I. Meeting Packet

State of Florida
Public Service Commission
INTERNAL AFFAIRS AGENDA
Tuesday, March 3, 2015
Immediately Following Commission Conference
Room 105 – Gunter Building

1. Staff Briefing—Status of Solar Energy in Florida. (Attachment 1).

2. Executive Director's Report. (No attachment)

3. Other Matters.

BB/sc

OUTSIDE PERSONS WISHING TO ADDRESS THE COMMISSION ON ANY OF THE AGENDAED ITEMS SHOULD CONTACT THE OFFICE OF THE EXECUTIVE DIRECTOR AT (850) 413-6463.

Attachment 1

State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: February 27, 2015

TO: Braulio L. Baez, Executive Director

FROM: Walter Clemence, Public Utility Analyst II, Office of Industry Development and Market Analysis
David Dowds, Public Utilities Supervisor, Office of Industry Development and Market Analysis
Mark Futrell, Director, Office of Industry Development and Market Analysis

RE: Overview of Solar Energy in Florida

Critical Information: Please place on the March 3, 2015 Internal Affairs.
BRIEFING ONLY

This memorandum is to provide an informational overview of current and new solar deployments in Florida, cost trends for solar installations, and a discussion of customer-owned renewable generation and statistics on customer-owned installed capacity. No Commission action is requested.

Existing Solar Resources

Florida has 218 megawatts (MW) of installed solar capacity as of December 31, 2013. Florida utilities have installed approximately 117 MW of solar photovoltaic (PV) and solar thermal capacity in Florida. Utilities have contracted for an additional 39.5 MW of installed capacity, and customers have installed approximately 60.5 MW of distributed solar generation behind their meters.

Utility Owned			**Gross MW**
FPL	Desoto Next Gen Solar Energy Center	PV	25
FPL	Space Coast	PV	10
FPL	FPL Juno Beach Living Lab	PV	0.0970
FPL	Business PV for Schools	PV	0.1600
FPL	Martin Solar	Thermal	75.0
TECO	Museum of Science & Industry	PV	0.0182
TECO	Walker Middle School	PV	0.0034
TECO	Manatee Viewing Center	PV	0.0372
TECO	Middleton High School	PV	0.0089
TECO	Tampa's Lowry Park Zoo	PV	0.0128

TECO	Florida Aquarium	PV	0.0086
DEF	Econlockhatchee Photovoltaic Array	PV	0.0070
DEF	DEF owned Installations	PV	0.9230
FMPA	NOAA Eco-Discovery Center	PV	0.0300
GRU	Small Distributed Rooftop PV Panels	PV	0.0086
OUC	OUC Reliable Plaza PV System	PV	0.0320
TAL	Multiple Utility-owned installations	PV	0.2230
JEA	Multiple Utility-owned installations	PV	0.2220
LAK	Airport Phase 1	PV	2.3000
LAK	Airport Phase 2	PV	3.0000
LAK	Sun Edison - Civic Center	PV	0.2500
	Source: Ten Year Site Plan	Utility Owned	117.34

Existing Non-Utility Owned Generation			**Gross MW**
FPL	Rothenbach Park	PV	0.2500
FPL	First Solar	PV	0.2000
GRU	Multiple Aggregated Distributed Facilities	PV	18.6
OUC	Fleet Solar Project	PV	0.3350
OUC	Gardenia Solar Project	PV	0.2680
OUC	Stanton Solar Farm	PV	5.1
JEA	Jacksonville Solar	PV	15.0
	Source: Ten Year Site Plan	Non-Utility	39.73

Customer-Owned Solar Generation

In 2002 the Commission adopted Rule 25-6.065, Florida Administrative Code, to allow residential customers to interconnect customer-owned solar systems of up to 10 KW and provided that any excess energy generated by the customer's system would be purchased by the utility. In 2008, the FPSC approved a revised rule that applies to all customers and provides for an expedited interconnection process and allows for net metering of customer-owned renewable energy systems of up to 2 MW.

In 2008, the effective year of the revised rule, customer-owned renewable solar generation accounted for approximately 3 MW of renewable capacity. As of 2013, approximately 60.5 MW MW was customer-owned solar PV.

Customer-Owned Solar Generation												
	# of Customer-Owned Solar Systems						kW Gross Power Rating					
	2008	2009	2010	2011	2012	2013	2008	2009	2010	2011	2012	2013
IOU	383	1,045	1,855	2,803	3,799	4,818	1,696	7,653	12,442	19,441	30,401	43,876
Municipal	137	313	493	614	791	1,007	797	3,378	4,099	5,002	7,021	11,787
Rural Electric Cooperative	57	267	461	549	684	853	272	1,955	2,667	3,262	4,099	4,865
TOTAL	577	1,625	2,809	3,966	5,274	6,678	2,765	12,986	19,208	27,705	41,521	60,528

Proposed Solar Resources

The most recent Ten Year Site Plans showed that utilities planned to add 4.5 MW of solar PV during the 2014-2023 timeframe.

Planned Utility-Owned Generation			Gross MW
FPL	Business PV for Schools	PV	0.5000
FPL	CISP (Community Solar)	PV	3.8800
TECO	LEGOLAND	PV	0.0255
TAL	Multiple Installations	PV	0.1200
	Source: Ten Year Site Plan	Utility Owned	4.53

As part of the Ten Year Site Plan process, utilities also identified the as-available energy contracts that they plan to enter into within the 2014-2023 timeframe, as shown in the following chart.

Planned Non-Utility Generation			Gross MW
DEF	Blue Chip Energy Lake Mary	PV	10.00
DEF	Blue Chip Energy Sorrento	PV	40.00
DEF	National Solar Gadsden	PV	50.00
DEF	National Solar Hardee	PV	50.00
DEF	National Solar Suwannee	PV	50.00
DEF	National Solar Highlands	PV	50.00
DEF	National Solar Osceola	PV	50.00
TAL	TBD	PV	1.70
TAL	Innovation Park	PV	0.40
TAL	Yulee Street	PV	0.85

LAK	Sun Edison	PV	6.00
LAK	Sun Edison-Sutton	PV	6.00
LAK	Sun Edison-TBA	PV	7.50
LAK	Sun Edison-TBA	PV	5.00
	Source: Ten Year Site Plan	Non-utility	327.45

In addition to the aforementioned projects, staff highlights below a few projects that were announced subsequent to the release of the 2014 Ten Year Site Plans.

