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July 1, 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)

Dear Mr. Teitzman:

In accordance with Rule 25-17.0021, Florida Administrative Code, please find enclosed for filing on behalf of Florida Power & Light Company (FPL) in the above referenced docket the Rebuttal Testimony and Exhibits of FPL witness Andrew W. Whitley.

A copy of this filing is being served in accordance with the attached certificate of service. Please contact me if there are any questions regarding this filing.

Sincerely,

<u>s/ William P. Cox</u> William P. Cox Fla. Bar No. 0093531

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

Florida Power & Light Company

700 Universe Boulevard, Juno Beach, FL 33408

1	<b>BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION</b>
2	FLORIDA POWER & LIGHT COMPANY
3	<b>REBUTTAL TESTIMONY OF ANDREW W. WHITLEY</b>
4	DOCKET NO. 20240012-EG
5	JULY 1, 2024
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1		I. INTRODUCTION
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3	Q.	Please state your name, business address, employer and position.
4	A.	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.	Have you previously submitted testimony in this proceeding?
9	А.	Yes. I submitted direct testimony and exbibits in support of FPL's proposed
10		2025-2034 Demand Side Management (DSM) Goals on April 2, 2024.
11	Q.	Are you sponsoring any exhibits with your rebuttal testimony?
12	А.	Yes. I am sponsoring Exhibits AWW-18 through AWW-21, which are attached
13		to my testimony:
14		• AWW-18 - FEL Plan Analysis: Levelized System Average Electric
15		Rate
16		• AWW-19 - FEL Plan Analysis: Comparison of Levelized System
17		Average Electric Rates
18		• AWW-20 – FEL Plan Analysis: Additional Cost Needed to be Added to
19		FPL's Proposed Plan to Increase its Levelized System Average Electric
20		Rate to That of FEL Plan Analysis
21		• AWW-21 – FEL Plan Analysis: Comparison of the Resource Plans:
22		Projection of System Average Electric Rates and Customer Bills
23		(Assuming 1,000 kWh Usage)

Q.

### Please summarize your rebuttal testimony.

My rebuttal testimony responds to certain parts of the direct testimony of 2 A. 3 witness MacKenzie D. Marcelin submitted on behalf of Florida Rising, Environmental Coalition of Southwest Florida, and League of United Latin 4 American Citizens (collectively, "FEL"). My testimony addresses the 5 deficiencies in FEL witness Marcelin's testimony regarding the process for 6 evaluating DSM, both in terms of cost-effectiveness and in how DSM fits into 7 the resource planning process. I also calculate the rate impact of FEL witness 8 Marcelin's proposed goals for FPL, which shows that – despite claiming to have 9 10 the goal of lowering energy burdens for FPL's customers – FEL's proposals, if adopted, would increase the rates of all FPL's customers, including low-income 11 customers, renting customers, and customers who cannot participate in DSM 12 13 programs.

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II. ISSUES WITH FEL'S PROPOSED GOALS

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## 17 Q. Did FEL witness Marcelin provide a complete set of proposed goals for 18 FPL?

A. No, he did not. Based on a review of the goals set forth on pages 18-23 of his
testimony, it appears FEL witness Marcelin is only proposing a set of annual
goals for the Residential sector.

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## Q. Do these proposed goals for FPL mention or address the Commercial or Industrial sectors?

A. No, they do not. However, on page 21 of his testimony, FEL witness Marcelin
proposes that the credits for FPL's Commercial/Industrial Load Control (CILC)
and Commercial/Industrial Demand Reduction (CDR) programs be reduced at
least by half in this proceeding. As explained in the rebuttal testimony of FPL
witness Floyd, the CILC and CDR credits cannot be changed or reset until
FPL's next general base rate proceeding.

# 9 Q. Does FEL witness Marcelin's proposal utilize the cost-effectiveness tests 10 required by the Commission?

No. Although Rule 25-17.0021(3), Florida Administrative Code, expressly 11 A. provides that the DSM Goals must be developed under both (i) the Participant 12 and Rate Impact Measure tests and (ii) the Participant and Total Resource Cost 13 14 tests, there is nothing in the testimony of FEL witness Marcelin indicating that his proposed goals were analyzed with any cost-effectiveness tests, other than 15 16 noting that FPL's proposed Residential HVAC program passes TRC. Likewise, 17 there is nothing in the workpapers and other supporting documents produced in 18 response to FPL's discovery requests that suggests FEL witness Marcelin 19 undertook any analysis of the cost-effectiveness or rate impacts of his proposed goals. Rather, it appears that the goals proposed by FEL witness Marcelin are 20 21 based on simple extrapolations of various FPL programs and scaling them up 22 by various extraneous factors, such as comparison to other Florida utilities,

without any consideration or evaluation of cost-effectiveness, achievability, or
 rate impacts.

