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July 12, 2024

#### -VIA ELECTRONIC FILING -

Adam Teitzman Commission Clerk Florida Public Service Commission 2540 Shumard Oak Blvd. Tallahassee, FL 32399-0850

#### Re: Docket No. 20240012-EG: Commission Review of Numeric Conservation Goals (Florida Power & Light Company) - Errata of Andrew W. Whitley

Dear Mr. Teitzman:

Enclosed for filing on behalf of Florida Power & Light Company (FPL) are the following documents correcting certain portions of the Direct Testimony of Andrew W. Whiley and certain associated exhibits previously filed on April 2, 2024 [DN 01562-2024]:

- Errata of Andrew W. Whitley
- Attachment 1 Complete clean version of Corrected Direct Testimony of Andrew Whitley
- Attachment 2 Complete clean versions of Corrected Exhibits AWW-6, AWW-7, AWW-10, AWW-11, AWW-12, AWW-13, AWW-14, and AWW-15

The above-referenced documents update the numbers and analyses in the direct testimony and exhibits of FPL witness Andrew W. Whitley to reflect a correction in the per installation savings for FPL's proposed Low Income program as identified by the Errata of FPL witness John N. Floyd, which is being filed contemporaneously in this docket. This correction results in a revised total savings of 69 Summer MW, 20 Winter MW, and 153 GWh over the ten years of the goals period. There are no other changes or corrections to FPL witness Whitley's direct testimony and exhibits at this time.

Please contact me if there are any questions related to this filing.

Sincerely,

s/ William P. Cox

William P. Cox Fla. Bar No. 0093531

Enclosures cc: Counsel for Parties of Record (w/encl.)

Florida Power & Light Company

#### CERTIFICATE OF SERVICE Docket No. 20240012-EG

**I HEREBY CERTIFY** that a true and correct copy of the foregoing was served by electronic delivery this 12th day of July, 2024 to the following:

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By: <u>s/ William P. Cox</u> William P. Cox

#### **BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION**

Commission Review of Numeric Conservation Goals (Florida Power & Light Company) Docket No: 20240012-EG

Filed: July 12, 2024

#### ERRATA SHEET OF ANDREW W. WHITLEY

Florida Power & Light Company ("FPL") hereby submits this errata sheet to correct certain portions of the Direct Testimony of Andrew W. Whitely and certain associated exhibits filed in the above referenced docket on April 2, 2024.

DIRECT TESTIMONY	CHANGE
Page 6, line 13	• Replace 408 with 419
Page 6, line 14	• Replace 316 with 326
Page 6, line 14	• Replace 885 with 931
Page 32, line 2	• Replace \$2.3 with \$2.5
Page 33, line 19	• Replace 408 with 419
Page 33, line 20	• Replace 316 with 326
Page 33, line 20	• Replace 885 with 931

<b>EXHIBIT</b>	CHANGE
Exhibit AWW-6	Corrected FPL Proposed and TRC Plan Summer MWs
Exhibit AWW-7	<ul> <li>Corrected FPL Proposed and TRC Plan Cumulative DSM Additions MWs</li> </ul>
Exhibit AWW-10	• Corrected column (7) DSM Energy Reduction GWh values and Levelized System Average Electric Rate from 14.8485 to 14.8516
Exhibit AWW-11	• Corrected column (7) DSM Energy Reduction GWh values and Levelized System Average Electric Rate from 14.8849 to 14.8880
Exhibit AWW-12	• Corrected Levelized System Average Electric Rates for the Proposed Plan from 14.8485 to 14.8516 and the TRC Plan from 14.8849 to 14.8880

Exhibit AWW-13	<ul> <li>Corrected column (5) "What If" One-Time Cost from 2,369,877 to 2,504,860 and Levelized System Average Electric Rate from 14.8849 to 14.8880</li> </ul>
Exhibit AWW-14	<ul> <li>Corrected column (5) "What If" One-Time Cost from 1,593,230 to 1,593,560 and Levelized System Average Electric Rate from 14.8849 to 14.8880</li> </ul>
Exhibit AWW-15	Corrected the Projected Electric Rate values for the FPL     Proposed Resource Plan and TRC Resource Plan

Provided as "**Attachment 1**" is a complete clean version of the Direct Testimony of Andrew W. Whitley that reflects the above referenced corrections. Provided as "**Attachment 2**" are complete clean version of Corrected Exhibits AWW-6, AWW-7, AWW-10, AWW-11, AWW-12, AWW-13, AWW-14, and AWW-15 that reflect the above-referenced corrections.

Respectfully submitted this 12th day of July 2024,

By: <u>s/William p. Cox</u>

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### **ATTACHMENT 1**

Florida Power & Light Company Docket No. 20240012-EG

Corrected Direct Testimony of Andrew W. Whitley Corrected by Errata Filed July 12, 2024

1	<b>BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION</b>
2	FLORIDA POWER & LIGHT COMPANY
3	CORRECTED DIRECT TESTIMONY OF ANDREW W. WHITLEY
4	DOCKET NO. 20240012-EG
5	APRIL 2, 2024
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1		I. INTRODUCTION
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3	Q.	Please state your name, business address, employer and position.
4	А.	My name is Andrew W. Whitley. My business address is 700 Universe Blvd.,
5		Juno Beach, Florida 33408. I am employed by Florida Power & Light Company
6		(FPL) as Engineering Manager in the Integrated Resource Planning department
7		of FPL's Finance Business Unit.
8	Q.	Please describe your duties and responsibilities in that position.
9	А.	In my current position as Engineering Manager of Integrated Resource
10		Planning, I am responsible for the management and coordination of economic
11		analyses of alternatives to meet FPL's resource needs and maintain system
12		reliability. These analyses are designed to determine the magnitude and timing
13		of resource needs for the FPL system and then develop the integrated resource
14		plan with which those resource needs will be met. The analyses are also
15		designed to identify potential opportunities to improve system economics
16		and/or enhance system reliability for customers.
17	Q.	Please describe your educational background and professional experience.
18	А.	I graduated from Lehigh University in 2004 with a Bachelor of Science in
19		Mechanical Engineering. I joined FPL in 2004 as part of FPL's Distribution
20		Business Unit (now part of the Power Delivery business unit) and performed
21		various engineering tasks related to providing new service as well as
22		maintaining the reliability of existing services to FPL's customers. In 2007, I
23		joined the team now known as the Integrated Resource Planning (IRP) group.
24		Since that time, I have been involved in and supported a variety of resource
		3

1		planning projects for FPL, including FPL's Ten Year Site Plans (TYSP), Solar
2		Base Rate Adjustments (SoBRA), need determination proceedings for new
3		power plants under the Florida Power Plant Siting Act, (including the
4		Okeechobee Clean Energy Center in 2015 and the Dania Beach Clean Energy
5		Center in 2018), Base Rate proceedings, and the Demand-Side Management
6		(DSM) goals proceedings. I became the Manager of the IRP group in 2022 and
7		have served as the project leader for FPL's TYSPs since 2022.
8	Q.	Have you previously testified on resource planning issues before the
9		Florida Public Service Commission (FPSC or the Commission)?
10	А.	Yes. I testified in FPL's 2019 DSM goals proceeding (Docket No. 20190015-
11		EG). My testimony in that docket focused on FPL's resource planning process
12		and how it related to the development of demand-side management portfolios.
13		I also provided testimony on resource planning topics in FPL's 2024 Fuel and
14		Purchased Power Cost-Recovery Clause Docket (Docket No. 20230001-EI). In
15		addition, I appeared before the Commission at its 2022 and 2023 workshops on
16		the Florida utilities' TYSPs.
17	Q.	Are you sponsoring any exhibits in this case?
18	А.	Yes. I am sponsoring Exhibits AWW-1 through AWW-17, which are attached
19		to my testimony:
20		• Exhibit AWW-1 - Economic Elements Accounted for in DSM
21		Preliminary Screening Tests: Benefits & Costs
22		• Exhibit AWW-2 – Summary Results of Preliminary Economic
23		Screening of Individual DSM Measures

1 •	Exhibit AWW-3 – Summary Results of Preliminary Economic
2	Screening of Individual DSM Measures: Sensitivity Cases
3	Exhibit AWW-4 - Forecasted Fuel and Environmental Compliance
4	Costs
5 •	Exhibit AWW-5 – Projection of FPL's Resource Needs for 2024 - 2035
6	with No Incremental DSM Signups After 2024
7 •	Exhibit AWW-6 - Comparison of DSM Reasonably Achievable
8	Summer MW Values with FPL's Projected Summer Resource Needs
9 •	Exhibit AWW-7 – Overview of Supply Only and With DSM Resource
10	Plans
11 •	Exhibit AWW-8 – Levelized System Average Electric Rate Calculation
12	for the Supply Only Resource Plan
13 •	Exhibit AWW-9 – Levelized System Average Electric Rate Calculation
14	for the RIM Resource Plan
15 •	Exhibit AWW-10 – Levelized System Average Electric Rate
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17 •	Exhibit AWW-11 – Levelized System Average Electric Rate
18	Calculation for the TRC Resource Plan
19 •	Exhibit AWW-12 - Comparison of the Resource Plans: Economic
20	Analyses Results
•	Exhibit AWW-13 – Additional Cost Needed to be Added to the RIM
22	Plan to Increase its Levelized System Average Electric Rate to That of
23	the TRC Plan

1		• Exhibit AWW-14 – Additional Cost Needed to be Added to the FPL
2		Proposed Plan to Increase its Levelized System Average Electric Rate
3		to That of the TRC Plan
4		• Exhibit AWW-15 – Comparison of the Resource Plans: Projection of
5		System Average Electric Rates and Customer Bills (Assuming 1,000
6		kWh Usage)
7		• Exhibit AWW-16 – Comparison of the Resource Plans: Projection of
8		System Emissions
9		• Exhibit AWW-17 – Comparison of the Resource Plans: Projection of
10		System Oil and Natural Gas Usage
11	Q.	Please summarize your testimony.
12	А.	Using FPL's resource planning process and the latest forecasts, assumptions,
13		and cost estimates, FPL's proposed DSM goals are 419 megawatts (MW)
14		Summer demand, 326 MW Winter demand, and 931 gigawatt-hours (GWh)
15		energy reduction for the period 2025 through 2034. In my testimony, I explain:
16		- FPL's resource planning process, how it applies to DSM options, and
17		how it treats DSM and supply options equally;
18		- A review of the relevant assumptions used in FPL's resource planning
19		process;
20		- The various tests used in the preliminary cost-effectiveness screening
21		and the results of this screening of DSM measures;
22		

1		- How the projected portfolios of DSM compare to FPL's resource needs
2		in the 2025-2034 timeframe;
3		- The Supply Only Resource Plan, With DSM Resource Plans, and how
4		all of these plans compare on both economic and non-economic bases;
5		and
6		- How the final resource plan based on FPL's proposed DSM goals will
7		continue to provide reliable electric service for FPL's customers at low
8		electric rates.
9		
10		II. FPL'S RESOURCE PLANNING PROCESS
11		
12	Q.	Are FPL's proposed DSM goals based on FPL's most recent resource
13		planning process?
14	А.	Yes. Beginning in 2023, and continuing into the first quarter of 2024, FPL
15		undertook a months-long process to determine its resource plan for use in the
16		2024 DSM goals filing, as well as all other 2024 analyses, including the 2024
17		TYSP. The assumptions used in FPL's planning process were developed in late
18		2023 and early 2024 and accurately represent a current projection of FPL's
19		system for the ten-year planning period of 2025 through 2034.

1	Q.	Why did FPL develop its proposed DSM goals based upon its most recent
2		planning process?
3	А.	There are two important reasons FPL used its most recent planning process to
4		develop its DSM goals. First, it is required by the Commission's DSM Goals
5		Rule 25-17.0021(3), Florida Administrative Code. Second, it is important for
6		a utility to use its own resource planning process while setting DSM goals, or
7		performing the analysis of any resource option, because each utility's system
8		has its own specific characteristics that can alter the timing and magnitude of
9		its resource needs and influence the cost-effectiveness of resource options.
10	Q.	What are the objectives of FPL's integrated resource planning process?
11	А.	There are three main goals of FPL's resource planning process:
12		1. Identify the timing of FPL's resource needs. The timing of future
13		resource needs is largely determined by reliability standards (such as
14		reserve margins and loss-of-load probability requirements).
15		2. Identify the magnitude of these resource needs, <i>i.e.</i> , how many MW of
16		capacity are needed to satisfy reliability criteria.
17		3. Identify the type of resources, either supply-side or demand-side, that
18		can meet these capacity needs. On an economic basis, this selection is
19		determined by the option that is projected to result in the lowest electric
20		rates for FPL's customers.
21	Q.	Please provide an overview of FPL's IRP process.
22	А.	An overview of FPL's IRP process is presented annually in FPL's TYSP.
23		FPL's IRP process can be summarized by the following four tasks:

- <u>Task 1:</u> Determine the magnitude and timing of FPL's new resource
   needs.
- <u>Task 2:</u> Identify the resource options and resource plans that are
  available to meet the determined magnitude and timing of FPL's
  resource needs (*i.e.*, identify the available competing options and
  resource plans).
- Task 3: Evaluate the competing resource options and resource plans
  based on system economics and non-economic factors.

9 - <u>Task 4:</u> Select a resource plan, as needed, to meet nearer-term options.

## Q. How does FPL apply its IRP process to the specific analyses that are needed to develop DSM goals?

A. To develop proposed DSM goals for the Commission's review, FPL freezes DSM additions in its assumptions before the start of the next DSM goals period. FPL assumes no incremental DSM and, "starting from scratch," projects how much DSM should be implemented for the next ten years. FPL approaches that task by applying its IRP process through a well-established six-step analysis. This same basic process has been used by FPL in prior DSM goals dockets. 1Q.When evaluating the economics of supply-side or demand-side resource2options to meet its reliability criteria, does FPL select these resources on3the basis of lowest cumulative present value of revenue requirements4(CPVRR)?

A. No. When evaluating the economics among supply-side and demand-side 5 resource alternatives, FPL bases its evaluation on the system average electric 6 rates. If, for example, two resource plans satisfy all of FPL's reliability 7 requirements, the more economic plan for all of FPL's customers is the plan 8 that results in the lowest Levelized System Average Electric Rate. This 9 calculation is performed by dividing a utility's annual revenue requirements for 10 that year by the utility's Net Electric Load (NEL) for that year. This same 11 calculation is performed for each year of the analysis, then the results for all 12 years are summed on a present value basis. This cumulative present value is 13 14 then converted into a Levelized System Average Electric Rate for the period of the analysis. 15

16

Note that if one were comparing two resource plans that have the same level of
DSM, the two plans will have the same NEL. Therefore, the plan with the lower
CPVRR in that scenario also would have the lower Levelized System Average
Electric Rate. However, when comparing plans with different DSM portfolios,
those plans will have different NELs and cannot be evaluated on CPVRR alone.
Therefore, in order to compare plans with different DSM

portfolios on an economic basis, it is appropriate to analyze each plan based on
 the Levelized System Average Electric Rate.

# Q. Please summarize the six-step resource planning process for developing DSM goals.

- 5 A. The process can be summarized as follows:
- Step 1: The Technical Potential for DSM is determined in which practical 6 considerations of cost, market forces, the utility's resource needs, and 7 other factors are all ignored. The end result of this step is a list of 8 individual DSM measures that are theoretically available in a utility's 9 service territory. Witness Herndon with Resource Innovations 10 describes in his direct testimony the development of the projected 11 Technical Potential values for FPL that were used in the rest of FPL's 12 analyses. 13
- 14 Step 2: Assuming no incremental DSM signups occur after December 31, 2024, FPL's projected resource needs for 2025 through 2034 were 15 determined. Two determinations of resource needs are made: one if 16 17 the resource needs are theoretically met solely by Supply options; and one if the resource needs are theoretically met solely by DSM options. 18 19 These two projections are different because of FPL's 20% total 20 reserve margin criterion. For example, if the resource need to be met solely by DSM options for a given year is 100 MW, the resource need 21 22 to be met solely by Supply options for the same year is 100 MW x (1 23 +0.2) = 120 MW.