Florida Power and Light Company's Solar Projects

- On January 26, 2015, FPL announced its plans to construct three 74 MW solar photovoltaic facilities by the end of 2016, at three sites:
  - Citrus Solar Energy Center – DeSoto County, near FPL's existing 25 MW solar photovoltaic facility which opened in 2009.
  - Babcock Ranch Solar Energy Center – Charlotte County.
  - Manatee Solar Energy Center – Manatee County, on the site of FPL's Manatee generating facilities.
- According to FPL, the three sites have sufficient transmission and substation infrastructure in place.
- FPL has not announced plans for the recovery of costs associated with the proposed facilities.
- As shown in the utility's Ten Year Site Plan, the utility plans to add 3.88 MW of community solar in the 2014-2023 timeframe.
- On February 20, 2015, FPL announced its plans to construct a 1.7 MW grid-tied solar PV facility at Daytona International Speedway. Construction is to begin in the fall of 2015 with the goal that the system will be operational by the end of the year.

Florida Power and Light Company's Voluntary Solar Partnership Pilot Program[1]

- Offers customers an opportunity to voluntarily contribute $9.00 per month toward supply-side solar generation facilities owned by FPL in its service territory.
  - Available to all residential, commercial, and industrial customers.
- FPL will use the contributions to support the net revenue requirement of constructing and operating relatively small solar generating facilities.
- The electricity generated by the solar generation facilities will displace fuel that otherwise would have been used for generation, resulting in avoided fuel and emissions costs.
- The size of the solar projects will be determined based on the contributions received.
- Customers may enroll or cancel their enrollment at any time.

[1] See Order No. PSC-14-0468-TRF-EI, issued August 29, 2014 in Docket No. 140070-EI, In re: Petition for approval of voluntary solar partnership pilot program and tariff, by Florida Power & Light Company.

Tampa Electric Company - Tampa International Airport Project

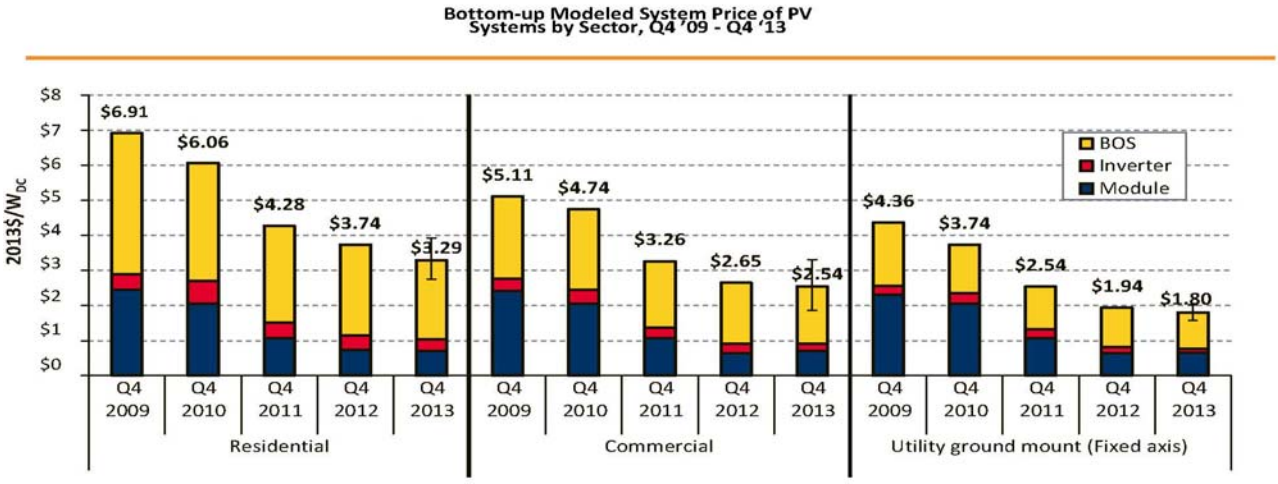
- On September 30, 2014, Tampa Electric Company (TECO) announced it will construct 2 MW of solar PV at the airport.
- The project is to be completed by the end of 2015.
- TECO will own the solar PV and will lease the airport garage roof on which the solar PV is to be located for $15,000/year.
- TECO will receive the 30% federal tax credit.
- Energy from the solar PV will be fed into TECO's grid and not be consumed directly by the airport.

Gulf Power Company's Solar Petition – Docket No. 150035-EI

- On January 22, 2015, Gulf Power Company filed for approval of three purchased power agreements totaling 120 MW for solar photovoltaic projects to be located at military installations:
  - Eglin Air Force Base, Okaloosa County – 30 MW
  - Holley Naval Landing Field, Santa Rosa County – 40 MW
  - Saufley Naval Landing Field, Escambia County – 50 MW
- A recommendation on the petition is currently scheduled for the April 16, 2015 Agenda Conference.

Cost Trends

The costs associated with the installation of solar PV have been steadily decreasing. The graph below shows that the declines have been seen in all three sectors -- residential, commercial, and utility scale installations. The graph shows that over the period 4th quarter 2009 – 4th quarter 2013, the bottom-up modeled system prices have declined by 52%, 50%, and 59% for residential, commercial, and utility scale installations, respectively.



Source: 2014 Edition of DOE's Photovoltaic System Pricing Trends

Information provided by the investor-owned electric utilities in the 2014 goal setting proceeding also recognized the declining cost of solar PV for residential and commercial installations. For example, Duke Energy's witness testified that the cost of solar PV for residential installations declined from \$5.01/watt$_{dc}$ in 2011 to \$4.13/watt$_{dc}$ in 2013. Similarly, the cost of solar PV for commercial installations declined from \$5.33/watt$_{dc}$ in 2011 to \$3.89 in 2013. Gulf Power Company reported that the installed cost of solar PV systems (residential and commercial) dropped from an average of \$5.54/watt$_{dc}$ in 2011 to \$3.42/watt$_{dc}$ in 2014.