# Q. Does FEL witness Marcelin's proposal utilize FPL's most recent planning process?

- A. No, it does not. FEL witness Marcelin does not attempt to reconcile his
  proposal with FPL's resource plan, nor does he attempt to show how his
  proposals will impact FPL's resource plan.
- Q. On pages 14-15 of his direct testimony, FEL witness Marcelin expresses his
   opinion on the use of the two-year payback screening criteria. Do you have
   a response?
- Yes. It appears that FEL witness Marcelin is opposed to using any years-to-11 A. payback screening criteria to develop DSM Goals. However, Rule 25-12 17.0021(3) expressly provides each utility's goal projections must consider, 13 14 among other things, "free riders." As explained in my direct testimony, the purpose of the years-to-payback test is to address the "free rider" consideration 15 required by the Rule. FPL witness Floyd further addresses why use of the two-16 17 year payback screening criterion is appropriate for the development of FPL's proposed DSM Goals. 18
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1		III. RATE IMPACT OF FEL'S PROPOSED GOALS
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3	Q.	Does FEL witness Marcelin offer any analysis of the projected rate and bill
4		impacts of his proposed goals for FPL?
5	A.	No.
6	Q.	Did FPL conduct an analysis of the projected rate and bill impacts of FEL
7		witness Marcelin's proposed goals?
8	A.	Yes.
9	Q.	How was this analysis conducted?
10	А.	For purposes of this analysis, FPL assumed that FPL's proposed 2025-2034
11		DSM Goals for Commercial and Industrial segments would remain the same
12		given that FEL witness Marcelin did not propose any specific goals for these
13		segments. FPL began with the Levelized System Average Electric Rate
14		calculation for its TRC Resource Plan <sup>1</sup> that was previously presented in my
15		direct testimony in Exhibit AWW-11. The following modifications to this
16		spreadsheet were then made to approximate the effects of FEL's proposed
17		increase in the Residential goals.
18		• Assuming no changes were made to the Commercial and Industrial
19		segments of the FPL Proposed Resource Plan, I added FEL witness
20		Marcelin's proposed increase to Residential goals to derive reduced

<sup>&</sup>lt;sup>1</sup> FPL used its TRC Resource Plan as a basis for these calculations because it has the largest amount of DSM demand and energy.

1	annual total sales projections in line with the GWh goal. This
2	appears in Column (8a) of Exhibit AWW-18.
3	• Because FEL witness Marcelin's proposed increase to the
4	Residential goals would reduce projected variable costs, the same
5	annual modifiers were multiplied by the previously projected
6	variable costs to derive reduced annual variable costs. This is shown
7	in Column (2) of Exhibit AWW-18.
8	• In order to achieve this increase in GWh reduction associated with
9	FEL witness Marcelin's proposed Residential goals, projected DSM
10	expenditures would have to increase. The GWh associated with
11	FEL's proposed DSM Goals are, in total, roughly 1.5 times the GWh
12	associated with FPL's TRC Resource Plan. FPL assumed that the
13	currently-projected DSM program costs for the TRC Resource Plan
14	would increase by this same factor. <sup>2</sup> This is shown in Column $(3)$
15	of Exhibit AWW-18.
16	FPL then produced a Levelized System Average Electric Rate based on these
17	assumptions and compared this rate to the levelized rates and bill impacts of the
18	four resource plans originally presented in my direct testimony (i.e., Supply
19	Only Plan, RIM Resource Plan, TRC Resource Plan, and FPL Proposed

20 Resource Plan).

<sup>&</sup>lt;sup>2</sup> This assumption is very conservative because this only leads to a modest increase in the administrative and incentive costs over the TRC Resource Plan. The rebuttal testimony of FPL witness Floyd provides more detail about the high DSM program costs that would result from goals at FEL's recommended levels.

Q.

### What were the results of this analysis?

A. These results are presented in Exhibits AWW-18 through AWW-21. Exhibit
AWW-18 shows that FEL witness Marcelin's proposed increase to Residential
goals results in a Levelized System Average Electric Rate of 14.9339
cents/kWh.