The results of these determinations are used in two ways. First, using 1 the projected resource needs, if the needs are met solely by Supply 2 options, a generation addition is selected for use in the preliminary 3 economic screening of DSM measures, which occurs in Step 3. 4 Second, these determinations are used later in Step 5 to create a 5 "Supply Only" Resource Plan and "With DSM" Resource Plans, 6 which are then used for the detailed system economic and non-7 economic analyses that occur in Step 6. 8

Step 3: In this step, each individual DSM measure identified in the Step 1 9 Technical Potential work is analyzed using a series of preliminary 10 economic screening evaluations against a single Supply option that 11 DSM could potentially avoid or defer. The screening evaluations 12 divide into two separate paths depending on the primary cost-13 14 effectiveness test used in the analysis. Consistent with the Commission's DSM Goals Rule 25-17.0021, one path utilizes both 15 the Rate Impact Measure (RIM) test and the Participant test, while the 16 17 other path utilizes the Total Resource Cost (TRC) test and the Participant test. At the end of the screening for both of these paths, 18 19 two more steps are conducted on both of the screening paths. First, the remaining measures are screened for free riders based on a "years-20 to-payback" test. Second, the maximum incentive the utility can offer 21 22 and preserve cost-effectiveness for each remaining DSM measure is calculated. 23

Step 4: The remaining DSM measures that pass the respective economic 1 screening tests in Step 3, together with their accompanying maximum 2 incentive levels, are then analyzed to develop potential DSM 3 programs and portfolios over the 2025 through 2034 DSM goals 4 period. Again, this step is divided into two separate paths of analysis 5 depending on the cost-effectiveness screening tests that are being 6 applied. The resulting projection for each DSM program represents 7 the projected maximum annual signups for each year of the ten-year 8 DSM goals period. Cumulatively, the sum of these projected 9 maximum annual signups for each DSM program identifies how many 10 MW of DSM resources are projected to be available each year to 11 potentially meet FPL's projected annual resource needs. FPL witness 12 Floyd addresses the process of evaluating the DSM program portfolios 13 from the remaining DSM measures, using program-specific 14 administrative costs, incentives, and adoption projections to determine 15 the reasonably achievable DSM program potential over the period 16 17 2025-2034 in his direct testimony. In this step, the projections of resource needs developed previously in 18 Step 5:

13 Step 5. In this step, the projections of resource needs developed previously in 19 Step 2 are used again in several ways. First, FPL uses the projection 20 of resource needs, if the needs are met solely by Supply options, to 21 develop a resource plan in which only Supply options are added. This 22 resource plan is referred to as the "Supply Only"

Resource Plan. Next, FPL compares the projected maximum annual 1 DSM MW signups identified in Step 4 to the projected annual 2 3 resource needs if those needs are met solely by DSM options. From this comparison, the "With DSM" Resource Plans are developed. 4 These resource plans may consist solely of DSM measures, or a 5 combination of DSM and Supply options, for the ten-year period. At 6 the conclusion of Step 5, the Supply Only and the With DSM 7 Resource Plans have been developed for more detailed system 8 analyses in Step 6. 9

10Step 6: The resource plans from Step 5 are analyzed from both economic and11non-economic perspectives. The recommended resource plan based on12these perspectives is identified, and the amount of incremental DSM13included in that plan is selected as FPL's proposed DSM goals for the142025 - 2034 time period.

Q. Does FPL's six-step analytical resource planning process outlined above
 result in Supply and DSM resource options being evaluated on a level
 playing field?

A. Yes. FPL's analyses evaluate both Supply and DSM resource options in terms of each resource option's ability to meet FPL's resource needs. In addition, these analyses allow the resources to be fully evaluated from both economic and non-economic perspectives, using an identical set of evaluation metrics. For the economic analyses, all projected cost impacts on the electric rate levels of FPL's customers are accounted for in these analyses.

1	Q.	Which of the six steps outlined above will you be addressing in your
2		testimony?
3	А.	My testimony addresses Steps 2, 3, 5, and 6 of this process, along with other
4		topics. Witness Herndon addresses Step 1, and witness Floyd addresses Step 4
5		and portions of Step 5 along with other topics.
6		
7	Ι	II. STEP 2 OF FPL'S PLANNING PROCESS: METHODS AND
8		ASSUMPTIONS USED TO PROJECT FPL'S RESOURCE NEEDS
9		
10	Q.	How does FPL determine its projected future resource needs?
11	А.	FPL uses three reliability criteria in projecting its future resource needs. One
12		criterion is a minimum total reserve margin of 20% for both Summer and
13		Winter peak hours. The 20% total reserve margin criterion was approved by
14		the FPSC in Order No. PSC-99-2507-S-EU issued in Docket No. 981890-EU.
15		
16		The second reliability criterion used by FPL is a Loss-of-Load-Probability
17		(LOLP) criterion. LOLP is a projection of how well an electric utility system
18		may be able to meet its firm demand (i.e., a measure of how often firm load
19		may exceed available resources). In contrast to a reserve margin approach that
20		looks at the one Summer peak hour and the one Winter peak hour, the LOLP
21		approach looks at the peak hourly demand for each day of the year. The LOLP
22		approach takes into consideration the probability of individual generators being
23		out-of-service due to scheduled maintenance or forced

1		outages. LOLP is typically expressed in terms of "numbers of times per year"
2		that the system firm demand could not be served. FPL's LOLP criterion is a
3		maximum of 0.1 days per year. This LOLP criterion is commonly used
4		throughout the electric utility industry.
5		
6		The third reliability criterion used by FPL is a minimum generation-only
7		reserve margin (GRM) of 10%. The issue of having a sufficient generation
8		component of the projected total reserve margin has been discussed annually in
9		FPL's TYSP beginning in 2011, and the GRM was adopted by FPL as a
10		reliability criterion beginning in 2014. The GRM must be applied only after
11		evaluating the amount of DSM in a resource plan to determine whether the
12		resource plan is too dependent upon DSM.
13	Q.	What forecasts and assumptions did FPL use in its 2024 planning process?
14	A.	Every year, FPL updates its forecasts as part of its IRP process and in support
15		of filing its yearly TYSP, including considerations of supply-side efficiencies.
16		In its 2024 resource planning work, including the DSM portfolio analyses for
17		this docket, FPL is using the following forecasts:
18		1. A forecast of fuel prices (natural gas, coal, and oil), dated September 1,
19		2023;
20		2. A forecast of projected hourly load, dated November 1, 2023; and
21		

1		3. A forecast of carbon dioxide (CO <sub>2</sub> ) compliance costs, dated September
2		28, 2022. <sup>1</sup>
3		As discussed in FPL's 2024 TYSP, FPL made a number of actions regarding
4		its resource mix that affected its projected resource needs in the 2024 planning
5		process. These actions include:
6		- The retirement of Plant Daniel Units 1 & 2 in 2024;
7		- The transition of Gulf Clean Energy Center Units 4 and 5 to "extreme
8		weather reserve" status by the end of 2024 and 2026, respectively;
9		- The retirement of FPL's ownership portion of Scherer Unit 3 by the end
10		of 2028;
11		- The cumulative addition of approximately 21,000 MW (nameplate) of
12		solar by the end of 2033, which is the last year addressed in the 2024
13		TYSP; and
14		- The cumulative addition of approximately 4,000 MW (nameplate) of
15		battery storage by the end of 2033.
16	Q.	Does the load forecast used in the analysis account for the projected
17		energy-efficiency impacts of Florida Building Code and federal equipment
18		manufacturing standards (collectively, Codes and Standards)?
19	А.	Yes. FPL's current projection of the impact of Codes and Standards on the
20		2034 Net Energy for Load (NEL) is 11,438,429 megawatt-hours (MWh). This
21		means that very significant amounts of energy efficiency will still be delivered
22		to FPL's customers by Codes and Standards alone. To provide

<sup>&</sup>lt;sup>1</sup> Use of this forecast in one of the sensitivity analyses is explained later in my testimony.

1		context, FPL's 2024 NEL forecast for the year 2034 is 155,677,526 MWh,
2		which means that the energy reduction delivered through Codes and Standards
3		represents more than 7% of the total of FPL's projected NEL.
4	Q.	From a resource planning perspective, does the energy-efficiency impact
5		of Codes and Standards differ at all from energy efficiency resulting from
6		utility DSM programs?
7	A.	No. Both types of energy efficiency act to reduce FPL's peak demand and
8		energy on the customer side of the meter. One kW of peak demand reduction
9		will avoid or defer new generation whether it comes from Codes and Standards
10		or from a utility-sponsored DSM program. Likewise, the associated fuel and
11		emission impacts from one kWh of energy reduction will be realized regardless
12		of the impetus for that energy reduction.
13	Q.	Once all of these forecasts and assumptions were developed, how did FPL
14		develop the resource plans you discuss in this docket?
15	A.	FPL developed these resource plans using the AURORA planning model. The
16		AURORA model utilizes dynamic programming to conduct an extensive
17		evaluation of all possible resource plans that can meet a utility's reliability
18		requirements. FPL and the Commission have relied upon this model in
19		numerous prior proceedings, and it was used to develop FPL's 2024 TYSP.
20		AURORA incorporated a number of FPL forecasts and assumptions into its
21		analysis including the following:
22		- The 20% total Reserve Margin reliability criterion described earlier;

1		- Forecasts for peak load, energy, fuel prices, and environmental
2		compliance costs;
3		- The existing capabilities of the units on FPL's systems, and any planned
4		changes to those units; and
5		- Projections of fixed and variable costs, and the operating characteristics,
6		of a variety of generation options to meet FPL's resource needs in the
7		future.
8		After incorporating all of these parameters, AURORA evaluated hundreds of
9		possible resource plans that met FPL's future resource needs using only
10		generation or supply options. At the end of this evaluation, the resource plan
11		with the lowest projected electric rate and best reliability for FPL's customers
12		was identified as FPL's Supply Only Plan.
13	Q.	What Supply option was selected for use in the preliminary cost-
14		effectiveness screening?
15	А.	A 1,991 MW (Summer) combined-cycle (CC) unit with a projected in-service
16		year of 2033 was selected as the unit to be considered potentially avoidable for
17		the preliminary screening work. As much of the screening work was conducted
18		in 2023 (before the 2024 TYSP was finalized), the screening analysis was based
19		on the 2033 CC unit that was in FPL's resource plan from the 2023 TYSP.
20	Q.	Why did FPL select the 2033 CC unit as its avoided unit?
21	A.	This unit was selected based on several factors. First, as part of the 2023 TYSP,
22		it was one of the most economic generation additions available.

1		Second, it was located far enough in the future to allow DSM additions a
2		meaningful chance to potentially avoid or defer it. Finally, selection of a fossil
3		unit conforms to the legislative policy in Section 366.82(2), Florida Statutes, to
4		design DSM goals that increase the conservation of expensive resources, such
5		as petroleum fuels, as well as the legislative policy in Section 366.92, Florida
6		Statutes, to promote the development of renewable energy and lessen Florida's
7		dependence on natural gas and fuel oil for the production of electricity. <sup>2</sup>
8		
9	]	V. STEP 3 OF FPL'S PLANNING PROCESS: OVERVIEW OF
10		PRELIMINARY ECONOMIC SCREENING TESTS FOR DSM
11		
12	Q.	Which preliminary screening tests for DSM were used in this step of FPL 's
		which preniminary screening tests for DSN were used in this step of FTE s
13		DSM goals development analyses?
13 14	A.	<b>DSM goals development analyses?</b> FPL used four DSM screening tests in these analyses. Three of these screening
13 14 15	A.	<b>DSM goals development analyses?</b> FPL used four DSM screening tests in these analyses. Three of these screening tests address cost-effectiveness: the Participant screening test, the RIM
13 14 15 16	A.	<ul> <li>DSM goals development analyses?</li> <li>FPL used four DSM screening tests in these analyses. Three of these screening tests address cost-effectiveness: the Participant screening test, the RIM preliminary screening test, and the TRC preliminary screening test. The fourth</li> </ul>
13 14 15 16 17	A.	<ul> <li>DSM goals development analyses?</li> <li>FPL used four DSM screening tests in these analyses. Three of these screening tests address cost-effectiveness: the Participant screening test, the RIM preliminary screening test, and the TRC preliminary screening test. The fourth screening test addresses an evaluation of free ridership, the years-to-payback</li> </ul>

<sup>&</sup>lt;sup>2</sup> See also In re: Commission review of numeric conservation goals (Florida Power & Light Company), Docket Nos. 130199-EI et al., Order No. PSC-14-0696-FOF-EU, p. 14 (FPSC Dec. 16, 2014) ("Demandside management is an alternate resource to generation driven by economic and reliability considerations for Florida's electric utilities. The economics of demand-side management are similar to generation, with a focus on fixed capacity and avoidable fossil fuel cost. The reliability considerations of demandside management are significantly different, however, as measures tend to be implemented in small increments over time, rely upon voluntary participation of customers, and are typically not dispatchable by the utility.")

to provide preliminary economic screening information regarding the 1 individual DSM measures being evaluated. The intent of the Participant test is 2 3 to determine if it makes economic sense for an individual customer to participate in a specific DSM measure. The intent of the RIM test is to measure 4 the effect of a DSM measure on FPL's electric rates, which impact both 5 participants and non-participants. The intent of the TRC test is to measure the 6 cost of a DSM measure to both the utility and its customers, without 7 consideration of the impact to rates. The intent of the years-to-payback test is 8 to address the "free rider" issue so the utility and all of its customers are not 9 making incentive payments and incurring administrative costs for DSM 10 measures that customers likely would install even without an incentive 11 12 payment.

### Q. Is FPL accounting for any projected environmental compliance costs in the screening tests in the current analyses?

Yes, but only for two types of emissions. FPL is accounting for projected A. 15 compliance costs for sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) in both the 16 17 RIM and TRC preliminary screening tests. However, consistent with the direction provided in the Order Establishing Procedure for this docket (Order 18 19 No. PSC-2024-0022-PCO-EG), FPL is not accounting for projected CO<sub>2</sub> compliance costs in these screening tests. Rather, because FPL considers CO<sub>2</sub> 20 21 compliance costs in all of its other resource planning analyses, FPL analyzed 22 the impact of projected CO<sub>2</sub> compliance costs in a sensitivity screening analysis. In order to indicate whether  $CO_2$  costs are included in the screening 23

1		analyses, I will use the terminology of "w/ CO2" and "w/o CO2" for the different
2		analyses.
3	Q.	Have the four preliminary screening tests been used by FPL in prior DSM
4		goals filings?
5	A.	Yes, all four tests have been used in prior filings. However, the goals proposed
6		in FPL's prior DSM goals dockets have been based on the RIM and Participant
7		tests and a years-to-payback screen of two years.
8	Q.	Please discuss the primary differences between the Participant, RIM, and
9		TRC preliminary screening tests.
10	A.	A summary of the costs and benefits considered by each test during the cost-
11		effectiveness screening is provided in Exhibit AWW-1. As shown in Exhibit
12		AWW-1, the primary differences between these three tests result from the
13		perspective that each test attempts to capture. FPL witness Floyd provides a
14		more detailed description of the different cost-effectiveness tests and what each
15		one does and does not account for.
16	Q.	What is the objective of the preliminary economic screening of individual
17		DSM measures with the Commission's DSM cost-effectiveness tests that is
18		carried out in Step 3 of FPL's resource planning process?
19	A.	The objective of the economic screening of DSM measures with the
20		Commission's cost-effectiveness tests (Participant, TRC, and RIM tests) is to
21		identify all of the measures that are potentially cost-effective (in that their
22		benefits are higher than their associated costs). These measures that are
23		potentially cost-effective can be combined first into DSM programs and then

into one or more DSM portfolios that meet some or all FPL's projected resource
 needs. The resource plans can then be compared on an economic basis to the
 Supply Only Plan established earlier.

4

5

# Q. Please provide an overview of how the preliminary economic screening of individual DSM measures was conducted.

A. The economic screening process begins when the Technical Potential study is 6 complete. That study describes all the prospective individual DSM measures 7 and their associated characteristics, such as life of measure, kW reduction, and 8 kWh savings. These measures are then screened to develop two DSM 9 portfolios: (1) a RIM portfolio that is comprised of all measures that pass the 10 RIM and Participant cost-effectiveness tests and the years-to-payback screen; 11 and (2) a TRC portfolio that passes the TRC test, the Participant test and the 12 years-to-payback screen. Based on the results of these screens, the passing 13 14 measures have their maximum incentives determined.

# Q. Why does the screening process differ depending on the tests used for cost effectiveness?

- A. The paths of the cost-effectiveness screening diverge depending on if the RIM or the TRC test is used as the primary determinant of cost-effectiveness. In both cases, there are four overall steps in the screening process. The details of these steps and how they differ from test to test are provided below:
- 21 Step 1: For the RIM path, the benefits of the measure are compared to the 22 unrecovered revenue requirements. For the TRC path, the benefits of 23 the measure are compared to the participants' incremental cost.