Demand Side Management Solar Pilot Programs

Section 366.82, F.S., directs the Commission to adopt appropriate goals for increasing the development of demand-side renewable energy systems. In developing goals, the Commission is to take into consideration the benefits and costs to the consumer participating in the measure and the benefits and costs to the general body of ratepayers. In the 2009 goal setting proceeding, the Commission found that solar measures, including solar PV and solar thermal, did not pass the cost-effectiveness tests required by Rule 25-17.008, F.A.C. However, the Commission ordered the investor-owned electric utilities (IOUs) to develop solar pilot programs in order to address the intent of the Legislature to place added emphasis on demand-side renewable resources.[2] The Commission established a spending cap for the IOUs of approximately \$24.5 million per year total in order to protect ratepayers from undue rate increases. The approved solar pilot programs provide customer rebates to offset a portion of the installation costs for solar photovoltaic and solar hot water heating systems, and also provide solar energy equipment to low-income customers and to schools. The following data provides information on program participation, costs, and installed solar PV capacity.

Solar Pilot Program Participation and Expenditures

The table below shows that during the period 2011-2013, a total of nearly \$50 million was expended for the solar pilot programs and 5,845 customers participated in the programs.

Solar Pilot Program Expenditures and Participation 2011-2013 (Includes both PV and Thermal)

	Expenditures	Participants
FPL	\$29,853,514	3,962
DEF	\$13,788,013	1,318
TECO	\$3,793,723	325
GULF	\$2,300,000	240
Total	\$49,735,250	5,845

Source: 2014 conservation goals proceeding.

[2] See Order No. PSC-09-0855-FOF-EG, issued December 30, 2009, in Docket Nos. 080408-EG, 080409-EG, 080410-EG, 080412-EG, 080413-EG, In re: Commission Review of numeric Conservation Goals.

The following tables provide more detailed information on solar pilot program participation and expenditures during 2011-2013.

Florida Power and Light Company 2011-2013	Number of Participants	Total Expenditures	Average Expenditure/Participant
Solar Water Heating - Residential & Low Income New Construction	2968	$4,469,845	$1,506
Solar Water Heating - Business	38	629,408	16,563
Photovoltaic (PV) - Residential	774	11,045,895	14,271
Photovoltaic (PV) - Business	153	5,488,461	35,872
Photovoltaic (PV) - Business PV for Schools	29	4,057,967	139,930
Research & Demonstration	n/a	1,158,841	
Non-program Specific	n/a	3,003,097	
TOTAL	3962	$29,853,514	$7,535

Source: 2014 Energy Conservation Goals Proceeding.

Duke Energy Florida, Inc. 2011-2013	Number of Participants	Total Expenditures	Average Expenditure/Participant
Solar Water Heating Low Income	63	$321,874	$5,109
Solar Water Heating - Residential	847	587,132	693
Photovoltaic (PV) - Residential	346	5,522,911	15,962
Photovoltaic (PV) - Commercial	39	2,755,173	70,645
Photovoltaic (PV) for Schools	23	4,097,400	178,148
Research and Demonstration	n/a	504,523	
TOTAL	1318	$13,788,013	$10,461

Source: 2014 Energy Conservation Goals Proceeding.

Tampa Electric Company 2011-2013	Number of Participants	Total Expenditures	Average Expenditure/Participant
Photovoltaic (PV) - Residential	168		
Photovoltaic (PV) - Commercial	24		
PV Systems for Schools	3		
Solar Water Heating - Residential	120		
Solar Water Heating - Low Income	10		
Total	325	$3,793,723	$11,673

Source: 2014 Energy Conservation Goals Proceeding.

Gulf Power Company 2011-2013	Number of Participants	Total Expenditures	Average Expenditure/Participant
Photovoltaic (PV) - Residential & Commercial	132	$1,289,000	$9,765
PV Systems for Schools	2	209,000	104,500
Solar Water Heating - Residential	76	88,000	1,158
Solar Water Heating - Low Income	30	145,000	4,833
Administrative Expenses	n/a	569,000	
TOTAL	240	$2,300,000	$9,583

Source: 2014 Energy Conservation Goals Proceeding.

Solar Pilot Program Costs – Incentives & Other Expenses

The following tables provide data on program expenses divided between incentives and all other expenses. Incentives refer to the monetary rebates provided to qualifying customers who installed a solar PV or water heating system. Other expenses include payroll, marketing and other overhead.

Solar Pilot Program Costs 2011-2013

Duke Energy Florida, Inc.

Program	Other Expenses	% of Total	Incentives	% of Total	Total
Solar Water Heating with EM	$153,187	26.1%	$433,945	73.9%	$587,132
Research and Demonstration	$504,523	100.0%	$0	0.0%	$504,523
Solar Water Heating Low Income	$78,970	24.5%	$242,905	75.5%	$321,875
Photovoltaic for Schools Pilot	$161,299	3.8%	$4,133,050	96.2%	$4,294,349
Residential Solar Photovoltaic	$370,971	7.0%	$4,954,991	93.0%	$5,325,962
Commercial Solar Photovoltaic	$155,848	5.7%	$2,599,325	94.3%	$2,755,173
Total	$1,424,798	10.3%	$12,364,216	89.7%	$13,789,014

Florida Power and Light Company

Program	Other Expenses	% of Total	Incentives	% of Total	Total
Res. Solar H2O Heating Pilot	$796,850	22.5%	$2,752,000	77.5%	$3,548,850
Res. Solar H2O Heating (Low Inc.) Pilot	$131,990	14.3%	$789,005	85.7%	$920,995
Residential Photovoltaic Pilot	$415,216	3.8%	$10,630,678	96.2%	$11,045,894
Business Solar H2O Heating Pilot	$249,463	39.6%	$379,945	60.4%	$629,408
Business Photovoltaic Pilot	$317,603	5.8%	$5,170,859	94.2%	$5,488,462
Business Photovoltaic for Schools Pilot	$570,856	100.0%	$0	0.0%	$570,856
Renewable Research and Demo. Project	$1,158,841	100.0%	$0	0.0%	$1,158,841
Solar Pilot Projects Common Expenses	$2,075,160	100.0%	$0	0.0%	$2,075,160
Total	$5,715,979	22.5%	$19,722,487	77.5%	$25,438,466

Gulf Power Company

Program	Other Expenses	% of Total	Incentives	% of Total	Total
Renewable Energy Plan Common	$569,452	100.0%	$0	0.0%	$569,452
Solar for Schools	$139,906	100.0%	$0	0.0%	$139,906
Solar Thermal Water Heating	$12,187	13.8%	$76,000	86.2%	$88,187
Solar PV	$11,835	0.9%	$1,277,330	99.1%	$1,289,165
Solar Thermal Water Heating - Low Income	$0	0.0%	$144,776	100.0%	$144,776
Total	$733,380	32.9%	$1,498,106	67.1%	$2,231,486

Tampa Electric Company

Program	Other Expenses	% of Total	Incentives	% of Total	Total
Renewable Energy Systems Initiative	$598,495	15.8%	$3,195,228	84.2%	$3,793,723
Total	$598,495	15.8%	$3,195,228	84.2%	$3,793,723

Source: Energy Conservation Cost Recovery Clause Schedules.