## Q. How does this compare to the Levelized System Average Electric Rates of the four resource plans presented in your direct testimony?

Exhibit AWW-19, which is an expanded version of Exhibit AWW-12 from my 8 A. direct testimony, shows this comparison. The levelized rate for FEL's proposal 9 appears on the last row and is larger than the levelized rate for all four of the 10 resource plans presented in my direct testimony. To provide some context for 11 the rate impact of FEL's proposed goals, Exhibit AWW-20 shows the one-time 12 cost that would need to be added in 2034 in order to make the Levelized System 13 14 Average Electric Rate of the FPL Proposed Resource Plan equivalent to the 15 Levelized System Average Electric Rate of FEL's plan (*i.e.*, the cost differential 16 between the FPL Proposed and FEL plans by year 2034). This exhibit shows 17 in Column (5) that on a levelized system average electric rate basis roughly \$3.7 billion dollars would need to be added in 2034 to equalize the rates of these two 18 19 plans.

### 20 Q. What effect does FEL's recommendation have on annual rates and bill 21 impact for customers?

A. This effect is shown in Exhibits AWW-20 and AWW-21. For the period of
 2025-2034, FEL's plan is expected to increase the cost to a non-participating

1		residential customer using 1,000 kWh per month by almost \$128 over ten years
2		when compared to the Supply Only Resource Plan. For reference, over the
3		same period, the FPL Proposed Resource Plan will only increase the costs to
4		the same non-participating customer using 1,000 kWh per month by \$48 over
5		the same ten-year period. As compared to the FPL Proposed Resource Plan,
6		FEL's plan (through 2034) would cost the same non-participating customer
7		using 1,000 kWh per month approximately \$80 more over the ten-year period
8		than a plan based on FPL's proposed DSM Goals.
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10		IV. CONCLUSION
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12	Q.	Please summarize the main concerns you have with FEL witness
12 13	Q.	Please summarize the main concerns you have with FEL witness Marcelin's testimony.
	<b>Q.</b> A.	
13	-	Marcelin's testimony.
13 14	-	Marcelin's testimony. My primary concerns with FEL witness Marcelin's testimony can be
13 14 15	-	Marcelin's testimony. My primary concerns with FEL witness Marcelin's testimony can be summarized as follows:
13 14 15 16	-	Marcelin's testimony. My primary concerns with FEL witness Marcelin's testimony can be summarized as follows: - FEL witness Marcelin completely disregards the Commission's
13 14 15 16 17	-	<ul> <li>Marcelin's testimony.</li> <li>My primary concerns with FEL witness Marcelin's testimony can be summarized as follows:</li> <li>FEL witness Marcelin completely disregards the Commission's requirement that the DSM Goals be developed using prescribed cost-</li> </ul>
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> </ol>	-	<ul> <li>Marcelin's testimony.</li> <li>My primary concerns with FEL witness Marcelin's testimony can be summarized as follows:</li> <li>FEL witness Marcelin completely disregards the Commission's requirement that the DSM Goals be developed using prescribed cost-effectiveness tests;</li> </ul>
<ol> <li>13</li> <li>14</li> <li>15</li> <li>16</li> <li>17</li> <li>18</li> <li>19</li> </ol>	-	<ul> <li>Marcelin's testimony.</li> <li>My primary concerns with FEL witness Marcelin's testimony can be summarized as follows: <ul> <li>FEL witness Marcelin completely disregards the Commission's requirement that the DSM Goals be developed using prescribed cost-effectiveness tests;</li> <li>FEL witness Marcelin's proposals lack any technical analysis or support</li> </ul> </li> </ul>
<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>	-	<ul> <li>Marcelin's testimony.</li> <li>My primary concerns with FEL witness Marcelin's testimony can be summarized as follows: <ul> <li>FEL witness Marcelin completely disregards the Commission's requirement that the DSM Goals be developed using prescribed cost-effectiveness tests;</li> <li>FEL witness Marcelin's proposals lack any technical analysis or support and, instead, simply scale FPL's Goals to arbitrary values as further</li> </ul> </li> </ul>

7	A.	Yes.
6	Q.	Does this conclude your rebuttal testimony?
5		unsupported Residential-only goals recommended by FEL witness Marcelin.
4		For these reasons, I recommend that the Commission reject the entirely
3		who are unable to participate in DSM programs.
2		customers, including low-income customers, renters, and customers
1		that his proposal would result in significant rate impacts to all of FPL's