1		Step 2: For both the RIM and TRC paths, the benefits of the measure are
2		compared to the administrative costs being added to the costs already
3		accounted for in Step 1.
4		Step 3: For the RIM path only, the incentive payments needed for the measure
5		to pass the Participant test are now accounted for.
6		Step 4: For both the RIM and TRC paths, any measures that do not pass the
7		years-to-payback test for free riders are screened out.
8	Q.	How does a years-to-payback screening test account for free riders?
9	A.	A years-to-payback screening with a two-year criterion assumes that a customer
10		would adopt an energy-efficiency measure with no additional incentive if the
11		economic payback for that measure was less than two years. This screening
12		test recognizes that "rational" customers will act in their own economic interest
13		and engage in energy efficiency measures that reduce their energy
14		consumption, if it is economic to do so even without incentives. This ensures
15		that incentives (and their associated impact to the electric rates of both
16		participants and non-participants) will not be provided unnecessarily. FPL
17		witness Floyd provides further details on the use of the two-year payback
18		screening to account for free ridership.
19	Q.	What were the results of the preliminary economic screening?
20	A.	The results of the economic screening are provided in Exhibit AWW-2. In
21		summary, of the 20,068 measure permutations that came out of the Technical
22		Potential study, 20 passed the RIM and Participant tests and the two years-to-
23		payback screen path, and 3,433 measures passed the TRC test, the Participant

1		test, and the two years-to-payback screening path. The difference in the number
2		of measures that pass under the RIM path versus the TRC path is a result of the
3		different costs that are included in each cost-effectiveness screening test as
4		explained above and in the testimony of FPL witness Floyd.
5	Q.	Did FPL perform any additional sensitivity case screening analyses of the
6		DSM measures?
7	A.	Yes. Sensitivities were developed for High and Low forecasts of fuel prices,
8		longer and shorter years-to-payback criteria, and inclusion of compliance costs
9		for CO <sub>2</sub> . The results of these sensitivities can be seen in Exhibit AWW-3 (and
10		the results with $CO_2$ are also presented in Exhibit AWW-2).
11	Q.	How were the various fuel cost sensitivity forecasts and years-to-payback
12		sensitivity periods developed?
13	A.	FPL followed its usual practice in the development of the High and Low fuel
14		cost forecasts. A Medium fuel cost forecast was first developed. Then FPL
15		adjusted the Medium fuel cost forecast upwards (for the High fuel cost forecast
16		sensitivity) and downwards (for the Low fuel cost forecast sensitivity), by
16 17		sensitivity) and downwards (for the Low fuel cost forecast sensitivity), by multiplying the annual cost values from the Medium fuel cost forecast by a
16 17 18		sensitivity) and downwards (for the Low fuel cost forecast sensitivity), by multiplying the annual cost values from the Medium fuel cost forecast by a factor of (1 plus the historical volatility in the 12-month forward price, one year
16 17 18 19		sensitivity) and downwards (for the Low fuel cost forecast sensitivity), by multiplying the annual cost values from the Medium fuel cost forecast by a factor of (1 plus the historical volatility in the 12-month forward price, one year ahead) for the High fuel cost forecast sensitivity, and by a factor of (1 minus
16 17 18 19 20		sensitivity) and downwards (for the Low fuel cost forecast sensitivity), by multiplying the annual cost values from the Medium fuel cost forecast by a factor of (1 plus the historical volatility in the 12-month forward price, one year ahead) for the High fuel cost forecast sensitivity, and by a factor of (1 minus the historical volatility of the 12-month forward price, one year ahead) for the
16 17 18 19 20 21		sensitivity) and downwards (for the Low fuel cost forecast sensitivity), by multiplying the annual cost values from the Medium fuel cost forecast by a factor of (1 plus the historical volatility in the 12-month forward price, one year ahead) for the High fuel cost forecast sensitivity, and by a factor of (1 minus the historical volatility of the 12-month forward price, one year ahead) for the Low fuel cost forecast sensitivity.

For the development of years-to-payback criterion sensitivity values, FPL added or subtracted one year to or from its base case two years-to-payback criterion, resulting in three years-to-payback, and one year-to-payback, sensitivity case criteria. FPL believes that this variation is sufficient to illustrate the sensitivity of the screening process to differences in the years-to-payback criterion.

7

#### Q. What fuel cost forecast is FPL basing its proposed DSM goals on and why?

A. FPL is basing its proposed 2025-2034 DSM goals on its Medium fuel forecast
that is presented in Exhibit AWW-4. The Medium fuel forecast represents a
middle ground of fuel scenarios and is consistent with the methodology used in
all of FPL's recent filings before the Commission.

### Q. Please discuss the CO<sub>2</sub> compliance cost forecast values in Column (8) of Exhibit AWW-4.

A. Since 2007, FPL has evaluated potential CO<sub>2</sub> regulation and/or legislation and
has used projected compliance costs for CO<sub>2</sub> emissions from the consultant ICF
in its resource planning work. The values for CO<sub>2</sub> compliance costs in Exhibit
AWW-4 represent the latest forecast FPL received from ICF in October of
2022.

# Q. Does FPL use a CO<sub>2</sub> compliance cost forecast in all of its other resource planning analyses?

A. Yes, FPL has consistently used a forecast of CO<sub>2</sub> compliance in all of its
 resource plan analyses for more than fifteen years.

1	Q.	Earlier you stated that, at the conclusion of the cost-effectiveness screening,
2		maximum incentives were calculated for each passing measure. How were
3		these maximum incentives calculated?
4	А.	For the RIM path of cost-effectiveness testing, the maximum incentives for
5		measures that pass all four steps were calculated based on two parameters:
6		1. How much incentive can be offered and still allow the measure to pass
7		the RIM and Participant tests?
8		2. How much incentive can be offered and still allow the measure to pass
9		the years-to-payback test?
10		The smaller of these two incentives is the maximum incentive that could be
11		offered for measures that pass the RIM path of cost-effectiveness testing. For
12		example, assume that a measure passes all four screening steps in the RIM path.
13		The one-time payment that can be offered for this measure that still allows a
14		RIM test result greater than 1.005 is \$1,000. The one-time payment that can be
15		offered for this measure while still allowing it to pass the years-to-payback test
16		is \$500. Based on these two values, the maximum incentive that could be
17		offered is \$500 – offering a larger incentive would cause the measure to fail the
18		years-to-payback test.
19		
20		For the TRC path of cost-effectiveness testing, only the years-to-payback
21		criterion was used to determine the maximum incentive, as the TRC test does
22		not include the consideration of incentive payments as a cost. For example, a
23		particular measure could pass the TRC test and have a one-time payment of

1		\$500 that still passes the two-year payback screen. Lowering this one-time
2		payment below \$500 would have no effect on the outcome of the TRC test.
3	Q.	How were these maximum incentives used in the overall DSM analysis?
4	A.	The two sets (RIM path and TRC path) of passing measures and their associated
5		maximum incentives developed in Step 3 are used in Step 4 to develop the
6		programs for each of the goals scenarios required by the rule. This process is
7		described in detail by FPL witness Floyd. The goals and programs developed
8		in Step 4 for FPL's recommended portfolio and for each of the cost-
9		effectiveness scenarios are used in Step 5 to develop the associated resource
10		plans, which I describe next, to accurately compare all of the impacts of the
11		DSM goals in Step 6.
12		
13	V.	STEP 5 OF FPL'S PLANNING PROCESS: DEVELOPMENT OF THE
14		<b>RESOURCE PLANS</b>
15		
16	<b>O</b> .	What are FPL's resource needs during the 2025-2034 DSM goals
17	-	timeframe?
18	A	Exhibit AWW-5 details FPL's resource needs for this timeframe and two
10	1 2.	additional years using the resource planning process I previously described
18 19	А.	Exhibit AWW-5 details FPL's resource needs for this timeframe and two additional years using the resource planning process I previously described.

- Q. What were the reasonably achievable DSM program values and how does
   this DSM program potential match up with FPL's projected resource
   needs?
- A. The results of the evaluation of reasonably achievable DSM, which are
  discussed in detail in FPL witness Floyd's direct testimony, were used as inputs
  for the resource planning process. Exhibit AWW-6 presents the projected total
  annual Summer MW for DSM programs identified in each of FPL's goals
  scenarios in Columns 1 through 3. These annual DSM Summer MW values are
  also compared to the annual resource need projections in Exhibit AWW-5 and
  presented in Column 4 of Exhibit AWW-6.
- Q. Please describe the "Supply Only" Resource Plan and the "With DSM"
   Resource Plans that were developed for further analyses.
- A. A summary of these four plans is presented in Exhibit AWW-7. For the
  "Supply Only" plan, DSM additions were assumed to be "frozen" after 2024.
  All of the resource needs identified in Exhibit AWW-6 were met with future
  supply-side resource options, including battery storage units.
- 17

A total of three "With DSM" resource plans were developed for further analysis. The first "With DSM" plan is the RIM Resource Plan. This plan is based on the measures that passed both the RIM and Participant tests, as well as passing the two-year payback screening for free riders. The second "With DSM" plan is the TRC Resource Plan. This plan is based on measures that passed the TRC test and Participant test for cost-effectiveness and the two-

1		year payback screening for free riders. The final "With DSM" plan is the FPL
2		Proposed Resource Plan. This plan was developed based on FPL's
3		recommended DSM portfolio that largely continues the currently offered DSM
4		programs with notable enhancements as further described by FPL witness
5		Floyd. The DSM additions in the FPL Proposed Resource Plan are essentially
6		an approach that results in DSM goals that have demand and energy impacts in
7		between those under the RIM Resource Plan and the TRC Resource Plan. The
8		economic and non-economic impacts of each of these plans are analyzed in Step
9		6, which I describe next.
10		
11	VI.	STEP 6 OF FPL'S PLANNING PROCESS: ANALYSES OF THE
12		<b>RESOURCE PLANS</b>
13		
13 14	Q.	Please describe how the economic analysis of the Supply Only and "With
13 14 15	Q.	Please describe how the economic analysis of the Supply Only and "With DSM" Resource Plans is conducted.
13 14 15 16	<b>Q.</b> A.	Please describe how the economic analysis of the Supply Only and "With DSM" Resource Plans is conducted. The economic analysis of the resource plans compares the Levelized System
13 14 15 16 17	<b>Q.</b> A.	Please describe how the economic analysis of the Supply Only and "With DSM" Resource Plans is conducted. The economic analysis of the resource plans compares the Levelized System Average Electric Rate for each plan. Exhibits AWW-8 through AWW-11
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> </ol>	<b>Q.</b> A.	Please describe how the economic analysis of the Supply Only and "With DSM" Resource Plans is conducted. The economic analysis of the resource plans compares the Levelized System Average Electric Rate for each plan. Exhibits AWW-8 through AWW-11 present the calculations of the Levelized System Average Electric Rate and the
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> </ol>	<b>Q.</b> A.	Please describe how the economic analysis of the Supply Only and "With DSM" Resource Plans is conducted. The economic analysis of the resource plans compares the Levelized System Average Electric Rate for each plan. Exhibits AWW-8 through AWW-11 present the calculations of the Levelized System Average Electric Rate and the fixed and variable costs that comprise the projected annual revenue
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> </ol>	<b>Q.</b> A.	Please describe how the economic analysis of the Supply Only and "With DSM" Resource Plans is conducted. The economic analysis of the resource plans compares the Levelized System Average Electric Rate for each plan. Exhibits AWW-8 through AWW-11 present the calculations of the Levelized System Average Electric Rate and the fixed and variable costs that comprise the projected annual revenue requirements from which the rate is derived for each resource plan evaluated.
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> </ol>	Q. A.	Please describe how the economic analysis of the Supply Only and "With DSM" Resource Plans is conducted. The economic analysis of the resource plans compares the Levelized System Average Electric Rate for each plan. Exhibits AWW-8 through AWW-11 present the calculations of the Levelized System Average Electric Rate and the fixed and variable costs that comprise the projected annual revenue requirements from which the rate is derived for each resource plan evaluated. The calculation consists of three basic steps. First, the projected annual revenue
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> <li>20</li> <li>21</li> <li>22</li> </ol>	Q. A.	Please describe how the economic analysis of the Supply Only and "With DSM" Resource Plans is conducted. The economic analysis of the resource plans compares the Levelized System Average Electric Rate for each plan. Exhibits AWW-8 through AWW-11 present the calculations of the Levelized System Average Electric Rate and the fixed and variable costs that comprise the projected annual revenue requirements from which the rate is derived for each resource plan evaluated. The calculation consists of three basic steps. First, the projected annual revenue requirements and annual GWh served are used to calculate a projected system

Exhibits AWW-8 through AWW-11. Second, each of these projected annual electric rates is converted to a present value, and these present values are summed in Column 10. Third, an annual electric rate value is developed in Column 11 that, when held constant in each year, with these values converted to a present value and summed, has an identical net present value sum in Column 12 to that of the present value sum in Column 10. This constant electric rate value is the Levelized System Average Electric Rate for this resource plan.

8

#### Q. What were the results of the economic analysis of the resource plans?

The results of the economic analysis of the resource plans are presented in 9 A. Exhibit AWW-12, which provides the projected Levelized System Average 10 Electric Rate for each resource plan. As shown on Exhibit AWW-12, the RIM 11 Resource Plan provides the lowest Levelized System Average Electric Rate for 12 FPL's customers, while the TRC Resource Plan provides the highest Levelized 13 14 System Average Electric Rate for FPL's customers. The Levelized System Average Electric Rate for the FPL Proposed Resource Plan is between those of 15 the RIM and TRC Resource Plans. 16

# Q. Are the differences in the Levelized System Average Electric Rates between the three resource plans presented in Exhibit AWW-12 meaningful?

A. Yes. This is demonstrated in Exhibit AWW-13. This exhibit compares the
levelized rates for the RIM Resource Plan, the TRC Resource Plan, and the FPL
Proposed Resource Plan. As shown in the exhibit, the seemingly modest

1 differential in levelized rates between the RIM-based and TRC-based plans equates to a very large one-time cost of approximately \$2.5 billion in year 2034 2 3 being added to the RIM-based DSM plan. Exhibit AWW-14 shows a similar comparison between the FPL Proposed Plan and the TRC Plan. 4 Q. Were electric rates and customer bills projected and compared for the ten-5 year goal-setting period for each resource plan? 6 Yes. Exhibit AWW-15 provides a comparison of electric rates and customer A. 7 bills for the "Supply Only Resource Plan and the three "With DSM" Resource 8 Plans. In comparing the three "With DSM" Resource Plans during 2025-2034, 9 the RIM Resource Plan is projected to result in the lowest electric rates and 10 average customer bills in each year. The TRC Resource Plan is projected to 11 result in the highest electric rates and the highest average customer bills in each 12 year. The FPL Proposed Resource Plan falls in between the RIM and TRC 13 14 Resource Plans.

#### 15 Q. How would you summarize the economic analyses results?

16 A. Two results from the economic analyses are noteworthy. First, the RIM 17 Resource Plan helps meet FPL's resource needs through 2034 while providing 18 the lowest Levelized System Average Electric Rates over the analysis period 19 and the lowest electric rates of the "With DSM" Resource Plans for each year in the 2025-2034 time period. The FPL Proposed Resource plan also meets all 20 21 of FPL's resource needs through 2034, and while the FPL Proposed Resource 22 Plan raises customer electric rates relative to the RIM Resource Plan, it results in minimal incremental rate impact beyond what customers are 23

1		incurring under FPL's current approved DSM goals. The TRC Resource Plan
2		meets FPL's resource needs through 2034 and increases customer electric rates
3		relative to both the RIM Resource Plan and FPL Proposed Resource Plan.
4	Q.	What different perspectives of the FPL system were considered in the non-
5		economic analyses?
6	А.	The non-economic analyses focused on two perspectives that address the years
7		2025-2034. The first perspective is a direct comparison of projected annual
8		$SO_2$ , $NO_x$ , and $CO_2$ emissions for the FPL system for each of the resource plans.
9		The second perspective is a direct comparison of projected annual FPL system
10		oil and natural gas usage for the resource plans.
11	Q.	Would you please present the results of the non-economic analyses?
12	А.	Yes. The results of the non-economic analyses are presented in Exhibits AWW-
13		16 and AWW-17. There is very little difference among the four resource plans
14		for these non-economic factors.
15	Q.	Does FPL's 10% GRM requirement impact FPL's proposed DSM goals?
16	А.	No. The GRM criterion does not impact FPL's proposed DSM goals.
17	Q.	What are the proposed DSM goals under the FPL Proposed Resource
18		Plan?
19	А.	The proposed DSM goals based on the FPL Proposed Resource Plan are 419
20		MW Summer demand, 326 MW Winter demand, and 931 GWh energy
21		reduction for the period 2025 through 2034, which are further explained by FPL
22		witness Floyd.

1	Q.	From a resource planning perspective, are the DSM goals based on the FPL
2		Proposed Resource Plan reasonable?
3	А.	Yes. The resource plan associated with FPL's proposed DSM goals fulfills the
4		primary drivers of FPL's resource planning process:
5		- The timing and magnitude of resource needs: via a combination of
6		DSM and supply resources, the FPL Proposed Resource Plan ensures
7		that all of FPL's resources needs are met throughout the time period of
8		the analysis and all of FPL's reliability criteria are satisfied.
9		- The FPL Proposed Resource Plan is consistent with the Commission's
10		DSM Goals Rule 25-17.0021, which was recently amended to require
11		utilities to submit DSM goals based on programs developed under both
12		the RIM and TRC cost-effectiveness tests.
13		- The rate impact to FPL's customers: the FPL Proposed Resource Plan
14		has minimal incremental rate impact to customers beyond what they are
15		currently paying under the existing DSM goals, which have been in
16		place for the last ten years.
17		FPL witness Floyd further explains why FPL believes the proposed DSM goals
18		are reasonable and appropriate.
19	Q.	Does this conclude your direct testimony?
20	A.	Yes.

### **ATTACHMENT 2**

Florida Power & Light Company Docket No. 20240012-EG

Corrected Exhibits AWW-6, AWW-7, AWW-10, AWW-11, AWW-12, AWW-13, AWW-14, and AWW-15 Corrected by Errata Filed July 12, 2024

### Comparison of DSM Reasonably Achievable Summer MW Values with FPL's Projected Summer Resource Needs (Assuming the Resource Needs are Met Solely by DSM) (MW at Generator)

	(1)	(2)	(3)	(4)
	FPL Proposed	RIM	TRC	Projected FPL
	Plan	Plan	Plan	Resource Needs
	Cumulative DSM	Cumulative DSM	Cumulative DSM	if Resource Needs
	Reasonably	Reasonably	Reasonably	are Met Solely
	Achievable MW	Achievable MW	Achievable MW	by DSM *
Year	(Summer MW)	(Summer MW)	(Summer MW)	(Summer MW)
2024				
2025	42	20	50	
2026	85	40	101	
2027	128	60	152	
2028	169	79	202	
2029	210	98	253	
2030	251	117	305	(684)
2031	293	137	358	(474)
2032	334	157	412	(9)
2033	376	177	467	410
2034	419	198	522	1,133

\* The projected Summer resource need values in Column (4) are from Exhibit AWW-5, Column 11.

