prepared for that purpose.

SUMMARY

Q. Please summarize your prepared direct testimony.

A. I have performed the cost of service and rate design components of the Second SoBRA in accordance with the provisions of the 2017 Agreement. I have also performed rate class allocations and determined the appropriate base rate increases by rate class needed to recover the Second SoBRA revenue requirement. The proposed fuel savings and residential customer bill impacts are as described in my direct testimony and exhibit. The modified tariff sheets that accompany my prepared direct testimony properly implement the Second SoBRA rate adjustments and should be approved by the Commission.

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

MR. TRIERWEILER: The parties have stipulated to the admissibility of the comprehensive exhibit list that has been placed before you. Staff requests that the list, itself, be marked as Exhibit No. 1.

CHAIRMAN GRAHAM: Okay.

(Whereupon, Exhibit No. 1 was marked for identification.)

MR. TRIERWEILER: At this time, staff requests Exhibit No. 1 be entered into the record and all other exhibits be marked as identified therein.

CHAIRMAN GRAHAM: Do I have any questions or concerns about entering Exhibit 1 into the record?

MR. WAHLEN: No objection.

MR. REHWINKEL: No objection.

MR. MOYLE: No objection.

CHAIRMAN GRAHAM: Okay. We will enter Exhibit 1 into the record.

(Whereupon, Exhibit No. 1 was admitted into the record, and Exhibit Nos. 2 through 10 were marked for identification.)

MR. TRIERWEILER: Thank you.

We move that TECO's stipulation, filed on October 26th, 2018, be marked as Exhibit No. 11 for identification.

CHAIRMAN GRAHAM: Okay. We will mark that as Exhibit No. 11.

(Whereupon, Exhibit No. 11 was marked for identification.)

MR. TRIERWEILER: Staff is not aware of any further preliminary matters at this time.

CHAIRMAN GRAHAM: Are there any other preliminary matters?

Doesn't seem to be any.

What's the current status of this proceeding?

MR. TRIERWEILER: Mr. Chairman, we are here today to discuss the stipulation to resolve all of the issues in this docket between TECO and OPC. In doing so, please note that FIPUG has indicated it has no objection to the stipulation regarding TECO's second solar-based rate-adjustment case.

CHAIRMAN GRAHAM: Okay. It looks like it's time for opening statements. Each of you will be given five minutes. And TECO, you're up.

MR. WAHLEN: Thank you very much, Commissioners. I'm Jeff Wahlen on behalf of Tampa Electric Company.

Tampa Electric filed its petition for its second base-rate -- solar base-rate adjustment on June 29th. It covers five projects that comply

with the 2017 agreement.

At the prehearing conference, Commissioner Polmann encouraged us to try to resolve as many of the issues as we could in this case, and I believe we have. And we recommend to you, for your approval, the five stip- -- or the stipulation.

There are eight issues in the case. I would like to just briefly go over the issues and the positions on them, for completeness. The first issue addresses the five projects. It identifies them and indicates that they meet the eligibility requirements of the agreement.

Issue 2 addresses cost-effectiveness and concludes that the five projects, in total, are cost-effective, and clarifies about the way the cost-effectiveness test was done and how value of a deferral was apportioned, and states that it is consistent with the understanding of the parties, and has no precedential value beyond the 2017 agreement.

Issue 3 confirms that the five projects -- the projected installed costs are below the $1500-per-kW-AC cap in the agreement.

Issue 4 addresses the total weighted-average cost of the first two SoBRA projects on a projected

basis. That issue only relates to whether Tampa Electric Company will be allowed to build the last 50 megawatts of solar. And the number there, of course, is preliminary and subject to change based on actual numbers.

Issue 5 addresses the total revenue requirement for the second SoBRA and concludes that that number is $46,045,000.

Issue 6 addresses and recommends approval of the rates used to collect the revenue requirement.

Issue 7 deals with the tariffs, which the company proposes to go into effect with the first billing cycle in January. The company projects that the five projects will be in service on December 31st, and customers will be protected if there are unforeseen delays in the in-service dates through the true-up provision in Paragraph 6C.

Issue 8 calls for the docket to be closed when all the necessary work is complete.

I'll conclude by thanking the staff and the parties for their diligent work getting us to this place. And we request that, once all the exhibits are put into the record, that the Commission approve the stipulations and grant the petition.

Thank you very much.

CHAIRMAN GRAHAM: Thank you, sir.