#### FEL Plan Analysis: Levelized System Average Electric Rate

cols         cols <t< th=""><th></th><th>(1)</th><th>(2)</th><th>(3)</th><th>(4)</th><th>(5)</th><th>(6)</th><th>(7)</th><th>(8)</th><th>(8a)</th><th>(9)</th><th>(10)</th><th>(11)</th><th>(12)</th></t<>		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8a)	(9)	(10)	(11)	(12)
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Printer         Variable Cons         Prised Cons         System Cons         Prised Note         Prised Note         Add. DSM         Rate (cent Note)         Add. DSM         Rate (cent Note)         <						~	Load	0						
Year         8,14%         (900, Non)										5				
2024         1.000         2.696,823         172,073         19,079,155         143,371         140,409         113         140,350         19,371         9,882,36         9,882,36         14,339         14,339           2025         0.523         2,842,53         1,413,13         14,633,35         14,142         11,442,51         11,442,51         9,784,35         14,039         11,207           2027         0.701         2,242,573         1,553,48         12,254,271         1,553,48         12,253,170         1,553,180         11,453         14,4553         14,4553         14,4553         14,4553         14,453         14,4539         15,990         14,519         10,997         14,4543         12,4590         14,4434         14,939         0,350           2030         0.673         1,54,484         2,52,973         14,57,13         14,4573         14,4576         12,4590         7,4547         14,939         9,350           2031         0.578         1,44,133         3,35,544         14,9302         18,8708         14,9378         14,939         14,939         4,533           2031         0.497         1,44,143         1,53,461         12,52         14,531         17,459         14,531         17,459         14,53	Year													
2825         0.928         2.948.76         1.053.46         1.2.905         1.5.807         1.2.604         14.443         1.4.452         9.5.4462         14.9.919         1.3.809           2020         0.853         2.948.76         1.0.503.460         1.2.906         16.2.907         14.2.614         14.443         14.452         9.548.57         14.9358         11.8776           2020         0.731         2.516.70         1.503.460         1.2.9174         1.556.70         1.503.58         1.2.9176         14.9151         14.9151         14.9151         14.9151         12.9552         8.2211         14.9139         10.916           2010         2.557.87         2.557.87         2.557.87         1.947.718         15.1677         1.228         19.939         14.9267         14.9459         12.3760         6.54979         14.939         7.938           2031         0.447         9.738.4         4.01318         15.5478         1.5578         1.622         15.001         1.34766         6.94971         14.939         6.5393           2035         0.437         1.520.713         1.646.71         1.622         15.005         15.2314         13.5023         6.1363         6.44379         6.5393           2030 <td></td> <td></td> <td></td> <td><u> </u></td> <td></td> <td></td> <td><u> </u></td> <td><u>`</u></td> <td></td> <td></td> <td> · /</td> <td>· · · · · · · · · · · · · · · · · · ·</td> <td>/</td> <td></td>				<u> </u>			<u> </u>	<u>`</u>			· /	· · · · · · · · · · · · · · · · · · ·	/	
2020         0.985         2.986.716         1.057.486         1.229.099         142.991         377         142.441         11.44528         11.4750         9.79403         143.939         11.876           2020         0.701         2.355.718         2.046.702         1.51.2472         1.757.902         1.84.103         65.8         1.44.120         1.23052         8.9231         1.45.939         1.84.939         1.0016           2020         0.767         2.355.148         2.046.702         1.51.242         1.45.141         1.45.351         1.44.535         1.24.9790         8.4404         1.45.399         1.0316         1.45.141         3.35.1097         1.45.931         1.44.535         1.24.9790         7.445.57         1.44.339         0.330         1.65.399         1.44.339         0.330         6.6.399         1.43.399         6.339         0.330         6.6.399         1.43.399         6.5.399         1.43.399         6.5.399         1.43.399         6.5.399         1.43.399         6.5.399         1.43.399         6.5.399         1.43.399         6.5.399         1.43.399         6.5.399         1.43.399         6.5.399         1.43.399         6.5.399         1.43.399         6.5.399         1.43.399         6.5.399         1.43.399         6.5.399														