Docket No. 20240012-EG Comparison of DSM Reasonably Achievable Summer MW Values with FPL's Projected Summer Resource Needs Corrected Exhibit AWW-6, Page 1 of 1

ļ	Supply Only Reso	urce Plan		FPL Proposed DSM R	esource Plan
	Generation Additions (MW)	Cumulative DSM Additions (MW)	Total Reserve Margin (%)	Generation Additions (MW)	Cumulative DSM Additions (MW)
Year					
2025	1,490 MW Solar	0	23.4%	1,490 MW Solar	42
	2,235 MW Solar			2,235 MW Solar	
2026	522 MW Battery Storage	0	25.2%	522 MW Battery Storage	85
	2,235 MW Solar			2,235 MW Solar	
2027	300 MW Battery Storage	0	25.3%	300 MW Battery Storage	128
	2,235 MW Solar			2,235 MW Solar	
2028	300 MW Battery Storage	0	24.8%	300 MW Battery Storage	169
	2,235 MW Solar			2,235 MW Solar	
2029	300 MW Battery Storage	0	23.6%	300 MW Battery Storage	210
	2,235 MW Solar			2,235 MW Solar	
2030	300 MW Battery Storage	0	23.0%	300 MW Battery Storage	251
	2,235 MW Solar			2,235 MW Solar	
2031	300 MW Battery Storage	0	22.0%	300 MW Battery Storage	293
	2,235 MW Solar			2,235 MW Solar	
2032	300 MW Battery Storage	0	20.0%	300 MW Battery Storage	334
	2,235 MW Solar			2,235 MW Solar	
2033	1,700 MW Battery Storage	0	20.0%	400 MW Battery Storage	376
	3x1 Martin CC, (1,991 MW)			3x1 Martin CC, (1,991 MW)	
2034	700 MW Battery Storage	0	24.4%	3,000 MW Battery Storage	419
2035		0	21.7%		419
2036	1 x 660 MW Filler	0	21.0%		419

#### **Overview of Supply Only and With DSM Resource Plans**

Cumulative

	RIM Resource	Plan
Total		Cumulative
Reserve	Generation	DSM
Margin	Additions	Additions
(%)	(MW)	(MW)
23.6%	1,490 MW Solar	20
	2,235 MW Solar	
25.7%	522 MW Battery Storage	40
	2,235 MW Solar	
26.1%	300 MW Battery Storage	60
	2,235 MW Solar	
25.8%	300 MW Battery Storage	79
	2,235 MW Solar	
24.8%	300 MW Battery Storage	98
	2,235 MW Solar	
24.4%	300 MW Battery Storage	117
	2,235 MW Solar	
23.7%	300 MW Battery Storage	137
	2,235 MW Solar	
21.9%	300 MW Battery Storage	157
	2,235 MW Solar	
20.5%	500 MW Battery	177
	3x1 Martin CC, (1,991 MW)	
27.5%	1,000 MW Battery Storage	198
24.7%		198
21.7%	1 x 660 MW Filler	198

TRC Resource Plan								
	Cumulative	Total						
Generation	DSM	Reserve						
Additions	Additions	Margin						
(MW)	(MW)	(%)						
1,490 MW Solar	50	23.6%						
2,235 MW Solar								
522 MW Battery Storage	101	25.7%						
2,235 MW Solar								
300 MW Battery Storage	152	26.1%						
2,235 MW Solar								
300 MW Battery Storage	202	25.9%						
2,235 MW Solar								
300 MW Battery Storage	253	25.0%						
2,235 MW Solar								
300 MW Battery Storage	305	24.6%						
2,235 MW Solar								
300 MW Battery Storage	358	23.9%						
2,235 MW Solar								
300 MW Battery Storage	412	22.1%						
2,235 MW Solar								
300 MW Battery Storage	467	20.6%						
3x1 Martin CC, (1,991 MW)								
2,300 MW Battery Storage	522	27.3%						
	522	24.5%						
	522	21.5%						

Total

Reserve

Margin

(%)

---

23.5%

25.5%

25.8%

25.4%

24.3%

23.8%

23.0%

21.2%

20.0%

25.0% 22.3%

21.5%

Corrected Exhibit AWW-7, Page 1 of 1 With DSM Resource Plans Overview of Supply Only and Docket No. 20240012-EG

#### Levelized System Average Electric Rate Calculation for the FPL Proposed Resource Plan

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
			( )		=(2)+(3)+(4)			=(6) - (7)	=((5)/(8))/10	=(9)*(1)		$=(11)^{*}(1)$
									((-)(-))			
	Annual			Non-Resource	System			Load Forecast	Annual	Annual	Nominal	NPV
	Discount	Resource Plan	Resource Plan	Plan Other	Revenue	Load	DSM Energy	NFL Adjusted	Electric	Electric	Levelized System	Levelized System
	Factor	Variable Costs	Fixed Costs	System Costs *	Requirements	Forecast NEL	Reduction **	by DSM	Rate	Rate	Average Rate	Average Rate
Vear	8 14%	(\$000 Nom)	(\$000 Nom)	(\$000 Nom)	(\$000 Nom)	(GWb)	(GWh)	(GWh)	(cents/kWh Nom)	(cents/kWh NPV)	(cents/kWh)	(cents/kWh)
2024	1.000	2 608 824	172 603	10 000 155	13 870 672	140.469	113	140.356	0.88250	0.88250	14.8516	14.8516
2024	0.925	2,098,824	378.068	11 341 613	14 565 041	140,409	205	140,555	10 28020	9.88250	14.8516	13 7332
2025	0.925	2,044,400	1 015 205	12 206 026	16 267 824	142,001	205	141,555	11 40052	0.74812	14.8516	12,6000
2020	0.855	2,933,492	1,015,395	12,290,930	16,207,824	142,991	297	142,094	11.40033	9.74012	14.0510	11.7427
2027	0.791	2,331,108	1,331,230	12,934,202	10,990,000	144,035	390	143,003	11.65060	9.33428	14.6510	11./42/
2028	0.731	2,340,043	2,012,082	13,212,472	17,304,397	145,101	402	144,019	12.14340	0.0/901	14.6510	10.6364
2029	0.676	2,068,999	2,481,309	13,391,962	18,142,209	140,551	5/4	145,977	12.42819	8.40230	14.8510	10.0407
2030	0.625	1,550,197	2,893,964	13,974,533	18,418,694	148,290	66/	147,623	12.4/684	7.79996	14.8516	9.2845
2031	0.578	1,163,233	3,308,892	14,390,022	18,862,146	149,578	/60	148,817	12.6/469	/.32695	14.8516	8.5854
2032	0.535	909,703	3,719,379	14,842,757	19,471,839	151,677	854	150,823	12.91037	6.90117	14.8516	7.9388
2033	0.494	799,057	4,098,843	15,344,989	20,242,889	153,686	949	152,737	13.25340	6.55103	14.8516	/.3410
2034	0.457	846,719	4,696,437	15,895,257	21,438,413	155,678	1,044	154,633	13.86402	6.33679	14.8516	6.7882
2035	0.423	1,235,907	4,506,974	16,484,421	22,227,302	157,715	1,044	156,671	14.18/23	5.99620	14.8516	6.2770
2036	0.391	1,722,448	4,321,798	17,107,511	23,151,757	159,679	1,044	158,634	14.59441	5.70378	14.8516	5.8043
2037	0.361	2,293,857	4,186,624	17,748,649	24,229,130	161,502	1,044	160,457	15.10004	5.45698	14.8516	5.3672
2038	0.334	2,904,770	4,485,667	18,403,005	25,793,442	163,154	1,044	162,110	15.91107	5.31706	14.8516	4.9630
2039	0.309	3,502,023	4,450,104	19,064,579	27,016,706	164,627	1,044	163,583	16.51561	5.10346	14.8516	4.5893
2040	0.286	4,224,490	4,461,454	19,741,619	28,427,563	165,935	1,044	164,891	17.24025	4.92620	14.8516	4.2437
2041	0.264	4,799,755	4,499,155	20,139,168	29,438,079	164,919	1,044	163,874	17.96380	4.74640	14.8516	3.9241
2042	0.244	5,454,498	4,481,986	20,570,229	30,506,713	166,511	1,044	165,467	18.43677	4.50453	14.8516	3.6286
2043	0.226	6,148,262	4,504,729	21,008,142	31,661,132	168,119	1,044	167,075	18.95025	4.28131	14.8516	3.3553
2044	0.209	6,772,594	4,457,055	21,453,011	32,682,660	169,744	1,044	168,700	19.37329	4.04728	14.8516	3.1026
2045	0.193	7,393,400	4,405,548	21,904,944	33,703,892	171,385	1,044	170,341	19.78617	3.82226	14.8516	2.8690
2046	0.179	7,807,402	4,450,236	22,364,049	34,621,688	173,042	1,044	171,998	20.12909	3.59567	14.8516	2.6529
2047	0.165	8,445,471	4,319,912	22,830,437	35,595,819	174,717	1,044	173,673	20.49593	3.38549	14.8516	2.4532
2048	0.153	9,145,723	4,339,017	23,304,219	36,788,959	176,408	1,044	175,364	20.97863	3.20427	14.8516	2.2684
2049	0.141	9,906,850	4,391,602	23,785,509	38,083,960	178,116	1,044	177,072	21.50757	3.03768	14.8516	2.0976
2050	0.131	10,978,179	4,305,484	24,274,422	39,558,085	179,842	1,044	178,798	22.12444	2.88949	14.8516	1.9396
2051	0.121	11,240,533	4,282,113	24,771,076	40,293,722	181,585	1,044	180,541	22.31829	2.69530	14.8516	1.7936
2052	0.112	11,759,395	4,560,642	25,275,591	41.595.629	183,346	1,044	182.302	22.81687	2.54801	14.8516	1.6585
2053	0.103	12,860,981	4,836,349	25,788,088	43,485,418	185,125	1,044	184.081	23.62302	2.43937	14.8516	1.5336
2054	0.095	13.391.506	4.828.110	26.307.139	44.526.756	186.921	1.044	185.877	23,95491	2.28736	14.8516	1,4181
2055	0.088	13.654.207	4.864.268	26.834.393	45.352.869	188.736	1.044	187.692	24,16343	2,13352	14.8516	1.3113
2056	0.082	14.595.288	5,194,695	27.369.977	47.159.960	190.569	1.044	189.525	24.88319	2.03162	14.8516	1.2126
2057	0.075	14 996 865	5 295 014	27 914 017	48 205 896	192 421	1 044	191 377	25 18896	1 90171	14 8516	1 1213
2058	0.070	15.219 363	5.214 789	28,466,646	48,900 799	194,292	1,044	193,248	25.30474	1.76658	14.8516	1.0368
2059	0.065	15 594 296	5 273 132	29,027,995	49 895 423	196,181	1,044	195,210	25 56943	1.65064	14 8516	0.9587
2060	0.060	15 921 899	5 354 935	29 598 199	50 875 033	198,090	1 044	197 046	25.80915	1 54123	14 8516	0.8865
2000	0.000	16 175 609	5 374 204	30 177 305	51 727 208	200.018	1,044	108 074	25.01071	1.34125	14.8516	0.8305
2001	0.055	16 510 160	5 138 200	30,765,721	52 423 000	200,010	1,044	200 021	25.55705	1 33175	14.8516	0.0170
2002	0.031	17 240 219	5,636,001	21 262 210	54 248 528	201,903	1,044	200,921	26.09141	1.33173	14.0510	0.7380
2005	0.047	17 861 200	5,050,001	21 262 210	54 776 215	205,952	1,044	202,000	20.70/43	1.20431	14.8516	0.7010
2004	0.044	17,001,299	5,509,714	21,262,210	55 001 201	203,919	1,044	204,873	20./3043	1.1008/	14.6510	0.0482
2065	0.040	18,219,10/	5,508,/14	31,303,319	55,091,201	207,926	1,044	200,882	20.02924	1.0/46/	14.8516	0.5994
2000	0.037	16,008,15/	5,570,712	31,303,319	56,019,244	209,934	1,044	208,910	20.38934	0.99220	14.8510	0.5342
2067	0.035	18,961,075	5,693,950	31,303,319	56,018,344	212,002	1,044	210,958	26.55426	0.91632	14.8516	0.5125
2068	0.032	19,254,978	5,820,945	51,363,319	56,439,243	214,0/1	1,044	213,027	26.49395	0.84539	14.8516	0.4739
2069	0.030	19,645,491	6,016,986	51,363,319	57,025,797	216,161	1,044	215,117	26.50924	0.78218	14.8516	0.4382
2070	0.027	20,055,695	5,979,662	51,505,519	57,398,677	218,272	1,044	217,228	26.42328	0.72093	14.8516	0.4052
										192.24043		192.24043

\* Includes system costs not affected by the resource plan such as existing generation, T&D, staff, and DSM costs

not tied directly to new DSM signups (such as rebates to existing load management participants, etc.).

\*\* DSM energy reductions are incremental from 2024.