Solar Photovoltaic Capacity Installed – 2011-2013

The table below provides the capacity of solar PV systems installed by customers. Duke Energy Florida, Inc. and Gulf Power Company reported that some customers installed solar PV systems with capacity in excess of the capacity provided by the maximum rebate. Data is provided for the incentivized capacity and the total capacity installed.

Solar PV Installed Capacity Funded by Solar Pilot Programs
kW DC Rating 2011-2013

Duke Energy Florida, Inc.

	2011	2012	2013	Total
Residential Solar PV - Incentivized	557	733	1,205	2,495
Residential Solar PV - Total Installed	567	753	1,239	2,559
Commercial Solar PV - Incentivized	632	593	609	1,834
Commercial Solar PV - Total Installed	1,667	1,996	631	4,294
Solar for Schools - Incentivized	190	200	190	580
Solar for Schools - Total Installed	197	200	190	587
Total Incentivized	1,379	1,526	2,004	4,909
Total Installed	2,431	2,949	2,060	7,440

Florida Power and Light Company

	2011	2012	2013	Total
Residential Solar PV	1,690	1,650	2,272	5,612
Business Solar PV	598	1,526	2,534	4,658
Solar for Schools	0	0	190	190
Total	2,288	3,176	4,996	10,460

Gulf Power Company

	2011	2012	2013	Total
Solar PV - Incentivized	204	218	218	639
Solar PV - Total Installed	267	273	288	828
Solar for Schools	0	10	10	20
Total Incentivized	204	228	228	659
Total Installed	267	283	298	848

Tampa Electric Company

	2011	2012	2013	Total
Residential Solar PV	311	495	479	1,285
Commercial Solar PV	74	61	90	225
Solar for Schools	10	10	10	30
Total	395	566	579	1,540

Source: FPSC staff data request.

2014 Goal Setting Proceeding - Cost-Effectiveness Analysis Results

As part of the 2014 goal setting proceeding, the Commission evaluated the cost-effectiveness of the Solar Pilot Programs, solar PV and solar hot water heating measures. The tables below provide the results of the cost-effectiveness tests required by Rule 25-17.008, F.A.C. The Commission found that the programs are not cost-effective and experience gained since the 2009 goals proceeding indicates that consumers have continued to install systems without any rebates. The Commission noted that the rebates associated with the solar pilot programs represent a large subsidy from the general body of ratepayers to a very small segment of each utility's customers.

Florida Power and Light Company Solar Pilot Programs	**Benefit Cost Ratio**		
	RIM	**TRC**	**Participant**
Solar Water Heating - Residential	0.51	0.18	0.50
Solar Water Heating - Low Income New Construction	0.21	0.28	1.52
Solar Water Heating - Business	0.34	0.19	0.58
Photovoltaic (PV) - Residential	0.46	0.27	0.74
Photovoltaic (PV) - Business	0.64	0.33	0.67
Photovoltaic (PV) - Business PV for Schools	0.13	0.15	1.19

Source: 2014 Energy Conservation Goals Proceeding

Duke Energy Florida, Inc. Solar Pilot Programs	**Benefit Cost Ratio**		
	RIM	**TRC**	**Participant**
Solar Water Heating for Low-income Residential	0.274	0.454	1.83
Solar Water Heating with Energy Management	0.596	0.580	0.79
Photovoltaic - Residential	0.376	0.547	1.23
Photovoltaic - Commercial	0.422	0.628	1.35
Photovoltaic for Schools	0.141	0.163	1.18

Source: 2014 Energy Conservation Goals Proceeding

Tampa Electric Company Solar Measures	**Benefit Cost Ratio**		
	RIM	**TRC**	**Participant**
Residential PV	0.38	0.41	1.20
Commercial PV	0.40	0.39	1.10
Residential Solar Water Heating	0.56	0.28	0.71

Source: 2014 Energy Conservation Goals Proceeding

Gulf Power Company Solar Measures	**Benefit Cost Ratio**		
	RIM	**TRC**	**Participant**
Solar PV (combined residential and commercial)	0.88	0.67	1.005 – 1.05
Solar Thermal Water Heating (Single Family)	0.74	0.56	0.98

Source: 2014 Energy Conservation Goals Proceeding

cc: Lisa Harvey, Charlie Beck

II. Outside Persons Who Wish to Address the Commission at Internal Affairs

OUTSIDE PERSONS WHO WISH
TO ADDRESS THE COMMISSION AT

INTERNAL AFFAIRS
March 3, 2015

Speaker	**Representing**	**Item #**
Alton Drew	Alton Drew Group	1

III. Supplemental Materials for Internal Affairs

Note: The following material pertains to Item 1 of this agenda.

State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: March 2, 2015

TO: Art Graham, Chairman

FROM: Walter Clemence, Public Utility Analyst II, Office of Industry Development and Market Analysis
David L. Dowds, Public Utilities Supervisor, Office of Industry Development and Market Analysis
Mark A. Futrell, Director, Office of Industry Development and Market Analysis

RE: Solar Payback Information

The charts below are illustrative of what a customer in Florida may use for an economic analysis to determine the benefits of installing solar photovoltaic. The chart provides a simple payback calculation of installing an average system for both a residential and commercial customer.