3027         0.791         2,51,570         1,567,308         12,504,202         17,318,241         144,403         141,203         12,2352         83,231         14,3339         11,8078           2029         0.763         2,325,418         2,325,418         2,325,418         2,325,418         3,232,418         1,43339         10,9180           2039         0.676         2,325,418         2,323,418         1,34144         1,43339         10,9180           2030         0.676         2,324,388         1,341439         1,43339         1,0300         1,45,558         11,45,559         12,4920         5,44444         14,3339         1,0300           2031         0.904         3,24,297         1,4344,999         2,0277,718         1,547,70         1,5337,90         6,5979         1,43339         7,3317           2031         0.947         8,02,076         4,044,191         1,558,527         1,352,748         1,52,234         151,230         13,2376         6,3318         2,3377         2,347,239         1,422,075         6,043,39         5,343         1,42075         6,043,39         5,343         1,42075         6,0166         1,43399         6,318           2040         0.457,356         4,444,23         1,107,511 <t< td=""><td></td><td></td><td></td><td></td><td>· · · · ·</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>					· · · · ·									
2020         0.711         2.325.118         2.046,570         1371,472         145,101         6.58         144,434         144,120         12.2032         8.9221         14.9339         10.0961           0.050         0.052         1.554,044         2.233,002         1.553,002         1.557,002         1.574,044         1.533         12.42030         8.44644         14.9339         0.336           0.051         0.534         8.70,444         3.742,577         1.442,570         1.442,570         1.442,570         1.442,570         1.442,570         1.442,570         1.443,573         1.16746         1.25460         7.37120         1.43339         0.533           0.043         8.70,404         3.722,572         1.442,173         19.477,178         10.177         1.285         0.193,114,133         3.5561         4.553         12.2490         4.640,41         1.443,107         7.6552           0.051         1.729,674         4.531,580         1.521,776         1.622         155,693         155,311         1.42371         6.0106         1.43399         6.318           0.051         2.289,653         4.484,814         1.441,100         1.422         1.55,697         1.521,556         5.64872         1.4339         5.5486														
1202         0.676         2263.97         231.90         16.59         15.91.98         15.91.98         14.65.51         807         14.728         14.63.76         12.49790         84.4644         14.0339         10.0062           0.313         0.578         1.1413         3.33.59.44         1.4390.02         18.77.18         11.71         14.84.77         14.72.84         12.5979         7.8457         14.0339         8.61.30           0.320         0.578         1.410.31         15.34.948         0.22.97.77.18         15.07.95         14.92.99         6.94007         14.0339         7.952.27           0.331         0.444         790.318         4.10.318         15.34.963         2.02.77.65         15.3576         14.22.91         15.4.059         14.9376         6.400.71         14.9339         6.82.57         13.1.2.12.11         15.4.057         14.9319         6.403.9         6.43.33         14.0376         6.403.99         6.43.33         14.0376         6.403.99         6.43.33         14.0376         6.43.33         6.43.33         14.0376         6.43.33         6.43.33         14.0339         6.42.27         14.9339         6.43.23         14.9339         4.99.53         14.9339         4.54.53         14.93.39         4.54.53         14														
2010         0.625         1,53,4488         2,223,988         11,974,533         14,82,370         148,390         962         147,328         146,876         12,54979         7,54577         14,8339         9,3300           0321         0,555         820,044         3,742,957         14,842,757         19,477,118         151,677         1,285         150,393         149,829         12,99998         6,9907         14,8339         7,9823           0341         0,457         82,076         4,603,701         15,8452,07         14,8339         7,8138         4,403,701         15,852,77         14,62,715         16,635         14,314         6,57959         14,4339         6,8238           0350         0431         1,254,024         4,201,615         17,117,111         2,038,800         116,22         15,603         15,431         14,2075         14,6339         6,318         2,338,50         4,4339         5,3165         3,306         1,31476         6,313         14,42175         14,4339         5,3165         3,403         1,31476         14,339         3,455         3,3394         4,321         14,339         3,4167         1,4217         1,4339         3,456         3,3394         4,421,41         3,444319         3,4164         4,43194 <td></td>														
2010         0.578         1,141,33         3.335,944         1,430,02         18,700,88         149,77         1,121         148,457         147,946         12,25649         7,3720         14,9339         7,833           2031         0.404         790,338         4,100,318         15,449,89         20,27,645         153,044         151,020         13,34760         6,5979         14,9339         7,9817           2034         0.473         1,243,020         4,475,139         16,444,21         21,015,01         157,157         1,622         154,046         153,1944         142,0275         6,01056         14,9339         6,818           2046         0.423         1,243,620         4,475,159         1,548,067         1,622         158,087         14,487,15         14,4334         5,3060           2036         0.344         2,898,653         4,483,31         1,748,64         2422,5289         16,152         16,152         16,152         16,152         16,152         16,152         16,152         16,123         16,123         16,123         16,123         16,143         5,14433         3,9469           2040         0.244         4,221,110         4,44,144         12,143,763         16,523         16,1433         16,1433														