#### Levelized System Average Electric Rate Calculation for the TRC Resource Plan

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
					=(2)+(3)+(4)			=(6) - (7)	=((5)/(8))/10	=(9)*(1)		$=(11)^{*}(1)$
	Annual			Non-Resource	System			Load Forecast	Annual	Annual	Nominal	NPV
	Discount	Resource Plan	Resource Plan	Plan Other	Revenue	Load	DSM Energy	NEL Adjusted	Electric	Electric	Levelized System	Levelized System
	Factor	Variable Costs	Fixed Costs	System Costs *	Requirements	Forecast NEL	Reduction **	by DSM	Rate	Rate	Average Rate	Average Rate
Year	8.14%	(\$000, Nom)	(\$000, Nom)	(\$000, Nom)	(\$000, Nom)	(GWh)	(GWh)	(GWh)	(cents/kWh, Nom)	(cents/kWh, NPV)	(cents/kWh)	(cents/kWh)
2024	1.000	2,698,623	172,693	10,999,155	13,870,471	140,469	113	140,356	9.88236	9.88236	14.8880	14.8880
2025	0.925	2,844,400	386,766	11,341,613	14,572,779	141,761	248	141,513	10.29787	9.52238	14.8880	13.7668
2026	0.855	2,952,245	1,022,625	12,296,936	16,271,806	142,991	386	142,605	11.41042	9.75658	14.8880	12.7301
2027	0.791	2,521,157	1,537,980	12,934,262	16,993,399	144,053	528	143,525	11.84006	9.36155	14.8880	11.7714
2028	0.731	2,333,739	2,018,815	13,212,472	17,565,026	145,101	676	144,425	12.16203	8.89197	14.8880	10.8850
2029	0.676	2,058,457	2,487,622	13,591,962	18,138,040	146.551	829	145,721	12.44707	8.41506	14.8880	10.0653
2030	0.625	1.538,779	2,899,752	13,974,533	18,413,064	148.290	989	147,301	12.50027	7.81461	14.8880	9.3073
2031	0.578	1.148.079	3,313,983	14,390,022	18.852.083	149.578	1,153	148,425	12.70143	7.34241	14.8880	8.6064
2032	0.535	895,360	3,723,571	14,842,757	19,461,688	151.677	1.321	150,356	12.94373	6.91900	14.8880	7,9583
2033	0.494	792,534	4,086,542	15,344,989	20.224.064	153.686	1.493	152,193	13.28845	6.56835	14.8880	7.3590
2034	0.457	865,797	4,579,193	15.895.257	21.340.247	155.678	1.668	154,010	13.85644	6.33332	14.8880	6.8048
2035	0.423	1.249.219	4.390.428	16.484.421	22,124,069	157.715	1.668	156.047	14,17779	5.99221	14.8880	6.2924
2036	0.391	1,219,219	4 215 341	17 107 511	23,059,895	159.679	1,668	158.011	14 59389	5 70357	14 8880	5 8185
2037	0.361	2 298 608	4 201 430	17 748 649	24 248 688	161 502	1,668	159.834	15 17121	5 48270	14 8880	5 3803
2038	0.334	2,290,000	4 501 895	18 403 005	25,816,905	163 154	1,668	161 486	15 98707	5 34246	14 8880	4 9752
2030	0.309	3 512 284	4 475 560	19,064,579	27,052,423	164 627	1,000	162 959	16 60075	5 12977	14 8880	4.5732
2035	0.305	4 239 091	4 488 825	19,741,619	27,052,425	165.935	1,000	164 267	17 33127	4 95220	14 8880	4 2541
2040	0.260	4,239,091	4,400,025	20 130 168	20,409,555	164 919	1,000	163 251	18.05750	4.77116	14.8880	3 0337
2041	0.204	5 462 500	4,520,809	20,139,108	30 565 220	166 511	1,008	164 843	18 54204	4.77110	14.8880	3.6375
2042	0.244	6 158 485	4,552,499	21,008,142	31 580 863	168 119	1,008	166.451	18.07305	4.33025	14.8880	3 3635
2043	0.220	6 770 622	4,401,680	21,000,142	22 724 222	160 744	1,000	168.076	10.46000	4.26040	14.0000	3.1102
2044	0.209	7 405 599	4,491,009	21,455,011	32,724,333	171 285	1,008	160,070	19.40999	2 94429	14.0000	2.8760
2045	0.173	7,405,588	4,404,300	21,904,944	33,774,833	171,383	1,008	171 274	20.15180	2 50072	14.0000	2.6700
2040	0.179	9 444 194	4,330,040	22,304,049	34,333,028	173,042	1,008	172.040	20.13180	2 40276	14.0000	2.0394
2047	0.103	0,444,104	4,374,243	22,830,437	26 858 880	174,717	1,008	173,049	20.00047	2 22182	14.0000	2.4392
2040	0.133	9,140,510	4,400,143	23,304,219	28 120 287	170,408	1,000	174,740	21.09334	2.05212	14.0000	2.2/40
2049	0.141	9,072,207	4,472,492	23,785,509	20,577,421	170,942	1,000	170,449	21.00980	2.00102	14.0000	2.1027
2050	0.131	11,340,222	4,302,777	24,274,422	40.221.710	1/5,042	1,000	170,174	22.21270	2.90102	14.0000	1.7444
2031	0.121	11,203,080	4,557,555	24,771,070	40,551,710	181,383	1,008	1/9,91/	22.41079	2.70720	14.000	1./980
2032	0.112	11,724,902	4,029,923	25,275,391	41,030,419	185,540	1,008	101,070	22.91437	2.33889	14.000	1.0020
2035	0.103	12,812,009	4,901,020	25,788,088	43,301,777	185,125	1,008	185,437	23./1220	2.44639	14.000	1.3374
2034	0.093	13,343,004	4,912,309	20,307,139	44,304,432	180,921	1,008	185,254	24.03393	2.29701	14.000	1.4210
2035	0.088	13,398,344	4,738,942	20,634,393	43,191,879	100,750	1,008	187,008	24.13793	2.15504	14.000	1.3143
2050	0.082	14,542,750	5,298,585	27,309,977	47,211,296	190,569	1,008	188,902	24.99234	2.04055	14.8880	1.2155
2057	0.075	14,937,403	5,181,290	27,914,017	48,032,770	192,421	1,008	190,755	25.18058	1.90108	14.8880	1.1240
2058	0.070	15,170,730	5,294,757	28,400,040	48,932,139	194,292	1,008	192,624	25.40296	1.//344	14.8880	1.0394
2059	0.065	15,538,477	5,399,931	29,027,995	49,966,402	196,181	1,008	194,515	25.08/92	1.05829	14.8880	0.9611
2060	0.060	15,840,759	5,456,667	29,598,199	50,895,626	198,090	1,668	196,422	25.91140	1.546/5	14.8880	0.8887
2061	0.055	16,125,402	5,457,524	30,177,395	51,760,320	200,018	1,668	198,350	26.09549	1.44043	14.8880	0.8218
2062	0.051	16,479,221	5,242,035	30,765,721	52,486,977	201,965	1,668	200,297	26.20456	1.33752	14.8880	0.7599
2063	0.047	17,284,456	5,487,346	31,363,319	54,135,122	203,932	1,668	202,264	26.76455	1.26323	14.8880	0.7027
2064	0.044	17,791,700	5,645,792	31,363,319	54,800,811	205,919	1,668	204,251	26.83009	1.17096	14.8880	0.6498
2065	0.040	18,147,909	5,610,127	31,363,319	55,121,355	207,926	1,668	206,259	26.72440	1.07852	14.8880	0.6008
2066	0.037	18,528,442	5,693,293	31,363,319	55,585,054	209,954	1,668	208,286	26.68688	0.99590	14.8880	0.5556
2067	0.035	18,880,307	5,787,747	31,363,319	56,031,373	212,002	1,668	210,334	26.63921	0.91925	14.8880	0.5137
2068	0.032	19,188,003	5,968,639	31,363,319	56,519,962	214,071	1,668	212,403	26.60977	0.84909	14.8880	0.4751
2069	0.030	19,580,059	5,777,783	31,363,319	56,721,161	216,161	1,668	214,493	26.44431	0.78027	14.8880	0.4393
2070	0.027	19,998,477	6,097,445	31,363,319	57,459,241	218,272	1,668	216,604	26.52734	0.72377	14.8880	0.4062
										192.71146		192.71146

\* Includes system costs not affected by the resource plan such as existing generation, T&D, staff, and DSM costs

not tied directly to new DSM signups (such as rebates to existing load management participants, etc.).

\*\* DSM energy reductions are incremental from 2024.



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### Comparison of the Resource Plans: Economic Analyses Results

	Levelized System Average Electric Rate
Resource Plan	(cents/kWh)
RIM Plan	14.8311
Supply Only Plan	14.8366
Proposed Plan	14.8516
TRC Plan	14.8880

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
						=(2)+(3)+(4)+(5)			= (7) - (8)	= ((6)/(9))/10	= (10) *(1)		=(12)*(1)
	Annual			Non-Resource	"What If"	System			Load Forecast	Annual	Annual	Nominal	NPV
	Discount	Resource Plan	Resource Plan	Plan Other	One-Time	Revenue	Load	DSM Energy	NEL Adjusted	Electric	Electric	Levelized System	Levelized System
	Factor	Variable Costs	Fixed Costs	System Costs *	Cost	Requirements	Forecast NEL	Reduction **	by DSM	Rate	Rate	Average Rate	Average Rate
Year	8.14%	(\$000, Nom)	(\$000, Nom)	(\$000, Nom)	(\$000, Nom)	(\$000, Nom)	(GWh)	(GWh)	(GWh)	(cents/kWh, Nom)	(cents/kWh, NPV)	(cents/kWh)	(cents/kWh)
2024	1.000	2,699,246	172,693	10,999,155	0	13,871,093	140,469	113	140,356	9.88280	9.88280	14.8880	14.8880
2025	0.925	2,847,613	366,493	11,341,613	0	14,555,719	141,761	113	141,647	10.27603	9.50218	14.8880	13.7668
2026	0.855	2,961,980	1,004,777	12,296,936	0	16,263,693	142,991	113	142,878	11.38296	9.73310	14.8880	12.7301
2027	0.791	2,534,978	1,522,352	12,934,262	0	16,991,592	144,053	114	143,939	11.80469	9.33359	14.8880	11.7714
2028	0.731	2,353,351	2,005,256	13,212,472	0	17,571,079	145,101	114	144,987	12.11904	8.86054	14.8880	10.8850
2029	0.676	2,086,767	2,476,150	13,591,962	0	18,154,878	146,551	114	146,437	12.39775	8.38171	14.8880	10.0653
2030	0.625	1,569,627	2,890,450	13,974,533	0	18,434,610	148,290	114	148,176	12.44103	7.77758	14.8880	9.3073
2031	0.578	1,186,025	3,307,007	14,390,022	0	18,883,054	149,578	114	149,464	12.63389	7.30337	14.8880	8.6064
2032	0.535	932,796	3,719,112	14.842.757	0	19,494,666	151.677	114	151,563	12.86240	6.87553	14.8880	7.9583
2033	0.494	812.095	4,123,196	15,344,989	0	20,280,280	153.686	114	153,572	13.20574	6.52747	14.8880	7,3590
2034	0.457	987.075	4,408,393	15.895.257	2.504.860	23,795,585	155.678	115	155,563	15.29643	6.99150	14.8880	6.8048
2035	0.423	1.374.102	4.265.690	16.484.421	0	22,124,213	157.715	115	157.601	14.03814	5,93318	14.8880	6.2924
2035	0.391	1 844 494	4 215 201	17 107 511	0	23 167 207	159 679	115	159 564	14 51906	5 67433	14 8880	5.8185
2030	0.361	2 412 485	4 213 275	17 748 649	0	24 374 409	161 502	115	161 387	15 10308	5 45808	14 8880	5 3803
2038	0.334	3 031 481	4 502 938	18 403 005	0	25,937,424	163 154	115	163 040	15 90866	5 31626	14 8880	4 9752
2039	0.309	3 635 852	4 491 492	19,064 579	0	27 191 924	164 627	115	164 512	16 52879	5 10753	14 8880	4.6005
2040	0.286	4 371 817	4 512 871	19 741 619	0	28,626,306	165.935	115	165.820	17 26346	4 93283	14 8880	4 2541
2040	0.264	4 954 973	4 539 708	20 139 168	0	29,633,849	164 919	115	164 804	17 98127	4.75101	14 8880	3 9337
2041	0.244	5 607 834	4,535,768	20,139,100	0	30 723 931	166 511	115	166 396	18 46432	4.51125	14.8880	3,6375
2042	0.244	6 312 067	4,343,808	21,008,142	0	31 748 756	168 119	115	168,005	18 80755	4.26941	14.8880	3 3635
2043	0.220	6 941 810	4,420,547	21,000,142	0	32 877 491	169 744	115	169,629	10.39108	4.04910	14.8880	3.1102
2044	0.103	7 581 281	4,402,009	21,455,011	0	33,962,365	171 385	115	171 270	19 82970	3 83067	14.8880	2.8760
2045	0.179	7,991,831	4 376 717	21,004,044	0	34 732 597	173.042	115	172 928	20.08502	3 58780	14.8880	2.6594
2040	0.165	8 630 540	4,376,952	22,304,049	0	35 837 929	174 717	115	172,520	20.52547	3 39037	14.8880	2.0594
2047	0.153	9 344 055	4,370,932	22,830,437	0	37,080,319	176.408	115	176 294	21.03328	3 21262	14.8880	2.4572
2040	0.133	10 121 546	4,432,043	23,304,219	0	38 396 378	178,116	115	178.002	21.03520	3.04660	14.8880	2.2740
204)	0.141	11 201 218	4,405,524	23,783,307	0	20 851 570	170,842	115	170,728	221.37070	2 80587	14,8880	1.0444
2050	0.121	11,201,510	4 301 153	24,274,422	0	40 633 683	181 585	115	181 471	22.17331	2.0007	14.8880	1.7980
2051	0.121	11,471,454	4,571,155	25 275 501	0	40,035,005	182 246	115	182 222	22.39130	2.70412	14,8880	1.6526
2052	0.112	12 070 727	4,070,233	25,275,391	0	41,944,108	185,340	115	185,252	22.89130	2.55052	14.8880	1.5274
2053	0.005	13,601,306	4,953,250	26 307 139	0	43,801,052	186 921	115	186 807	24.03115	2.44475	14.8880	1.3374
2054	0.099	13,001,500	4,905,412	26,307,137	0	45 522 280	188 726	115	188,622	24.03115	2.22404	14,8880	1.4210
2055	0.082	14 801 911	5 372 049	20,854,595	0	45,552,280	190,569	115	190,455	24.13940	2.13140	14.8880	1.2155
2050	0.002	15 202 220	5 260 021	27,309,917	0	48 277 260	102 421	115	102 307	25 15636	1 80025	14.8880	1.1240
2057	0.073	15,205,550	5,200,021	27,914,017	0	40,377,309	192,421	115	192,307	25.15050	1.09923	14.8880	1.1240
2050	0.070	15,425,409	5 / 38 062	20,400,040	0	50 263 134	194,272	115	196.067	25.50707	1.65/192	14.8880	0.9611
2059	0.005	16 102 642	5 513 827	29,027,993	0	51 214 668	108.000	115	190,007	25.05574	1.03472	14.8880	0.9011
2000	0.000	16 382 860	5 /00 767	27,370,199	0	52 060 022	200.019	115	197,973	25.00924	1.54425	14.8880	0.0007
2001	0.055	16 722 724	5 271 060	30,765,721	0	52,000,022	200,010	115	201.851	20.04203	1.45751	14.8880	0.0210
2002	0.031	10,735,724	5 520 457	31 363 310	0	54 424 507	201,903	115	201,651	20.14550	1.33440	14.0000	0.7399
2003	0.047	18 051 284	5,550,457	31,303,319	0	55 072 060	205,952	115	205,010	20.70743	1.20035	14.0000	0.7027
2004	0.044	18 407 590	5 626 975	21 262 210	0	55 407 702	203,919	115	203,003	20.13700	1.10/90	14.0000	0.0496
2003	0.040	10,407,389	5,030,875	21,262,210	0	55 970 095	207,920	115	207,812	20.00240	0.00277	14.8880	0.5556
2000	0.037	10,777,249	5,139,338	21 262 210	0	56 227 211	209,934	115	209,840	20.02987	0.99377	14.0000	0.3330
2067	0.035	19,137,348	5,820,043	21,262,210	0	56 821 221	212,002	115	211,000	20.38338	0.91/33	14.8880	0.3137
2068	0.032	19,401,212	5 821 846	21,262,210	0	57.024.254	214,0/1	115	213,950	20.30205	0.84/5/	14.8880	0.4/51
2009	0.030	19,839,088	3,831,840	31,303,319	0	57,054,254	210,101	115	210,040	20.39909	0.770000	14.8880	0.4393
2070	0.027	20,246,974	0,144,812	31,303,319	0	57,755,106	218,272	115	218,157	26.47406	0.72232	14.8880	0.4062
Includes	system cos	ts not affected by	the resource pla	in such as existin	g generation, To	хD, staff, and DSM	costs				192./1146		192./1146

Additional Cost Needed to be Added to the RIM Plan to Increase its Levelized System Average Electric Rate to That of the TRC Plan

not tied directly to new DSM signups (such as rebates to existing load management participants, etc.).

\*\* DSM energy reductions are incremental from August 2019.