Residential 5kW		
	w/Utility Rebate	No Utility Rebate
System Cost ($3290 kW)	$16,450	$16,450
Utility Rebate ($2/watt)	$10,000	$0
Federal Tax Credit (30%)	$1,935	$4,935
Total Cost	$4,515	$11,515
Approximate monthly kWh produced	657	657
Approximate monthly value of energy	$70	$70
Years to recover investment	5.35	13.65

Parties/Staff ✓ Handout ✓
Internal Affairs/Agenda
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Commercial 200 kW		
	w/Utility Rebate	No Utility Rebate
System Cost ($2540 kW)	$508,000	$508,000
Utility Rebate (Max)	$50,000	$0
Federal Tax Credit (30%)	$137,400	$152,400
Total Cost	$320,600	$355,600
Approximate monthly kWh produced	26,280	26,280
Approximate monthly value of energy	$2,418	$2,418
Years to recover investment	11.05	12.26

The investment cost data used in the charts above are an approximation of the costs found in the 2014 Edition of DOE's Photovoltaic System Pricing Trends. The cost is based on a bottom-up modeled PV system. IOU solar pilot program rebates were approved by the Commission for 2011-2015.

The utility rebate assumes a rebate of $2.00/watt first 10kW, $1.50/Watt 10-25KW, $1.00/watt >25kW with a $50,000 maxium rebate.

The Federal Tax Credit is 30% of the actual cost of the system, applied net of any utility-provided rebate. The Federal Tax Credit for residential and commercial solar installations is available until December 31, 2016. After that time, the residential credit drops to zero and commercial credit drops to 10%.

The value of the energy produced assumes that all the energy is used on-site. This provides the greatest benefit for the consumer. The energy being used on-site offsets the consumer's need to purchase power from the utility. Therefore, it is valued at the retail cost of electricity.

The estimated monthly system kWhs produced assumes an 18% capacity factor. The approximate monthly value of energy is based on a retail electricity price (excluding taxes) of $0.107 per kWh for residential and $0.092 per kWh for commercial. The Years to recover investment is derived by dividing the net system cost by the monthly values of energy, then dividing the result by 12 to yield payback in years.

The charts above show that the inclusion of the utility rebates greatly reduces the amount of time necessary to recover the investment in the solar generation for a residential or commercial

system. The inclusion of the utility rebate reduces the time to recover the investment from 13.65 years down to 5.35 for a residential installation. For a commercial installation the time to recover the investment is reduced from 12.26 years down to 11.05 years.

IV. Transcript

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

PROCEEDINGS:	INTERNAL AFFAIRS
COMMISSIONERS PARTICIPATING:	CHAIRMAN ART GRAHAM COMMISSIONER LISA POLAK EDGAR COMMISSIONER RONALD A. BRISÉ COMMISSIONER JULIE I. BROWN COMMISSIONER JIMMY PATRONIS
DATE:	Tuesday, March 3, 2014
TIME:	Commenced at 10:30 a.m. Concluded at 11:00 a.m.
PLACE:	Gerald L. Gunter Building Room 105 2540 Shumard Oak Boulevard Tallahassee, Florida
REPORTED BY:	LINDA BOLES, CRR, RPR Official FPSC Reporter (850) 413-6734

P R O C E E D I N G S

CHAIRMAN GRAHAM: All right, guys. We'll convene. We'll convene the IA meeting. Let the record show it is Tuesday, March the 3rd. It's about 10:30.

We might as well start with the first item. Staff.

MR. CLEMENTS: Good morning, Commissioners. I'm Walter Clements with the Office of Industry Development and Market Analysis. With me here this morning is also Mark Futrell.

Staff is here this morning to provide a brief overview of solar energy in Florida, including a discussion on existing resources, customer resources, proposed resources, cost trends, and a brief summary of the DSM solar pilot programs.

As of December 31st of 2013, Florida has an installed capacity of approximately 218 megawatts of solar. Approximately 117 of that is owned by the utilities in the form of solar PV and solar thermal, approximately 39 megawatts of contracted solar, and about 60.5 megawatts of customer-owned distributed generation.

Customers are currently permitted to interconnect up to 2 megawatts of renewable energy resources, including solar, to the grid. Growth in net

metering has grown from about 3 megawatts of installed capacity in 2008 to about the 60.5 we mentioned a minute ago.

At the beginning of page 3 of the IA memo we list several proposed projects that have been announced since the receipt of the last ten-year site plan filings from the utilities. Those most recent plans that we have include a projection of about 4.53 megawatts of solar to be installed in the 2014 to 2023 timeframe. The ten-year site plans also included some non-utility owned projects to be placed in service within that same timeframe.

Several projects, as I've said before, have been announced, and we expect to see some of those in the upcoming new ten-year site plan filings that will be filed in April.

In respect to the cost trends, costs have been steadily decreasing. As you can see in page 5, the costs have been declining by at least 50 percent in the 2009 to 2013 timeframe, and those cost decreases have been seen in all the sectors, residential, commericial, and the industrial.

With respect to the DSM solar pilot programs, expenditures and the number of participants can be found on page 6. Between 2011 and 2013, nearly

$50 million was spent to install 5,800 systems. The money spent on each of the programs is available on page 7. The incentives paid you can find on page 8.

Page 9 shows the amount of the capacity installed as a result of the programs. For a couple of the utilities they provided information that the installed systems were larger than the maximum rebate, so some customers went ahead and put in larger systems. About 20, a little over 20 megawatts of power was, of capacity was installed due to the solar pilot programs up until 2013.

The tables on page 10 you'll remember from the DSM proceeding. They're the cost-effectiveness results from the solar pilot programs. At the time the Commission did note that the subsidy, the programs represented a subsidy for the general body of non-participating ratepayers to those customers who had installed systems, and the programs are set to run through the end of this year. And we're here to answer any questions you may have.

CHAIRMAN GRAHAM: Well, staff, number one, I want to thank you guys for putting this together. I know we started this debate or this conversation back when we went over the, when we talked about the solar, the solar pilot program back in November, and so I

appreciate you pulling these numbers together.

Commissioners, I don't know if you saw this handout that I had staff put together. Did you get a copy? I think the rest of them have one. And I don't know if anybody in the audience wants a copy. Do you have a copy of this stuff?

MR. BAEZ: I have a copy, but we can make them available.

CHAIRMAN GRAHAM: Because my concern about the current program that we have, and this kind of walks through, I think it articulates pretty well what I was looking at is, and staff said -- staff put this together and they just put down 5 kilowatts as something that would be maybe normal. I guess we can go -- according to -- statutorily they can get rebates all the way up to, is it 10 kilowatts? So just going with the 5 kilowatts, you can see with the, with the rebate from the utilities and the rebate from the federal, the payback for a 5-kilowatt system on your roof is 5-1/3 years.