Mr. Rehwinkel.

MR. REHWINKEL: Thank you, Commissioners.

The Public Counsel believes that the stipulation before you in this docket is fully consistent with the 2017 settlement agreement that you approved. And it is -- that is the case when the agreement is read as a whole.

We agree affirmatively, as we've put in writing on Friday, with the stipulation that was filed on the -- October 26th, and we urge that you approve it as being in the public interest.

And I am here merely to answer questions, if you have any. Thank you.

CHAIRMAN GRAHAM: Thank you, sir.

Mr. Moyle?

MR. MOYLE: Thank you, Mr. Chairman.

As was correctly stated by staff, this is an agreement that has been reached by the Office of Public Counsel and Tampa Electric Company. FIPUG is not a party to that agreement. So, it's not a stipulation to -- to which FIPUG is a party, but -- but we have taken -- taken no position on it.

And we've waived our right to cross-examine witnesses and to file post-hearing briefs. We

maintain the position that we took as set forth in our prehearing statement that we -- we filed.

And just as -- as a reminder, I think FIPUG has appeared before you a number of times with respect to the SoBRA projects and stated the basic position that -- that the group has, which is that we support renewable energy with a couple of conditions attached.

The new -- the renewable energy should be needed and it should be cost-effective. And that may -- that position is maintained. And we think it's a -- it's a good position to take. And it's consistent with the policies and tenets that -- that dictate the work that this Commission does.

Just before this -- this hearing, you had the ten-year site plan hearing, which all of the utilities and the Florida Reliability Council comes in and presents information about reserve margins and how the State has -- you know, what it's -- what its energy reserves are, what it can do to meet a reserve margin.

And we think that's an -- an important consideration, in all contexts, not just in a ten-year site plan hearing, but when you're considering any project which adds additional supply. And

these projects add additional supply. And we think cost-effectiveness is -- is, similarly, a very important tenet that should be considered.

You know, there are a -- a lot of types of renewable energy. The Chairman inquired about landfill gas and said, why is landfill gas going down. There's wasted energy. There's a lot of different types of renewable energy. And respectfully, some may be more cost-effective than others.

And so, as decisions are made about -- about generation -- again, the points that FIPUG looks at and will be looking at in the future is cost-effectiveness. Is it cost-effective, in a broad sense, and consistent with statutes and -- and rulings of this Commission. And is -- is it needed.

And so, I just wanted to take this opportunity to reemphasize FIPUG's position in that respect and also to thank your staff. They managed this docket well, as did the parties. And we will opt not to -- not to cross any -- any witnesses or file post-hearing briefs, again, without waiving our substantive position in the case and as articulated here today.

So, thank you. And I'm happy to answer any questions you might have.

CHAIRMAN GRAHAM: Thank you, Mr. Moyle.

Okay. Exhibits.

MR. TRIERWEILER: Staff would now seek to enter into the record all other exhibits that have been identified on the comprehensive exhibit list as Exhibits 2 through 10.

CHAIRMAN GRAHAM: If there -- seeing no complaints, we will enter Exhibits 2 through 10 into the record.

(Whereupon, Exhibit Nos. 2 through 10 were admitted into the record.)

MR. TRIERWEILER: Thank you.

Staff requests that Exhibit 11, TECO's stipulated issues by OPC, be entered into the record at this time.

CHAIRMAN GRAHAM: Once again, no --

MR. WAHLEN: No objection.

CHAIRMAN GRAHAM: No opposition. We will enter Exhibit 11 into the record.

(Whereupon, Exhibit No. 11 was admitted into the record.)

CHAIRMAN GRAHAM: Is there any other matters that we need to address before we continue moving

forward?

MR. TRIERWEILER: Mr. Chairman, the parties have waived the filing of briefs. So, if you choose, the Commission may make a bench decision.

CHAIRMAN GRAHAM: Okay. Commissioners.

Commissioner Brown.

COMMISSIONER BROWN: Thank you.

I have a question on Issue 2. Some of the language in there seems to reflect possibly negotiated language on that issue; specifically, the second-to-last paragraph, beginning with, "Solar projects provide capacity value and contribute to the deferral of the company's next generating unit."

And then it goes on to say, "For these reasons, Tampa Electric now uses the same basic approach considering capacity value and the value of deferral when evaluating the cost-effectiveness of third-party solar PPA proposals," but I thought that you had always used that evaluation.