Annell Freeze         Researce Plan Processer Plan (2000). New Figure 2000.		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Annul Festure Flue         Non-Resource Function         Wast IP Bun Other         System One-Tice System         Load Resource Function         Load DSM Energy NEL Address         Land DSM Energy NEL Address         Land Device System         Annual Device System         Annual Device System         Annual Device System         Annual Device System         Annual Device System         Non-Resource DSM Energy NEL Address         Annual Device DSM Energy NEL Address         Annual Devisititititititititititititititititititi		. ,		. /	. ,	. ,	=(2)+(3)+(4)+(5)			=(7) - (8)	=((6)/(9))/10	=(10)*(1)	. ,	=(12)*(1)
Image         Name         Non-Roome         Non-Roo														
Pricent         Resource Pian         Pian Conto         Contract         Respiration         Contract         DSM Earopy         Pix Miss         Respiration         DSM Earopy         Respiration		Annual			Non-Resource	"What If"	System			Load Forecast	Annual	Annual	Nominal	NPV
Factor         Variable Costor         Biolog         Rouge factor		Discount	Resource Plan	Resource Plan	Plan Other	One-Time	Revenue	Load	DSM Energy	NEL Adjusted	Electric	Electric	Levelized System	Levelized System
Year         8,19%         (500), Nom)         (500), Nom)         (500), Nom)         (GW)         (CW)         (Cems/Wh)         (cems/Wh)<		Factor	Variable Costs	Fixed Costs	System Costs *	Cost	Requirements	Forecast NEL	Reduction **	by DSM	Rate	Rate	Average Rate	Average Rate
2024         1000         2,084,840         172,091         10,909,155         0         13,500,72         144,550         9,98,250         9,98,250         9,98,250         14,8580         14,8580           2020         0.252         2,954,460         123,768         11,21,161         0         14,555,71         14,555         11,205         14,155         0,239,29         9,9144         14,8880         12,7164           2020         0.557         2,954,460         13,212,61         2,94,262         0         11,645,07         144,100         12,1840         8,37581         14,8880         10,7764           2030         0.570         2,068,977         2,244,103         2,012,084         13,112,472         0         15,142,907         144,101         12,14240         8,87281         14,8880         10,0033           2010         0.573         1,453,333         2,398,273         14,9910,273         0         18,412,597         12,21491         7,2095         14,8880         0,90,03         3,7397         14,442,97         0         12,412,493         12,917         12,313,33         14,8880         7,5891           2010         0.537         14,542,517         15,324,578         15,1677         13,53340         14,58800	Year	8.14%	(\$000, Nom)	(\$000, Nom)	(\$000, Nom)	(\$000, Nom)	(\$000, Nom)	(GWh)	(GWh)	(GWh)	(cents/kWh, Nom)	(cents/kWh, NPV)	(cents/kWh)	(cents/kWh)
1025         0.232         2.844.400         378.968         11.41.013         0         14.555.411         41.2553         10.28929         9.51445         14.8880         11.27081           2020         0.855         0.955.402         11.01333         12.265.402         11.13033         0.974812         12.7811           2021         0.711         2.551.402         1.201.208         13.21.2430         3.21.2430         8.21.24300         8.21.2430         8.21.2430         8.21.2430         8.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307         2.22.24307	2024	1.000	2.698.824	172.693	10.999.155	0	13.870.672	140.469	113	140.356	9.88250	9.88250	14.8880	14.8880
2020         0.885         2.925.997         10.15.995         12.296.916         0         10.277.291         142.694         11.40053         9.74812         14.8889         12.7791           2020         0.711         2.341.084         2.012.082         13.212.472         0         17.564.597         145.101         442.094         11.43005         8.7981         14.8889         10.858.0           2020         0.675         1.550.197         2.841.090         13.579.492         0         18.142.994         145.51         14.4519         12.42460         8.87981         14.8880         10.058.53           2030         0.635         1.550.197         2.841.090         13.579.27         0         18.47.03         12.67464         7.35095         14.8880         9.0733           2031         0.643         9.90.67         4.968.83         15.356.8         0.994         12.2731         2.0140.6         6.5101.2         4.8880         7.5533           2031         0.443         9.048.83         1.548.499         0         2.222.1372         15.556.1         1.044         15.43.31         4.84956         8.4075.2           2031         0.444         1.552.491         1.532.456         1.5556.1         1.448.66	2025	0.925	2 844 460	378 968	11 341 613	0	14 565 041	141 761	205	141 555	10 28929	9 51445	14 8880	13 7668
1027         0.791         2.531.08         1.531.250         1.294.064         2.01268         1.12.12421         0         1.756.4571         1.45.001         1.21.4580.0         9.34218         1.4.8880         10.8580           2020         0.711         2.230.064         2.012682         1.12.24721         0         18.41.2591         145.017         12.42510         8.40230         14.8880         10.0563           2030         0.635         1.500.177         2.23.0164         1.37.9730         14.4817         12.47664         7.32695         14.8880         8.0064           2031         0.538         1.05.233         3.30.892         1.33.42697         0         18.48.174         10.6778         14.2610         7.32695         14.8880         8.0064           2031         0.548         19.01.183         1.548.01         1.548.01         1.548.01         1.548.01         1.548.01         1.548.01         1.548.01         1.548.01         1.548.01         1.548.01         1.548.01         1.548.01         1.519.01         1.548.01         1.559.01         1.548.01         1.559.01         1.548.01         1.559.01         1.559.01         1.559.01         1.559.01         1.559.01         1.559.01         1.559.01         1.559.01 <t< td=""><td>2026</td><td>0.855</td><td>2 955 492</td><td>1 015 395</td><td>12 296 936</td><td>0</td><td>16 267 824</td><td>142,991</td><td>297</td><td>142 694</td><td>11 40053</td><td>9 74812</td><td>14 8880</td><td>12 7301</td></t<>	2026	0.855	2 955 492	1 015 395	12 296 936	0	16 267 824	142,991	297	142 694	11 40053	9 74812	14 8880	12 7301
3028         0.731         2.244.043         2.212.83         1.232.94         1.44.897         1.24.45.07         8.87981         1.48.890         110.8850           2029         0.675         1.258.9107         2.2843.00         1.53.910.62         0         18.418.604         148.200         667         147.623         12.47664         7.79996         14.8880         10.0533           0.331         0.578         1.65.233         3.53.88.92         1.43.990.22         0         18.842.644         148.290         667         147.623         12.9107         6.50117         14.8880         7.0503           0.331         0.057         960.671         4.606.843         1.53.5537         1.944         156.653         14.89456         6.50752         14.8880         6.5042           0.331         0.457         8.6.719         4.606.44         1.93.5567         1.944         156.637         14.48456         6.50752         14.8880         6.5048           0.331         0.342         4.50.573         1.944         156.637         14.48456         6.5048         5.1054         4.5051         4.8880         5.1054           0.304         4.225.001         1.93.640         9.227.015.706         1.64.677         1.944	2020	0.000	2,533,152	1 531 236	12,230,350	0	16,996,606	144 053	390	143 663	11.83086	9 35428	14 8880	11 7714
0076         266599         2481399         1359196         0         18122269         145511         774         11242519         8.44030         14.8880         9.0733           2010         6675         1550197         22.93964         13.991663         0         18.4864         149.378         760         147.531         12.27464         7.29095         14.8880         9.0733           2021         0.578         1.146.3233         3.308.992         14.3793         0.5176         7844         150.277         15.25340         6.55103         14.8880         7.9593           2034         0.4757         446.799         1.644.4277         0         12.27373         15.5574         15.3546         6.5913         14.8880         6.5914           2036         0.423         1.233.901         4.56674         1.644.421         0         2.217373         15.5676         1.448.880         5.8185           2036         0.301         2.294.770         1.645.617         1.644.145         1.644.145         1.644.145         1.644.145         1.644.145         1.644.145         1.648.880         4.972           2030         0.30         3.294.707         4.455.667         1.448.880         4.972         1.488.880	2027	0.731	2,331,100	2 012 082	13 212 472	0	17 564 597	145 101	482	144 619	12 14540	8 87981	14 8880	10.8850
000         0.828         155.0197         2293.864         1074.33         0         18.416.694         148.200         667         147.623         12.4764         7.7996         14.880         9.9073           010         078         160.233         160.233         160.234         7.7997         14.880         7.656         14.880         7.556         14.880         7.656           013         0.494         7.990.67         1.490.841         15.840.981         15.866         949         152.771         12.3340         6.510.11         14.8880         7.5390           014         0.457         8.46.917         1.640.84421         0         2.222.732.73         1.044         154.631         14.48946         6.50782         14.8880         6.3048           0130         1.223.507         4.466.44         1.221.517.57         1.996.79         1.044         155.611         14.48946         6.50782         14.8880         6.3031           0130         1.224.848         4.221.978         1.804.850         0         2.221.517.57         1.996.79         1.044         165.531         1.514.450         4.54.8880         5.3033           0131         2.293.857         4.466.541         8.74.64.99         7.216.597 <td>2020</td> <td>0.751</td> <td>2,040,040</td> <td>2,012,002</td> <td>13,501,962</td> <td>0</td> <td>18 142 269</td> <td>146 551</td> <td>574</td> <td>145 977</td> <td>12.14340</td> <td>8 40230</td> <td>14 8880</td> <td>10.0653</td>	2020	0.751	2,040,040	2,012,002	13,501,962	0	18 142 269	146 551	574	145 977	12.14340	8 40230	14 8880	10.0653
5337         167.5         167.6         12.67469         7.23068         14.8809         5.664           5332         6.575         999.703         5.789.379         14.8819         7.579         14.8819         7.23068         14.8880         7.5953           0332         6.553         999.703         5.789.379         14.8819         0         0.2224.889         153.686         999         152.737         13.25340         6.5113         14.8880         7.5593           0334         0.432         1.222.448         4.506.974         16.484.421         0         2.2227.302         157.715         1.044         156.671         14.8880         6.5918           0336         0.321         1.222.448         4.485.667         18.460.005         0         2.227.302         157.715         1.044         156.671         14.4880         4.5808         5.5183           0336         3.200.233         4.485.667         18.460.005         0         2.7016.706         164.627         1.044         164.6451         1.7146.44         4.6958         1.646.451         1.7145.44         1.646.451         1.7145.44         1.646.451         1.7145.44         1.646.451         1.7145.44         1.646.451         1.7145.54         4.460.588	2027	0.625	1,550,197	2,401,505	13,074,533	0	18 /18 60/	148,351	667	147.623	12.42617	7 70006	14.8880	0 2072
0303         0.013         5.70.579         15.20.77         15.20.77         16.20.023         11.51.013         1.50.017         15.80.77         15.20.77	2030	0.025	1,550,197	2,095,904	14 200 022	0	18 862 146	140,290	760	147,023	12.47064	7.22605	14.0000	9.5075
303         0.04         990,07         4.098,33         15.44.89         0         50.24.289         151.866         946         152.37         15.336         5.3161         14.8830         2.3360           034         0.457         14.503.21         15.592.57         15.995.500         22.27302         157.716         10.44         156.671         14.18723         5.990.20         14.8880         6.5924           0305         0.423         1.235.807         4.566.24         17.748.649         0         22.273.02         157.716         10.44         156.671         14.18723         5.990.20         14.8880         5.8135           0306         0.293.857         4.485.6671         16.48490         0         2.427.910.41         16.502         10.444         166.427         15.10044         5.10346         4.9880         4.9353           0309         3.502.023         4.485.041         19.714.619         0         2.247.563         165.915         1.0444         165.397         17.340.56         4.990.53         3.0337           0410         0.264         4.799.755         4.491.945         2.0139.168         0         2.94.27.563         165.397         11.234.014         14.9880         3.0337           041	2031	0.576	000 702	3,308,892	14,390,022	0	10,002,140	149,576	700 854	140,017	12.0/409	6 00117	14.0000	7.0592
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2032	0.333	700.057	3,719,379	14,042,737	0	20 242 880	151,077	040	150,825	12.91037	6.55102	14.0000	7.9383
333         0.43         200.50         1.255.00         1.255.00         1.257.115         1.044         1.044         1.045.01         1.4157.05         1.0157.11         1.0144         1.0157.11         1.0144         1.055.07         1.0	2033	0.494	846 710	4,098,845	15,544,969	1 503 560	20,242,009	155,080	949	154,622	13.23340	6.00782	14.0000	6 2012
$ \begin{array}{c} 205 & 0.25 \\ 0.256 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.366 & 0.29 \\ 0.396 & 0.320 \\ 0.396 & 0.396 \\ 0.396 & 0.397 \\ 0.396 & 0.396 \\ 0.396 & 0.$	2034	0.437	840,/19	4,090,437	15,895,257	1,595,500	23,031,973	155,078	1,044	154,055	14.89430	5.00(20	14.8880	6.8048
$ \begin{array}{c} 205 & 0.591 & 1/.22448 & 4.21/705 & 17.10/211 & 0 & 25.151/71 & 199.6/9 & 10.444 & 158.644 & 14.59441 & 5.70378 & 14.8880 & 5.8185 \\ 2038 & 0.334 & 2.904.770 & 4.485.667 & 18.403.005 & 0 & 25.793.442 & 163.154 & 10.44 & 166.2110 & 15.91107 & 5.31706 & 14.8880 & 4.9752 \\ 2039 & 0.590 & 3.502.027 & 4.485.667 & 18.403.005 & 0 & 25.793.442 & 163.154 & 10.44 & 166.871 & 17.24025 & 4.926.20 & 14.8880 & 4.005 \\ 2040 & 0.286 & 4.224.490 & 4.461.454 & 19.741.619 & 0 & 28.427.63 & 105.953 & 10.44 & 166.871 & 17.24025 & 4.926.20 & 14.8880 & 4.2541 \\ 2041 & 0.286 & 4.799.752 & 4.499.155 & 20.193.168 & 0 & 29.438.079 & 10.4491 & 10.447 & 17.24025 & 4.926.20 & 14.8880 & 3.0337 \\ 2042 & 0.244 & 5.454.498 & 4.481.986 & 20.570.229 & 0 & 30.566.713 & 166.511 & 1.044 & 165.467 & 18.43677 & 4.50453 & 14.8880 & 3.6355 \\ 2044 & 0.209 & 6.772.594 & 4.570.55 & 21.453.011 & 0 & 32.682.606 & 169.744 & 10.444 & 166.705 & 18.95025 & 4.22131 & 14.8880 & 3.3655 \\ 2046 & 0.179 & 7.393.400 & 4.405.548 & 21.904.944 & 0 & 33.703.892 & 173.385 & 10.44 & 170.341 & 19.78617 & 3.82226 & 14.8880 & 2.6574 \\ 2046 & 0.179 & 7.807.402 & 4.405.236 & 22.364.049 & 0 & 34.621.688 & 173.042 & 10.44 & 177.364 & 20.9796.3 & 3.2849 & 14.8880 & 2.6594 \\ 2047 & 0.165 & 8.445.471 & 4.319.912 & 23.804.219 & 0 & 35.785.891 & 176.408 & 10.441 & 177.364 & 20.97863 & 3.20427 & 14.8880 & 2.2740 \\ 2049 & 0.131 & 10.978.179 & 4.305.484 & 24.74.422 & 0 & 39.558.818 & 179.442 & 178.376 & 20.47993 & 3.3549 & 14.8880 & 1.2027 \\ 2050 & 0.131 & 10.978.179 & 4.305.444 & 24.74.42 & 0 & 39.558.939 & 176.404 & 175.364 & 20.97863 & 3.20427 & 14.8880 & 1.2027 \\ 2050 & 0.131 & 10.978.179 & 4.305.444 & 24.771.076 & 0 & 40.293.722 & 11.855 & 1.1044 & 177.376 & 2.12944 & 2.89849 & 14.8880 & 1.1027 \\ 2050 & 0.131 & 10.978.179 & 4.305.444 & 24.771.076 & 44.925.556.518 & 179.841 & 18.6177 & 2.15975 & 3.0768 & 14.8880 & 1.0247 \\ 2050 & 0.131 & 10.978.179 & 4.305.442 & 2.775.91 & 0 & 4.525.561 & 19.7341 & 178.578 & 2.212444 & 2.384497 & 14.48880 & 1.0274 \\ 2055 & 0.081 & 13.564.217 & $	2035	0.423	1,235,907	4,506,974	16,484,421	0	22,227,302	157,715	1,044	156,671	14.18/23	5.99620	14.8880	6.2924
$ \begin{array}{c} 203 \\ 0.361 \\ 2.298 \\ 2.294 \\ 2.298 \\ 2.294 \\ 2.298 \\ 2.294 \\ 2.298 \\ 2.294 \\ 2.294 \\ 2.298 \\ 2.294 \\ 2.298 \\ 2.294 \\ 2.298 \\ $	2036	0.391	1,722,448	4,321,798	17,107,511	0	23,151,757	159,679	1,044	158,634	14.59441	5.70378	14.8880	5.8185
2038         0.334         2.094,7/0         4.485,067         18,460,005         0         2.7,91,472         10,441         16,2110         1.91107         5.31,005         14,8880         4.9722           2040         0.286         4,224,490         4,461,454         19,741,619         0         28,472,563         165,593         1,644         164,891         17,24025         4.926,202         14,8880         4.2541           2041         0.246         4,799,755         4.991,502         4.910,813         14,8880         4.2541           2042         0.44         5,542,498         4.841,986         20,732,90         30,506,713         166,1112         10,444         165,467         18,43677         4,5453         14,8880         3,6375           2043         0.229         6,418,262         4,504,729         1,044         165,467         18,43677         4,45131         14,8880         3,6375           2044         0.209         6,772,594         4,457,055         21,453,011         0         32,6560         169,744         1,044         17,198         20,1209         3,3549         14,8880         2,876           2046         0.153         9,145,723         4,393,017         23,304,219         0         3,	2037	0.361	2,293,857	4,186,624	17,748,649	0	24,229,130	161,502	1,044	160,457	15.10004	5.45698	14.8880	5.3803
2039         0.500         3.502,023         4.490,104         19,741,619         0         27,107,705         10,44         163,839         16.51561         5.10346         14.8880         4.6009           2040         0.264         4,292,400         4,461,454         10,741,019         0         28,427,563         165,955         1,044         163,874         17.96380         4,74640         14.8880         3.9337           2042         0.244         4,554,448         4,481,896         20,570,229         0         3.060,713         166,511         1,044         167,075         18.95025         4.28113         14.8880         3.6375           2044         0.205         6,712,594         44,957,055         21,453,011         0         32,682,660         169,7744         1,044         167,075         18.95025         4.28143         14.8880         3.0353           2044         0.206         6,775,794         44,950,343         10         33,2682,674         173,341         19.78617         3.3542         14.8880         2.6594           2046         0.775         7,30740         44,623,88         173,042         1,044         173,073         20.49733         3.38549         14.8880         2.6594           20	2038	0.334	2,904,770	4,485,667	18,403,005	0	25,793,442	163,154	1,044	162,110	15.91107	5.31706	14.8880	4.9752
2040         0.286         4.224,490         4.46,144         19,741,619         0         28,427,563         16,5195         1,044         164,891         17,24025         4.990,520         14,8880         4.2541           2041         0.244         4,709,75         4,4919,95         20,131,168         0         29,438,079         164,919         1,044         165,374         17,06380         4,74640         14,8880         3,6375           2043         0.226         6,148,262         4,504,729         21,008,142         0         31,66,1132         164,113         14,8880         3,0353           2044         0.296         6,772,594         4,457,055         21,463,011         0         32,662,60         169,714         1,044         168,700         19,37329         4,04728         14,8880         3,0353           2046         0.179         7,807,402         4,450,256         23,464,49         0         34,621,688         173,442         1,044         171,978         20,12009         3,95567         14,8880         2,6594           2047         0.13         9,145,723         4,339,017         23,44,219         0         36,589,591         16,404         17,7072         21,209760         3,95567         14,8880	2039	0.309	3,502,023	4,450,104	19,064,579	0	27,016,706	164,627	1,044	163,583	16.51561	5.10346	14.8880	4.6005
2041         0.264         4.799,755         4.499,155         20,139,168         0         29,438,079         164,199         1,044         163,874         17,96300         4.74640         14,8880         3,0375           2043         0.226         6,148,262         4.549,179         12,008,142         0         31,661,132         166,111         1,044         1167,075         18,84677         4,504,208         14,8880         3,0355           2044         0.290         6,772,393,400         4,4675,548         21,904,944         0         33,703,892         171,385         1,044         179,617         3,82226         14,8880         2,8760           2046         0.179         7,807,402         4,405,548         22,364,409         0         35,595,819         174,177         1,044         171,968         201,3909         3,585497         14,8880         2,4592           2047         0.165         8,445,471         4,319,012         23,643,600         178,116         1,044         173,673         20,49593         3,38549         14,8880         2,24592           2048         0.133         9,145,723         4,339,017         23,6362,600         38,083,600         178,116         1,044         175,644         20,7978,03 <td< td=""><td>2040</td><td>0.286</td><td>4,224,490</td><td>4,461,454</td><td>19,741,619</td><td>0</td><td>28,427,563</td><td>165,935</td><td>1,044</td><td>164,891</td><td>17.24025</td><td>4.92620</td><td>14.8880</td><td>4.2541</td></td<>	2040	0.286	4,224,490	4,461,454	19,741,619	0	28,427,563	165,935	1,044	164,891	17.24025	4.92620	14.8880	4.2541
2042         0.244         5.484,498         4.481,986         20.570,229         0         30.506,713         166,511         1.044         165,467         18.89677         4.50453         14.8880         3.6357           2044         0.209         6,772,594         4.457,055         21.453,011         0         32,682,660         169,774         1.044         167,075         18.89502         4.4853,488         3.1025           2046         0.179         7.807,402         4.450,256         12.364,049         0         34,621,688         173,042         1.044         170,341         19,78617         3.355567         14.8880         2.6594           2046         0.179         7.807,402         4.450,236         2.2364,049         0         35,595,819         174,717         1.044         173,673         20.49503         3.38494         14.8880         2.6594           2047         0.158         4.336,012         2.278,559         0         38,685,989         176,408         1.044         177,672         2.15075         3.03766         14,8880         2.1027           2050         0.131         10,978,179         4,305,484         2.4274,422         0         39,558,085         179,842         1.044         178,176	2041	0.264	4,799,755	4,499,155	20,139,168	0	29,438,079	164,919	1,044	163,874	17.96380	4.74640	14.8880	3.9337
2043         0.226         6.148,262         4.504,729         21,008,142         0         31,661,132         168,119         1.044         167,075         18,85025         4.28131         14.8880         33.635           2044         0.209         6.772,594         4.457,552         1.43,5101         0         32,652,660         19,714         1,044         170,341         19,78617         3.82226         14.8880         2.8760           2046         0.179         7.807,402         4.450,548         2.23,64,049         0         33,703,892         171,1385         1.044         175,364         2.0,9993         3.38549         14.8880         2.6594           2049         0.153         9,145,723         4.339,017         23,304,219         0         36,788,959         176,408         1.044         175,264         2.0,9763         3.20427         14.8880         2.1027           2049         0.131         1.0978,179         4.305,442         4.274,422         0         39,558,085         179,442         1.044         178,708         2.12444         2.88949         14.4880         1.044           0351         0.121         1.240,533         4.282,110         2.63,071,197         0         44,595,729         181,3546	2042	0.244	5,454,498	4,481,986	20,570,229	0	30,506,713	166,511	1,044	165,467	18.43677	4.50453	14.8880	3.6375
2044         0.209         6,772,594         4,457,055         21,453,011         0         32,682,660         169,744         1,044         168,700         19,37329         4,04728         14,8880         3.1102           2046         0.179         7,807,402         4,450,236         22,364,049         0         33,703,892         171,385         1,044         170,361         19,78617         3.82226         14,8880         2,4594           2047         0.165         8,445,471         4,319,012         22,830,437         0         35,595,819         176,408         1,044         173,673         20,49593         3,38549         14,8880         2,4492           2048         0.133         9,145,723         4,339,102         23,785,09         0         38,083,960         178,116         1,044         177,072         21,50757         3,03768         14,8880         2,1027           2050         0.131         10,781,719         4,305,448         42,274,422         0         39,588,05         179,842         1,044         178,798         21,2144         2,88949         14,8880         1,9790           2052         0.121         11,779,393         4,560,642         22,57591         0         14,585,679         183,364         <	2043	0.226	6,148,262	4,504,729	21,008,142	0	31,661,132	168,119	1,044	167,075	18.95025	4.28131	14.8880	3.3635
2045         0.193         7,393,400         4,405,548         21,904,944         0         33,703,892         171,385         1,044         171,986         19,70617         3.822.6         14.8880         2.8760           2046         0.179         7,807,402         4,405,548         123,044.9         0         34,621.688         173,042         1,044         171,398         20.49593         3.38549         14.8880         2.4592           2048         0.153         9,145,723         4,339,017         23,304,219         0         35,695,819         176,408         1.044         177,572         2.0763         3.20427         14.8880         2.4592           2049         0.141         9,966,80         4,391,602         2.3785,099         0         38,039,600         178,116         1.044         177,072         2.150757         3.0768         14.8880         1.9444           2051         0.112         11,275,34         4,336,412         2.575,591         0         41,595,629         183,346         1.044         182,302         2.281687         2.54801         14.8880         1.6626           2053         0.103         1.2,860,981         4,836,349         2.5786,088         0         44,555,56         186,921 <td< td=""><td>2044</td><td>0.209</td><td>6,772,594</td><td>4,457,055</td><td>21,453,011</td><td>0</td><td>32,682,660</td><td>169,744</td><td>1,044</td><td>168,700</td><td>19.37329</td><td>4.04728</td><td>14.8880</td><td>3.1102</td></td<>	2044	0.209	6,772,594	4,457,055	21,453,011	0	32,682,660	169,744	1,044	168,700	19.37329	4.04728	14.8880	3.1102
2046         0.179         7,807,402         4,450,236         22,364,049         0         34,621,688         173,042         1,044         171,998         20,1200         3.55967         14,8880         2.6594           2047         0.165         8,445,471         4,319,012         22,380,437         0         35,595,819         174,171         1.044         175,364         20,97863         3.20427         14,8880         2.2740           2049         0.141         9,906,850         4,391,602         23,785,509         0         38,080         178,116         1.044         177,574         2.10244         2.8880         1.48880         2.21244           2050         0.131         10,978,179         4,305,484         24,271,422         0         39,558,085         179,842         1.044         178,798         22.12444         2.8894         1.48880         1.6424           2051         0.121         11,729,353         4,260,642         25,75591         0         41,355,629         183,346         1.044         180,541         22.31829         2.69530         14,8880         1.6626           2052         0.131         10,786         42,8840         1.3145         1.044         183,6512         1.044         183,021 <td>2045</td> <td>0.193</td> <td>7,393,400</td> <td>4,405,548</td> <td>21,904,944</td> <td>0</td> <td>33,703,892</td> <td>171,385</td> <td>1,044</td> <td>170,341</td> <td>19.78617</td> <td>3.82226</td> <td>14.8880</td> <td>2.8760</td>	2045	0.193	7,393,400	4,405,548	21,904,944	0	33,703,892	171,385	1,044	170,341	19.78617	3.82226	14.8880	2.8760