And what, what do we anticipate the life of one of these systems is? Is it 15, 20 years?

MR. CLEMENTS: I believe it's more than 20.

CHAIRMAN GRAHAM: More than 20 years? And so even without the rebate, I mean, it's a 13-year payback,

and this thing is going to be there for longer than 20 years.

And my concern is you have a lot of people out there that can't afford that initial $16,000, and so those people that don't have that $16,000 upfront cannot participate in this program from the very beginning. And so that's, that's where I think the problem is, at least with this pilot program that was there, and that's why I asked staff to throw this together.

And it's interesting, I was going back over the, that docket, and I think it was page, I know which page, it was page 76 of that docket, and it was, of all people, the Sierra Club. It says, "The Sierra Club believes that a study should be conducted to investigate the effectiveness of the rebate program and the role of the utilities in solar PV. The Sierra Club also advocates an update of the marketing and incentives approaches for PV programs to minimize the amount of incentive paid, while installing as much PV as possible." And so I thought that was interesting.

I think as we move forward and -- well, I'll wait until I hear from the rest of you guys before I say anything else. I didn't know if there

was any other questions or comments from the rest of the Commissioners.

My suggestion, well, my suggestion to staff is -- I'm glad you brought this out. I -- and it's not just, it's not just the pilot program we're looking at. We're looking at basically this is a snapshot of where Florida is. And I would ask if staff would reach out to, almost like we did with the 111D, and reach out for comments from, you know, industry people, from all ratepayers, you know, as far as suggestions on things that maybe we should be looking at, things we should be doing. If we're going to start, if we're going to start another solar program, what sort of things we need to do differently. Because I don't think, I don't think this was what we were looking for because I don't think the cost-effectiveness is there for this, the old program.

And I don't know how you guys reached out to everybody before, but I know we got quite a few people that gave us feedback last time, and it was, it was, it was informative feedback.

Commissioner Edgar.

COMMISSIONER EDGAR: Thank you, Mr. Chairman. Two questions just to, two questions to follow up on

your comments.

This additional memo -- and I did receive it late yesterday, so thank you -- this is regarding the programs that we voted to not continue; is that correct?

CHAIRMAN GRAHAM: Well, actually the pilot was for five years, so we voted to finish out the pilot, but we weren't going to continue it past the pilot.

COMMISSIONER EDGAR: Right. Okay. And when you're asking staff to maybe solicit additional comments, which I'm all for, are you thinking things that could be done under the current statutory scheme or also suggestions as to statutory changes that would maybe be necessary, just to try to give some clarification?

CHAIRMAN GRAHAM: Well, I guess I'd be more reactionary because, as you've all read and we've been told that we don't have a program when it comes to solar. And these numbers, the numbers right here show that you really don't have to have much of a program because you see the payback is in the 13 years.

And so I guess I'm -- I want to solicit some, solicit some impact -- some input back from whoever wants to give it to us to see, okay, what is it that you think that we should be doing or how

should we be doing it?

I mean, this right here illustrates what we have been doing, and this, to me, illustrates that it's not cost-effective and it's not fair by any means.

I mean, you know, for example, if you're a renter and you don't have a roof to put it on, you know, how do you, how do you participate in the solar program?

COMMISSIONER BROWN: And I'll just add, in two years or less there will be no federal tax rebate for residential. So while the cost continues, from your numbers, continues to slightly decrease, the technology hasn't decreased exponentially to make that payback period in a period of time of reasonableness for a typical residential customer. So things will change over the next two years as well because there will be no federal rebate; correct?

MR. CLEMENTS: The current rebate is set to expire for residential customers at the end of next year.

COMMISSIONER BROWN: So that also changes the dynamics of this discussion.

CHAIRMAN GRAHAM: Well, wasn't that supposed to expire earlier and they extended it on to 2016?

MR. CLEMENTS: Yes.

CHAIRMAN GRAHAM: When was it supposed to expire the first time? Like '08, '09?

MR. FUTRELL: There's been several extensions through the years, Chairman. It's one of those kind of brinksmanship kind of things that gets caught up in other issues in Congress, and we've seen a history of extensions for various lengths of time. It's not to say this won't happen again, but Commissioner Brown is correct, it's scheduled to expire. And so there could conceivably be even a third column to those spreadsheets showing without the tax credit, which would change the, extend the payback even further out in the future.

CHAIRMAN GRAHAM: Commissioner Brisé.

COMMISSIONER BRISÉ: Thank you, Mr. Chairman.

I think the pilot has been very instructive to us as a state in terms of what, what our capacity is and what the, what the level of interest is at that particular level in terms of the rebate when we consider the payback and all of that for the consumer -- the customers and for the utilities to work within that fashion.

I think when we -- and I'll just speak for me -- but I think as a body when we voted to, not to continue the pilot, I think the idea was to, look,

let's look at the information that we have, have a conversation further on that would include as many stakeholders as possible so that we can then look at what are some possibilities moving forward to continue to keep solar viable here in Florida. And from my perspective, that means we put everything on the table and, and see what works, what can work for different types of consumers. And for me, that includes some of everything: It includes some community solar, it includes rooftop solar for individual households, and a lot of different dynamics associated with that.

And out of those conversations, whether it's a workshop or whatever we do moving forward, out of those conversations, those policymakers who have the ability to then make changes can be paying attention to those conversations and see if there are lines out of there that are taken out or information that's taken out that could then help address some of these challenges that may exist within our current reg -- our current statutory framework to move our process forward with that.

So from my perspective, the pilot has done exactly what it's intended to do. It's provided us the information. We made a decision as a regulatory

body based upon the information that we've gathered through the pilot that, look, what was done, when we looked at it and gathered information, is not the most cost-effective way of moving forward, considering what's in, in the future.

I just hope that as we go through this process, that we are open enough to, to establish a, establish parameters that allow for everyone to play in this space. And so hopefully we'll be able to do that, Mr. Chairman.

CHAIRMAN GRAHAM: Well, I thought it was interesting when we did this last round and when the utilities, let's just say, opened the floodgates so people that wanted to be part of the programs were allowed in, and then for -- every, every bit of the availability was gone, like, within like minutes. And, you know, it's, and that's supposed to be, that's supposed to last for the year and it was just gone just that fast.