MR. WAHLEN: You want to take that one?

COMMISSIONER BROWN: It's the word "now" that --

MR. WAHLEN: Sure. Well, there -- there's been some debate, when evaluating purchase power

proposals, whether to give them the same value of deferral and capacity value that utilities use for their projects.

We have been doing that. We simply wanted to put this on the record so it's clear that's what we're doing. And we believe that's further support for the cost-effectiveness test that we used in this case.

COMMISSIONER BROWN: Thank you. I thought you had been doing that.

MR. WAHLEN: Yes.

COMMISSIONER BROWN: So, I just wondered why that "now" language popped out at me.

And then what happens -- in the same paragraph, when it says -- pardon me -- the same issue, last paragraph. It says, at the -- the very last sentence, "Without objection from Tampa Electric, the parties and the Commission have reserved or may reserve their rights to take appropriate action if at least 550 megawatts is not built out."

What is contempl- -- anyone can jump in, but --

MR. WAHLEN: Sure. Well, when the company was talking about the solar projects during the

development of the 2017 agreement, we looked at the 550 or 600 megawatts as a project, as a total project. And that had some value of deferral to it. And what we've done is allocated or apportioned that value of deferral to the different SoBRAs.

COMMISSIONER BROWN: To try --

MR. WAHLEN: But that doesn't work, right, if we don't build all 550. So, if we don't build all 550 -- you know, we just wanted to make it clear that we can come back and the Commission and the parties can take whatever position they want on that, including going back and looking at all of this again. That's really what we're saying.

COMMISSIONER BROWN: Got it. Okay. That -- those are all the questions I have. Thank you for bringing this to us.

MR. WAHLEN: Sure.

CHAIRMAN GRAHAM: Commissioners, any other questions of anybody?

Commissioner Polmann.

COMMISSIONER POLMANN: I just wanted to express my appreciation, the comment Mr. Wahlen made about responding to my suggestion of the parties working together and trying to come to

agreement on as many issues as possible.

You've obviously worked hard to do that. And as you indicated, those efforts, I do believe, have yielded an outcome that is in the public interest. And I -- I appreciate the hard work all the parties did. And I -- I would also agree, staff did an excellent job here. And I appreciate you working with staff on this.

MR. WAHLEN: Yes, they did.

COMMISSIONER POLMANN: Thank you.

Thank you, Mr. Chairman.

CHAIRMAN GRAHAM: Was that a motion?

COMMISSIONER POLMANN: I was wondering if any others of my colleagues have any questions.

CHAIRMAN GRAHAM: No, they know you're the prehearing officer and you did a fantastic job wrapping this all up. So, we're allowing you to make this motion.

COMMISSIONER POLMANN: Mr. Chairman, I would move approval of the stipulation that is before us today. And if that's the appropriate motion, I would hope someone would second that.

CHAIRMAN GRAHAM: I will second it.

COMMISSIONER BROWN: Second.

CHAIRMAN GRAHAM: Any further discussion on

the Polmann motion?

Seeing none, all in favor, say aye.

(Chorus of ayes.)

CHAIRMAN GRAHAM: Any opposed?

By your action, you have approved the motion.

Okay. Is there any other matters to come before us, before we close this docket?

MR. WAHLEN: I would just like to say thank you, again, for the hard work of all of the parties and the staff.

MR. REHWINKEL: Same from the Public Counsel. Thank you.

MR. TRIERWEILER: Mr. Chairman, the Commission has made a bench decision. Post-hearing filings are unnecessary.

The final order will be issued on November 19th -- on or before November 19th, 2018. There are no other matters.

CHAIRMAN GRAHAM: Well, I want to thank all parties for -- you know how I feel about you guys coming together singing Kumbaya. It always works well for me.

I want to thank staff for their time. I want to thank Commissioner Polmann for being prehearing officer and encouraging some sort of settlement.

It's always good when these guys get together and play well in the sandbox.

That all being said, we are adjourned. Everybody travel safe. And hopefully I'll see most of you tomorrow.

(Whereupon, proceedings concluded at 3:09 p.m..)

CERTIFICATE OF REPORTER

STATE OF FLORIDA)
COUNTY OF LEON)

I, ANDREA KOMARIDIS, 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 November, 2018.

ANDREA KOMARIDIS
NOTARY PUBLIC
COMMISSION #GG060963
EXPIRES February 9, 2021