2047       0.165       8,445,471       4,319,912       22,830,437       0       35,595,819       174,717       1,044       173,673       20.49933       3.28549       14,8880       2.2740         2049       0.141       9,906,850       4,391,602       23,785,509       0       38,083,960       178,116       1,044       177,572       21,50757       3.03768       14,8880       2.1027         2050       0.131       10,978,179       4,305,484       24,274,422       0       39,558,085       179,842       1,044       178,708       22,12444       2.88949       14,8880       1.9444         2051       0.121       11,240,533       4,282,113       24,711,076       0       40,293,722       181,585       1,044       180,541       22,31829       2.69530       14,8880       1.6944         2053       0.103       12,860,981       4,836,49       25,788,088       0       44,854,18       185,125       1,044       182,032       2.218167       2.49801       14,4880       1.6524         2054       0.095       13,391,506       4,828,110       26,507,139       0       44,526,756       186,921       1,044       187,692       24,16343       2.13352       14,8880       1.6342	2046	0.179	7,807,402	4,450,236	22,364,049	0	34,621,688	173,042	1,044	171,998	20.12909	3.59567	14.8880	2.6594
2048         0.153         9,145,723         4,339,017         23,304,219         0         36,788,959         176,408         1,044         175,364         20,97863         3.20427         14.8880         22.1027           2049         0.131         10,978,179         4,305,484         24,274,422         0         39,558,085         179,842         1,044         177,072         21,50757         30,3768         14,8880         1.9444           2051         0.121         11,240,533         4,282,113         24,771,076         0         40,295,722         181,585         1,044         182,302         22,81687         2,54801         14,8880         1.6626           2052         0.103         12,860,981         4,836,349         25,788,088         0         43,485,418         185,125         1,044         182,302         2,43937         14,8880         1.6626           2053         0.103         12,860,981         4,826,3493         0         44,525,756         186,921         1,044         187,692         24,16343         2,1352         14,8880         1,4216           2055         0.082         14,595,288         5,194,692         27,369,977         0         47,159,960         190,569         1,044         187,652	2047	0.165	8,445,471	4,319,912	22,830,437	0	35,595,819	174,717	1,044	173,673	20.49593	3.38549	14.8880	2.4592
2049         0.141         9.906,850         4.391,602         23,785,509         0         38,083,960         178,116         1.044         177,072         21.50757         3.03768         14.8880         2.1027           2050         0.131         10,978,179         4.305,484         24,274,422         0         39,558,085         179,842         1.044         178,798         22.12444         2.8999         14.8880         1.9444           2051         0.121         11,759,395         4,560,642         25,275,591         0         44,295,629         183,346         1.044         182,302         22.81687         2.54801         14.8880         1.6626           2053         0.103         12,860,981         4,836,349         25,788,088         0         43,485,418         185,125         1.044         184,081         23.62302         2.43937         14.8880         1.4216           2055         0.088         13,654,207         4,864,268         26,834,393         0         45,352,869         188,736         1.044         187,692         24,16433         2.13352         14.8880         1.2421           2056         0.082         14,595,686         5,295,014         27,914,017         0         48,205,896         192,421	2048	0.153	9,145,723	4,339,017	23,304,219	0	36,788,959	176,408	1,044	175,364	20.97863	3.20427	14.8880	2.2740
2050       0.131       10.978,179       4.305,484       24.274,422       0       39,58,085       179,842       1,044       178,798       22.12444       2.88949       14.8880       1.9444         2051       0.112       11,240,533       4.282,113       24,771,076       0       40,293,722       181,585       1,044       182,302       22.81687       2.54801       14.8880       1.6626         2053       0.103       12,860,981       4,830,349       25,788,088       0       44,854,18       185,125       1,044       182,022       2.281687       2.54801       14.8880       1.6626         2053       0.031       12,860,981       4,864,268       26,834,393       0       44,526,756       186,921       1,044       187,692       24,16343       2.1352       14.8880       1.3145         2055       0.082       14,595,288       5,194,695       27,369,977       0       47,199,960       190,569       1,044       189,525       24.88319       2.03162       14.8880       1.1240         2056       0.082       14,595,288       5,194,695       27,369,977       0       49,895,423       196,181       1,044       191,377       25.18481       1.90171       14.8880       1.1240	2049	0.141	9,906,850	4,391,602	23,785,509	0	38,083,960	178,116	1,044	177,072	21.50757	3.03768	14.8880	2.1027
2051         0.121         11,240,533         4,282,113         24,771,076         0         40,293,722         181,585         1,044         180,541         22.31829         2.69530         14,8880         1.7980           2052         0.112         11,759,395         4,560,642         25,275,591         0         41,595,629         183,346         1,044         182,022         2.81687         2.54801         14.8880         1.6626           0.013         12,860,981         4,836,349         25,785,088         0         43,455,418         185,125         1,044         182,022         2.416343         2.28736         14,8880         1.6226           0.055         0.088         13,654,207         4,864,268         26,834,393         0         45,523,690         180,561         1,044         187,692         24,16343         2.1352         14,8880         1.3145           2056         0.082         14,595,288         5,194,695         27,369,977         0         47,159,960         190,566         1,044         187,971         24,48319         2.0162         14,8880         1.3145           2057         0.075         14,996,865         5,295,014         27,914,017         0         48,205,896         192,421         1,044	2050	0.131	10,978,179	4,305,484	24,274,422	0	39,558,085	179,842	1,044	178,798	22.12444	2.88949	14.8880	1.9444
2052       0.112       11,759,395       4,560,642       25,275,591       0       41,595,629       183,346       1,044       182,302       22.81687       2.54801       14.8880       1.6626         2053       0.103       12,860,981       4,836,349       25,788,088       0       43,485,418       185,125       1,044       185,877       23,56301       2.28736       14.8880       1.4216         2055       0.088       13,654,207       4,864,268       26,834,393       0       45,352,869       188,736       1,044       187,692       24,16343       2.13352       14.8880       1.3145         2056       0.082       14,595,288       5,194,695       27,369,977       0       47,159,960       190,569       1,044       187,692       24,16343       2.13352       14.8880       1.2155         2057       0.075       14,996,865       5,295,014       27,914,017       0       48,205,896       192,421       1,044       191,377       25,1896       1.90171       14.8880       1.0344         2058       0.070       15,219,363       5,214,789       8,346,646       0       48,900,799       194,292       1,044       195,137       25,56943       1.65064       14.8880       0.8611	2051	0.121	11,240,533	4,282,113	24,771,076	0	40,293,722	181,585	1,044	180,541	22.31829	2.69530	14.8880	1.7980
2053       0.103       12,860,981       4,836,349       25,788,088       0       43,485,418       185,125       1,044       184,081       23,62302       2,43937       14,8880       1,5374         2054       0.095       13,391,506       4,828,110       26,037,139       0       44,526,756       186,921       1,044       185,877       23,95491       2,28736       14,8880       1,4216         2055       0.088       13,654,207       4,864,268       26,834,393       0       45,352,869       188,736       1,044       187,597       23,95491       2,28736       14,8880       1,4216         2056       0.082       14,595,288       5,194,695       27,369,977       0       47,159,960       190,569       1,044       189,525       24,88319       2,03162       14,8880       1,2155         2057       0.075       14,996,865       5,295,014       27,914,017       0       48,205,896       192,421       1,044       191,377       25,18896       1,90171       14,8880       1,0344         2058       0.076       15,594,296       5,273,132       29,027,995       0       49,895,423       196,181       1,044       195,137       25,56943       1,65064       14,8880       0,8911	2052	0.112	11,759,395	4,560,642	25,275,591	0	41,595,629	183,346	1,044	182,302	22.81687	2.54801	14.8880	1.6626
2054         0.095         13,391,506         4,828,110         26,307,139         0         44,526,756         186,921         1,044         185,877         23,95491         2.28736         14,880         1,4216           2055         0.088         13,654,207         4,864,268         26,834,393         0         45,352,869         188,736         1,044         187,692         24,16343         2.13352         14,880         1,3145           2056         0.082         14,995,888         5,194,695         27,369,977         0         47,159,960         190,569         1,044         189,525         24,8819         2.03162         14,880         1,2155           2057         0.075         14,996,865         5,295,014         27,914,017         0         48,205,896         192,421         1,044         193,248         25,30474         1.76658         14,880         1.0394           2058         0.070         15,219,363         5,214,789         28,466,646         0         48,900,799         194,292         1,044         193,248         25,30474         1.76658         14,8880         0.6911           2060         0.060         15,591,899         5,354,935         20,591,93         1,944         197,046         25,81891	2053	0.103	12,860,981	4,836,349	25,788,088	0	43,485,418	185,125	1,044	184,081	23.62302	2.43937	14.8880	1.5374
2055         0.088         13,654,207         4,864,268         26,834,393         0         45,352,869         188,736         1,044         187,692         24,16343         2.13352         14.880         1.3145           2056         0.082         14,595,288         5,194,695         27,369,977         0         47,159,960         190,569         1,044         189,525         24.88319         2.03162         14.8880         1.2155           2057         0.075         14,996,865         5,295,014         27,914,017         0         48,205,896         192,421         1,044         191,377         25,18896         1.90171         14.8880         1.0394           2058         0.070         15,594,296         5,273,132         29,027,995         0         49,895,423         196,181         1,044         195,137         25,56943         1.65064         14.8880         0.8887           2060         0.060         15,921,899         5,354,935         29,598,199         0         51,727,208         200,018         1,044         198,974         25,99703         1,43499         14.8880         0.8887           2061         0.055         16,175,609         5,343,619         0         51,727,208         200,018         1,044	2054	0.095	13,391,506	4,828,110	26,307,139	0	44,526,756	186,921	1,044	185,877	23.95491	2.28736	14.8880	1.4216
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	2055	0.088	13,654,207	4,864,268	26,834,393	0	45,352,869	188,736	1,044	187,692	24.16343	2.13352	14.8880	1.3145
2057         0.075         14,996,865         5,295,014         27,914,017         0         48,205,896         192,421         1,044         191,377         25.18896         1.90171         14.8880         1.1240           2058         0.070         15,219,363         5,214,789         28,466,646         0         48,900,799         194,292         1,044         193,248         25.30474         1.76658         14.8880         1.0394           2059         0.065         15,594,296         5,273,132         29,027,995         0         49,895,423         196,181         1,044         195,137         25.56943         1.65064         14.8880         0.9611           2060         0.060         15,591,696         5,374,204         30,177,395         0         51,727,208         200,018         1,044         198,974         25,9703         1.43499         14.8880         0.8218           2062         0.051         16,519,169         5,138,209         30,765,721         0         54,438,538         203,932         1,044         200,921         26,09141         1.33175         14,8880         0.6498           2064         0.047         17,349,218         5,636,001         31,363,319         0         54,776,315         205,919	2056	0.082	14,595,288	5,194,695	27,369,977	0	47,159,960	190,569	1,044	189,525	24.88319	2.03162	14.8880	1.2155
2058         0.070         15,219,363         5,214,789         28,466,646         0         48,900,799         194,292         1,044         193,248         25.30474         1.76658         14.8880         1.0394           2059         0.060         15,594,296         5,273,132         29,027,995         0         49,895,423         196,181         1,044         195,137         25.56943         1.65064         14.8880         0.9611           2060         0.060         15,921,899         5,354,935         29,598,199         0         50,875,033         198,090         1,044         197,046         25.81891         1.54123         14.8880         0.8887           2061         0.055         16,175,609         5,374,204         30,177,395         0         51,727,208         200,018         1,044         198,974         25.99703         1.43499         14.8880         0.82818           2062         0.051         16,519,169         5,138,209         30,765,721         0         52,423,099         201,965         1,044         200,921         26.09141         1.33175         14.8880         0.7027           2064         0.044         17,861,299         5,551,696         31,363,319         0         54,776,315         205,919	2057	0.075	14,996,865	5,295,014	27,914,017	0	48,205,896	192,421	1,044	191,377	25.18896	1.90171	14.8880	1.1240
2059         0.065         15,594,296         5,273,132         29,027,995         0         49,895,423         196,181         1,044         195,137         25.56943         1.65064         14.8880         0.9611           2060         0.060         15,921,899         5,354,935         29,598,199         0         50,875,033         198,090         1,044         197,046         25.81891         1.54123         14.8880         0.8887           2061         0.055         16,175,609         5,374,204         30,177,395         0         51,727,208         200,018         1,044         198,974         25.99703         1.43499         14.8880         0.8218           2062         0.051         16,1519,169         5,138,209         30,765,721         0         54,348,538         203,932         1,044         202,888         26.78745         1.26431         14.8880         0.7579           2064         0.044         17,861,299         5,551,696         31,363,319         0         54,776,315         205,919         1,044         204,875         26.73643         1.16687         14.8880         0.6498           2065         0.044         17,861,299         5,551,696         31,363,319         0         55,548,188         209,954	2058	0.070	15,219,363	5,214,789	28,466,646	0	48,900,799	194,292	1,044	193,248	25.30474	1.76658	14.8880	1.0394
2060         0.060         15,921,899         5,354,935         29,598,199         0         50,875,033         198,090         1,044         197,046         25,81891         1.54123         14,8880         0.8887           2061         0.055         16,175,609         5,374,204         30,177,395         0         51,727,208         200,018         1,044         198,974         25,99703         1.43499         14,8880         0.8218           2062         0.051         16,519,169         5,138,209         30,765,721         0         52,423,099         201,965         1,044         200,921         26,09141         1.33175         14,8880         0.7599           2063         0.047         17,349,218         5,636,001         31,363,319         0         54,776,315         205,919         1,044         202,888         26,78745         1.26431         14,8880         0.6098           2065         0.040         18,219,167         5,508,714         31,363,319         0         55,548,188         209,954         1,044         206,882         26,62924         1.07467         14,8880         0.6098           2066         0.037         18,608,157         5,576,712         31,363,319         0         55,548,188         209,954	2059	0.065	15,594,296	5,273,132	29,027,995	0	49,895,423	196,181	1,044	195,137	25.56943	1.65064	14.8880	0.9611
2061         0.055         16,175,609         5,374,204         30,177,395         0         51,727,208         200,018         1,044         198,974         25,99703         1.43499         14,8880         0.8218           2062         0.051         16,519,169         5,138,209         30,765,721         0         52,423,099         201,965         1,044         200,921         26,09141         1.33175         14,8880         0.7599           2063         0.047         17,349,218         5,636,001         31,363,319         0         54,348,538         203,932         1,044         202,888         26,78745         1.26431         14,8880         0.7027           2064         0.044         17,861,299         5,551,696         31,363,319         0         54,776,315         205,919         1,044         204,875         26,67845         1.26431         14,8880         0.6498           2065         0.040         18,219,167         5,508,714         31,363,319         0         55,091,201         207,926         1,044         206,882         26,62924         1.07467         14,8880         0.6556           2067         0.035         18,961,075         5,693,950         31,363,319         0         56,018,344         212,002	2060	0.060	15,921,899	5,354,935	29,598,199	0	50,875,033	198,090	1,044	197,046	25.81891	1.54123	14.8880	0.8887
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2061	0.055	16,175,609	5,374,204	30,177,395	0	51,727,208	200.018	1.044	198,974	25,99703	1.43499	14.8880	0.8218
2063         0.047         17,349,218         5,636,001         31,363,319         0         54,348,538         203,932         1,044         202,888         26,78745         1.26431         14.8880         0.7027           2064         0.044         17,861,299         5,551,696         31,363,319         0         54,348,538         205,919         1,044         204,875         26,73643         1.16687         14.8880         0.6498           2065         0.040         18,219,167         5,508,714         31,363,319         0         55,091,201         207,926         1,044         206,882         26,62924         1.07467         14.8880         0.6008           2066         0.037         18,608,157         5,576,712         31,363,319         0         55,548,188         209,954         1,044         206,882         26,62924         1.07467         14.8880         0.6505           2067         0.035         18,961,075         5,693,950         31,363,319         0         56,018,344         212,002         1,044         210,958         26,55426         0.91632         14.8880         0.5137           2068         0.032         19,254,978         5,820,945         31,363,319         0         57,025,797         216,161	2062	0.051	16,519,169	5,138,209	30,765,721	0	52,423,099	201.965	1.044	200,921	26.09141	1.33175	14.8880	0.7599
2064         0.044         17,861,299         5,551,696         31,363,319         0         54,776,315         205,919         1,044         204,875         26,73643         1.16687         14,8880         0.6498           2065         0.040         18,219,167         5,508,714         31,363,319         0         55,091,201         207,926         1,044         206,882         26,62924         1.07467         14,8880         0.6098           2066         0.037         18,608,157         5,576,712         31,363,319         0         55,548,188         209,954         1,044         208,910         26,58954         0.99226         14,8880         0.5556           2067         0.035         18,961,075         5,693,950         31,363,319         0         56,018,344         212,002         1,044         210,958         26,55426         0.91632         14,8880         0.5137           2068         0.032         19,254,978         5,820,945         31,363,319         0         56,439,243         214,071         1,044         213,027         26,43955         0.84539         14,8880         0.4751           2069         0.030         19,645,491         6,016,986         31,363,319         0         57,025,797         216,161	2063	0.047	17.349.218	5.636.001	31.363.319	0	54,348,538	203.932	1.044	202.888	26.78745	1.26431	14.8880	0.7027
2015         0.040         18,219,167         5,08,714         31,363,319         0         55,091,201         207,926         1,044         20,682         26,62924         1,07467         14,8880         0.6008           2066         0.037         18,608,157         5,576,712         31,363,319         0         55,548,188         209,954         1,044         206,882         26,62924         1.07467         14,8880         0.6008           2067         0.035         18,961,075         5,693,950         31,363,319         0         56,018,344         212,002         1,044         20,958         26,55426         0.91632         14,8880         0.5137           2068         0.032         19,254,978         5,820,945         31,363,319         0         56,439,243         214,071         1,044         213,027         26,49395         0.84539         14,8880         0.4751           2069         0.030         19,645,491         6,016,986         31,363,319         0         57,025,797         216,161         1,044         215,117         26,50924         0.78218         14,8880         0.4393           2070         0.027         20,055,695         5,979,662         31,363,319         0         57,398,677         218,272	2064	0.044	17.861.299	5.551.696	31.363.319	0	54,776,315	205.919	1.044	204.875	26.73643	1.16687	14.8880	0.6498
2066         0.037         18,608,157         5,576,712         31,363,319         0         55,548,188         200,954         1,044         206,950         26,682,51         1,047,07         14,8880         0.5556           2067         0.035         18,961,075         5,569,950         31,363,319         0         55,6439,243         214,071         1,044         20,958         26,55426         0.91632         14,8880         0.5556           2068         0.032         19,254,978         5,820,945         31,363,319         0         56,439,243         214,071         1,044         213,027         26,43935         0.84539         14,8880         0.4751           2069         0.030         19,645,491         6,016,986         31,363,319         0         57,025,797         216,161         1,044         215,117         26,50924         0.78218         14,8880         0.4393           2070         0.027         20,055,695         5,979,662         31,363,319         0         57,398,677         218,272         1,044         217,228         26,42328         0.72093         14,8880         0.4062           20,055,695         5,979,662         31,363,319         0         57,398,677         218,272         1,044         217,228<	2065	0.040	18 219 167	5 508 714	31 363 319	0	55 091 201	207 926	1,044	206 882	26 62924	1 07467	14 8880	0.6008
2067         0.035         18.961,075         5,693,950         31,363,319         0         56,018,344         212,002         1,041         20071         0.958         26,55426         0.91632         14.8880         0.5137           2068         0.032         19,254,978         5,820,945         31,363,319         0         56,018,344         212,002         1,044         210,027         26,49395         0.84539         14.8880         0.5137           2069         0.030         19,645,491         6,016,986         31,363,319         0         57,025,797         216,161         1,044         215,117         26,5024         0.78218         14.8880         0.4393           2070         0.027         20,055,695         5,979,662         31,363,319         0         57,398,677         218,272         1,044         217,228         26,42328         0.72093         14.8880         0.462           *         Includes system costs not affected by the resource nan such as existing generation         T&D, staff and DSM costs         192,71146         192,71146         192,71146	2005	0.037	18.608 157	5.576 712	31,363 319	0	55,548 188	209,954	1.044	208,910	26.58954	0.99226	14,8880	0.5556
2007         0.032         19,254,978         5,820,956         31,363,319         0         56,439,243         214,071         1,044         213,027         26,439,55         0.84539         14.8880         0.4751           2069         0.030         19,645,491         6,016,986         31,363,319         0         57,025,797         216,161         1,044         215,117         26.50924         0.78218         14.8880         0.4393           2070         0.027         20,055,695         5,979,662         31,363,319         0         57,025,797         216,161         1,044         215,117         26.50924         0.78218         14.8880         0.4393           2070         0.027         20,055,695         5,979,662         31,363,319         0         57,398,677         218,272         1,044         217,228         26,42328         0.72093         14.8880         0.4393           * Includes system costs not affected by the resource plan such as existing generation T&D staff and DSM costs         192,71146         192,71146         192,71146         192,71146	2067	0.035	18 961 075	5 693 950	31 363 319	0	56 018 344	212,002	1 044	210.958	26 55426	0.91632	14 8880	0.5137
2000         0.032         1.560,577         3.1500,577         2.15071         1.004         2.15071         2.0735         0.04357         14.8800         0.4731           2069         0.030         19,645,491         6,016,986         31,363,319         0         57,025,797         216,161         1,044         215,117         26.50924         0.78218         14.8880         0.4393           2070         0.027         20,055,695         5,979,662         31,363,319         0         57,038,677         218,272         1,044         217,228         26,42328         0.72093         14.8880         0.4393           2         1         1         0.044         217,228         26,42328         0.72093         14.8880         0.44931           2         1         1         1         0.044         217,228         26,42328         0.72093         14.8880         0.4993           2         1         1         0.044         217,228         26,42328         0.72093         14.8880         0.4993           2         1         0.044         217,228         26,42328         0.72093         14.8880         0.4913           2         0.045         0.055         0.57,914         0.57,914 <td>2007</td> <td>0.032</td> <td>19 254 978</td> <td>5 820 945</td> <td>31 363 319</td> <td>0</td> <td>56 430 243</td> <td>212,002</td> <td>1,044</td> <td>213,027</td> <td>26.40305</td> <td>0.84530</td> <td>14 8880</td> <td>0.4751</td>	2007	0.032	19 254 978	5 820 945	31 363 319	0	56 430 243	212,002	1,044	213,027	26.40305	0.84530	14 8880	0.4751
$\frac{2007}{2070} = \frac{0.027}{20,055,055} = \frac{17,052,771}{5,979,662} = \frac{31,503,17}{31,363,319} = 0 = \frac{57,502,771}{5,7398,677} = \frac{210,101}{218,272} = \frac{1,044}{1,044} = \frac{213,117}{217,228} = \frac{20,0524}{26,42328} = \frac{0.70210}{14,8800} = \frac{14,8800}{0.4393} = \frac{0.4492}{14,8800} = \frac{14,8800}{0.4929} = \frac{0.4492}{14,8800} = \frac{14,8800}{0.4929} = \frac{0.4492}{14,8800} = \frac{14,8800}{0.4929} = \frac{0.4492}{14,8800} = \frac{14,8800}{0.4929} = \frac{0.4492}{14,8800} = 0.44$	2000	0.032	19 645 401	6 016 086	31 362 210	0	57 025 707	214,071	1,044	215,027	20.77373	0.04000	14.8880	0.4202
Includes system costs not affected by the resurce plan such as existing generation. Tab. staff and DSM costs.         Includes as existing generation. Tab. staff and DSM costs.         Includes as existences as existing generation. Tab. staff and DSM costs.         Includes as existences as existences as existences as existences as existences as existences.         Includes as existences as existences as existences.         Includes as existences.	2009	0.030	20 055 695	5 979 662	31 363 319	0	57 398 677	218,101	1,044	213,117	26.30924	0.72093	14.8880	0.4062
	* Include	s system co	sts not affected b	v the resource pl	an such as existin	or generation T&	D staff and DSM	costs	.,	217,220	20112520	192 71146	1.13000	192 71146