Commissioner Brown.

COMMISSIONER BROWN: Getting back to your directive as to staff to address stakeholders, and I'm just -- to provide them more guidance, I think it's also beneficial to, to engage folks like OUC who have a solar farm and people of different -- and utilities that

possibly don't come within our purview that have explored creative ways to make it work, and possibly even open it up to businesses and whatever, if this is the direction that the Commission wants to go in, to at least gain some more ideas on how to make it work for customers.

CHAIRMAN GRAHAM: I mean, quite honestly, I think anybody that wants to send us an email, you know, because this stuff is all available online so they know how they can get back to us, anybody that wants to send us any information is more than welcomed to do it as far as I'm concerned. I mean, the more feedback, the better.

Speaking of which, is there anybody in the audience that has anything they want to, questions they want to ask or anything they want to add? Yes, sir.

MR. DREW: Good morning. Alton Drew. I represent the NAACP in the conservation docket. I'll violate the lawyer rule and be very brief.

(Laughter.)

We read with great interest about FP&L's voluntary partnership program where they're proposing a contribution of $9 a month toward large scale solar. I think that provides a very good template.

Something, going back to what Commissioner Brisé said, putting everything on the table, there's a supply side option, but to combine supply side with demand, bottom line you may find yourselves including more consumers, especially low income consumers. Because $16,000 upfront for residential versus nine bucks a month in participating solar, economically you don't need a Ph.D. in economics to say that's a good option. I'm brief. That's it.

CHAIRMAN GRAHAM: Thank you, sir. Anybody else?

Okay. Commissioners, are we, are we good?

Staff, any questions?

MR. BAEZ: Mr. Chairman?

CHAIRMAN GRAHAM: Yes, sir.

MR. BAEZ: I guess I'll ask a question. After, after the call for comments, and I think we've got a good model for doing that now, we've got some good experience with that, how would you like us to report back to you? And do you have any, any thoughts? We'd be interested to know how you want, how you want the information to flow back, whether it's with a summary document again, some presentation by the staff, to let you know what we got back or --

CHAIRMAN GRAHAM: I think as the comments come

in, we'll just keep the dialogue going back, back and forth with my office.

MR. BAEZ: Okay.

CHAIRMAN GRAHAM: And at that point we can decide if there needs to be a summary document coming forward or if there needs to, if we need to create a direction, and then we'll bring it back here to IA and we'll talk about, you know, what, if anything, we want to do moving forward.

Commissioner Brisé.

COMMISSIONER BRISÉ: So, just so that my mind is clear, information coming into what? Right? So if we can explain where we are in the process.

MR. BAEZ: Well, what I would, what I would suggest -- what we did previously with what I'm calling a call for comments, I'm trying to remember, it was on, it was on 111.

MR. FUTRELL: Correct.

MR. BAEZ: Okay. So what I would propose is to use that sort of model, use our online resources, our website to receive comments from any stakeholders and the general public that wants to provide their thoughtful comments. And what, what I would propose to do beforehand is to actually set forth some questions to kind of guide, guide the comments that are going to come

back, the responses.

And we'll work with the Chairman's office to try and get, you know, the right solicitations, the right solicitation questions, if you will, to get the comments back that we, the subject matter that we'd like to hear about, the topics that we'd like to hear about.

If that, if that works for, for you all, that would be my initial suggestion. Taking the Chairman's comments to heart, I think we can work on the, on the next step, how do we present it back to you? I think that's a work in progress. You know, depending on what kind of comments we get back, I think that may dictate a lot about how we feed it back and for further discussions or any other steps you want to take.

COMMISSIONER BRISÉ: Okay.

MR. BAEZ: I don't know if I answered your question, but I think this being an initial, initial step --

COMMISSIONER BRISÉ: There's still a lot of fuzz, so -- at least for me.

MR. BAEZ: I feel your pain. I understand.

COMMISSIONER BRISÉ: Okay. So what I'm hearing is that we are opening up for comments on --

MR. BAEZ: On a set of, on a set of questions that staff will be drafting up and to kind of focus the comments. Much in the same way as we did receiving comments from stakeholders on the, on the proposed EPA rule, I would -- I think that model might work well in this situation.

So the first thing that we would do is staff would get together and, and come up with a set of questions to kind of guide those, the input that we're going to solicit. And we do it all online, we do it for a period of time, some, some determinant period of time, and that will give us a sense of, of what the best forum and what the best manner to, to relay the information and the content of those comments and responses back to you, and it may clear a path to what the next steps are.

COMMISSIONER BRISÉ: Okay.

CHAIRMAN GRAHAM: Commissioner Edgar.

COMMISSIONER EDGAR: Thank you.

I'm fuzzy still as well. I understand, Mr. Baez, the process that, I believe I understand the process that you're describing, and I do think that that worked well in the recent example that you've given.

MR. BAEZ: Right.

COMMISSIONER EDGAR: But I think there's a difference that I'm still trying to distinguish, which is for that process the end point, or maybe not the end point, but the next step was for staff to solicit comments to inform --

MR. BAEZ: Yes.

COMMISSIONER EDGAR: -- their review in putting together draft comments for us to consider as to whether we were going to formally comment during the EPA rulemaking period, and, if so, then, again, to inform the comments that the staff put together for us to discuss at a meeting similar to this.

I'm not sure what the next step would be. If staff is soliciting comments to inform their reviews and deliberations as they bring forward information and analysis to us, what then is the step that we are trying to get to?

MR. BAEZ: I agree with you. And I recognize that, that just by proposing the manner in which we're going to take input is really only half the sandwich. Right?

What we're -- what I don't want to say now as part of this discussion is to make a recommendation that perhaps you all -- on next steps that perhaps you all haven't had the discussion

about or not willing to take. So I'm not sure that it's, with what we know and with everything that's been said, that I can recommend to you what the next steps ought to be.

I think we were hoping, or at least I was hoping that the nature of the comments would, would help the staff construct perhaps an agenda for discussion amongst you all, an agenda for discussion with -- or next steps that involve a much broader section of commenters or participants. I'm trying to stay away from buzz words here. I hope you recognize that.