#### Additional Cost Needed to be Added to the FPL Proposed Plan to Increase its Levelized System Average Electric Rate to That of the TRC Plan

\* Includes system costs not affected by the resource plan such as existing generation, T&D, staff, and DSM costs not tied directly to new DSM signups (such as rebates to existing load management participants, etc.).

\*\* DSM energy reductions are incremental from August 2019.

Levelized System Average Electric Rate (cents/kWh) = 14.8880

its Levelized System Average Electric Rate to That of the TRC Plan Corrected Exhibit AWW-14, Page 1 of 1 Additional Cost Needed to be Added to the FPL Proposed Plan to Increase Docket No. 20240012-EG

#### Comparison of the Resource Plans: Projection of System Average Electric Rates and Customer Bills (Assuming 1,000 kWh Usage)

#### 1) Projection of System Average Electric Rates & Customer Bills:

	Supply Only	Resource Plan	FPL Proposed	<b>Resource Plan</b>	RIM Res	ource Plan	TRC Res	ource Plan
	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected
	Electric Rate	Customer Bill	Electric Rate	Customer Bill	Electric Rate	Customer Bill	Electric Rate	Customer Bill
Year	(cents/kWh)	(\$/1,000 kWh)	(cents/kWh)	(\$/1,000 kWh)	(cents/kWh)	(\$/1,000 kWh)	(cents/kWh)	(\$/1,000 kWh)
2024	9.883	\$98.83	9.883	\$98.83	9.883	\$98.83	9.882	\$98.82
2025	10.275	\$102.75	10.289	\$102.89	10.276	\$102.76	10.298	\$102.98
2026	11.379	\$113.79	11.401	\$114.01	11.383	\$113.83	11.410	\$114.10
2027	11.802	\$118.02	11.831	\$118.31	11.805	\$118.05	11.840	\$118.40
2028	12.117	\$121.17	12.145	\$121.45	12.119	\$121.19	12.162	\$121.62
2029	12.391	\$123.91	12.428	\$124.28	12.398	\$123.98	12.447	\$124.47
2030	12.434	\$124.34	12.477	\$124.77	12.441	\$124.41	12.500	\$125.00
2031	12.622	\$126.22	12.675	\$126.75	12.634	\$126.34	12.701	\$127.01
2032	12.853	\$128.53	12.910	\$129.10	12.862	\$128.62	12.944	\$129.44
2033	13.254	\$132.54	13.253	\$132.53	13.206	\$132.06	13.288	\$132.88
2034	13.723	\$137.23	13.864	\$138.64	13.686	\$136.86	13.856	\$138.56

2) Projection of Average Customer Bill Differentials:

	Bill Differential	s for Each Plan Comj	pared to the Supply (	Only Plan
	Supply Only	FPL Proposed	RIM	TRC
Year	<b>Resource Plan</b>	<b>Resource Plan</b>	<b>Resource Plan</b>	<b>Resource Plan</b>
2024	\$0.00	(\$0.01)	(\$0.00)	(\$0.01)
2025	\$0.00	\$0.14	\$0.01	\$0.23
2026	\$0.00	\$0.21	\$0.04	\$0.31
2027	\$0.00	\$0.28	\$0.02	\$0.38
2028	\$0.00	\$0.28	\$0.02	\$0.45
2029	\$0.00	\$0.38	\$0.07	\$0.57
2030	\$0.00	\$0.43	\$0.07	\$0.66
2031	\$0.00	\$0.53	\$0.12	\$0.79
2032	\$0.00	\$0.57	\$0.09	\$0.91
2033	\$0.00	(\$0.00)	(\$0.48)	\$0.35
2034	\$0.00	\$1.41	(\$0.37)	\$1.34

Docket No. 20240012-EG Comparison of the Resource Plans: Projection of System Average Electric Rates and Customer Bills (Assuming 1,000 kWh Usage) Corrected Exhibit AWW-15, Page 1 of 1