COMMISSIONER EDGAR: Sure. I guess what I would say as I'm thinking out loud -- always, always dangerous -- but in the conservation docket as part of our decisions and, as Commissioner Brisé has very well articulated, we made the determination after reviewing the pilot project information that good data had come forward but that for cost-effectiveness and other reasons to continue that program or that set of programs was not the direction that we wanted to go, but we wanted that information to, again, inform as we determined what next direction to go in. So I guess I would ask, as we're going through this process, that we keep those discussions in mind.

I also would ask again of our staff and as you reach out to others, it's very helpful to me to put comments in those two categories: What can we do under current statutes, and what would require a statutory change? Because often those things can get, get blurred. So I think that might be useful as you're, as you're reaching out.

You know, we have talked about it numerous times; this Commission has had multiple, multiple dockets and deliberations and discussions. I know we all want a continued diversity for the State's fuel portfolio. Solar is certainly an important part of that, will become an even more important part as we are required to make whatever changes necessary as the 111D rule becomes final and then the DEP works on an implementation plan. So we want diversity. Solar is an important part of that. But I would also reiterate, again, that we want reliability, we want cost-effectiveness, and we also want equity and an equitable process built in as we are proposing and reviewing possible programs. So I guess I would ask for that, that equitable piece to be a part of the discussions and information gathering.

CHAIRMAN GRAHAM: Yeah. This was just the

first step. As we said, you know, we had this discussion back in November when we went over the docket, and we, we've said that we don't have enough information in front of us, we don't have the data in front of us to make the, you know, to make bigger decisions. We decided we were going to pull this information together and figure out what the next step is going to be after that. So this is the information coming in. We're actually looking to pull even more information in, and when that comes in, we'll decide what the next step is past that.

And I appreciate the focusing of where we're going, but -- I don't know where the end goal is, but I think each one of these steps makes it clearer.

Commissioner Brown.

COMMISSIONER BROWN: And just to wrap it all up, and I appreciate you taking the initiative and getting with staff and having you present the material in one central location for us to look at, so thank you. But really this fuzziness really comes down to the question, so what is that question?

Looking at the analysis here, I looked at, you know, what the solar pilot programs, the participation, I looked at the cost-effective

analysis, and then I looked at the supplemental data with the economic analysis.

So is the question that we're asking the cost-effectiveness of potential solar projects? I just kind of want a generalization. Because, Mr. Baez, you did indicate that there were going to be questions that would be filtered through the Chairman's office. But to get an understanding of what we're supporting here today, the directive that we will be supporting, which I am in favor of, I just want an idea of what that specific general question is.

CHAIRMAN GRAHAM: I was going to say, I would say what's -- cost-effectiveness is going to be key to everything, so what is the best way to move forward when it comes to solar in the State of Florida as most cost-effective as possible. I think that's more the big question.

COMMISSIONER BROWN: That's what I was thinking.

MR. BAEZ: And, Commissioner, just to, just to add to that, I think Commissioner Edgar's comments are well taken. And what I would expect is that in the course of crafting these, these questions, if you will, for, for commenters to feedback on, a lot of the

principles that she enumerated will sort of shine through as part of the question. They'll be encapsuled in the questions. So thank you for that.

I appreciate, I appreciate your concerns that there, that there isn't a defined next step, and I think that that's sort of what we're working towards.

I think the Chairman's comments made a good point. This is a beginning, this is perhaps a continuation of a gathering of information, and it is our hope that, based on active input from the stakeholders, some, some next step, some appropriate next step is going to make itself evident to us what, what is necessary to do.

And at the same time, I mean, I would urge all of us to continue the discussion amongst ourselves to, to have that happen as well. I mean, if there's a, if there's a next step that you all can find consensus on, I think that would do a lot of the work for us as well. It doesn't, it doesn't end here and it doesn't have to come from the outside comments. This, this is a cooperative effort, if you will. So that work in progress, it's moving. What the next steps will be, we'll see what happens.

CHAIRMAN GRAHAM: And feel free to reach out to staff if you have a specific question that you're looking for an answer to. I mean, even though they're working -- because of Sunshine, you know, we all have to channel directly to staff and not through each other unless we bring it back to this forum.

Anything else for the good of the order?

Okay. Thank you very much.

Executive Director's report.

MR. BAEZ: Commissioners, very --

CHAIRMAN GRAHAM: Thank you, staff.

MR. BAEZ: Very quickly, if you recall, last month we recognized our first Triple E Award.

The award for February goes to Highland Lakes Homeowners Association in Palm Harbor. They're Duke Energy customers and they worked with their local utility to install things like demand control ventilation and small energy efficient heat pumps, as well as upgrading their ceiling insulation and their lighting. That led to the 2,500 homeowners of the association to save more than 60,000-kilowatt hours annually. And so we want to thank Chairman Graham for being involved in that, and our compliments to both the utility and the customer for working together. And these are some

of the kind of results that can happen when, when businesses and, and homeowners associations like in this case actually get involved, actively involved with their utility to find cost-efficient solutions. So thank you.

CHAIRMAN GRAHAM: Does that conclude?

MR. BAEZ: That concludes.

CHAIRMAN GRAHAM: Other matters.

COMMISSIONER EDGAR: Mr. Chairman, I have a question.

CHAIRMAN GRAHAM: Commissioner Edgar.

COMMISSIONER EDGAR: Mr. Chairman, how tall was that Jaguar player? Was he standing on a box?

(Laughter.)

CHAIRMAN GRAHAM: He was a big boy. I don't know if you know what she was talking about, but I did a photo shoot, photo op with one of the Jaguar players. And I don't consider myself a small man, but standing next to him, he looked like he was about a foot taller than I was and about at least a good 100, 120 pounds heavier than I was, bigger. But, yeah, he was, he was a large fellow, and I think he's probably 23, 24 years old.

COMMISSIONER BROWN: Only getting bigger.

CHAIRMAN GRAHAM: But I do appreciate the fact

that -- Cindy Muir and her people for putting that together, and for the Jaguar organization for allowing us to come visit their facility and to take pictures. It was fun.

Anything else? Seeing none, I thank you very much for your time and patience, and we are adjourned.

(Internal Affairs adjourned at 11:00 a.m.)

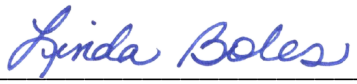
STATE OF FLORIDA)
: CERTIFICATE OF REPORTER
COUNTY OF LEON)

I, LINDA BOLES, CRR, RPR, Official Commission 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 6th day of March, 2015.



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