202         0.535         0.99,044         3,724,297         14,947,718         (15,677)         1,255         (150,393)         149,829         (12,9998)         6,49497         14,9339         7,9817           203         4047         82,076         4,403,181         (15,44,689)         237,157         (15,44,68)         155,334         (13,255)         6,3558         (14,9339)         6,318           2036         0,437         (12,44,074)         4,201,613         (17,107,511)         (12,05,01)         (15,122)         (15,036)         (15,334)         (14,6176)         5,7066         (14,0339)         5,3186           2037         0,314         (22,854,96)         (14,013)         (17,107,511)         (21,05,00)         (15,122)         (15,032)         (16,0126)         (14,0339)         5,3166           2038         0,334         (24,96,03)         (44,90,34)         (16,04,170)         (14,0339)			, ,		, ,	, ,								
2033         0.494         293.38         4 (403,18)         15.34.990         20.227.645         153.686         1.452         152.234         151.620         153.4700         6.59799         14.9339         6.8288           2035         0.423         1.248.920         4.375.199         16.484.421         22.103.501         157.15         1.622         155.063         155.431         14.22075         6.01036         14.9339         6.318           2036         0.316         2.288.859         4.188.331         17.716541         2.2008.800         159.079         1.622         156.083         159.218         152.1556         5.49872         14.9339         5.3069           2036         0.347         2.2896.63         4.480.428         19.064.579         2.102.5793         16.627         16.6123         16.6174         5.14417         14.9339         4.6472           2040         0.266         4.221.101         4.480.449         2.305.889         16.6127         16.6335         16.337         4.6473         5.14417         14.9339         3.9482           2042         0.244         4.925.89         4.50.421         2.355.899         16.611         1.622         16.6335         11.9377         4.96.635         14.9339         3.														
0.457         962,076         4.04,791         15,89527         21,362,124         155,678         1.622         156,066         153,394         13,32635         6.36528         14,9339         6.8328           2035         0.423         12,435,207         4,307,1615         17,107,111         23,085,800         159,779         1,622         155,657         157,358         14,43761         5,7066         14,9339         5,8386           2036         0.324         2,288,859         4,488,341         1,746,404         2,422,589         101,502         16,222         169,850         16,0128         16,0128         5,35776         14,9339         4,9939           2049         0.349         3,497,356         4,443,284         10,045,77         2,702,753         16,6271         1,622         164,531         16,551         17,38077         4,96635         14,9339         4,6472           2041         0.264         4,722,589         4,65119         1,622         164,587         164,227         18,6058         4,54584         14,9339         3,6487           2041         0.264         6,132,363         4,43714         1,377,660         164,121         16,6460         19,53517         4,08140         14,9339         3,1739 <t< td=""><td></td><td>0.494</td><td>789.338</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>6.59759</td><td>14.9339</td><td></td></t<>		0.494	789.338									6.59759	14.9339	
2015         0.423         12,43,920         4,375,199         16,434,421         22,107,501         157,715         1,622         155,631         14,22075         6,0106         14,9339         6,3118           2017         0,161         22,884,89         4,318,311         17,107,511         23,018,800         199,279         16,22         159,280         159,218         15,215,66         5,40872         14,9339         5,306           2038         0,344         2,289,653         4,448,431         11,704,540         2,272,579         166,154         1,622         161,055         162,445         16,64734         5,14477         14,9339         4,6497           2040         0,264         4,221,110         4,481,044         19,714,19         2,943,703         166,937         1,622         161,305         162,436         16,64734         5,1417         14,9339         4,647           2041         0,264         4,722,89         4,523,132         20,035,859         166,511         1,622         161,436         18,10977         4,64534         14,9339         3,748           2042         0,44         4,794,74         4,441,441         21,004,444         3,70,502         171,358         1,622         166,477         165,353														
2036         0.391         1.728/74         4.201.015         177,185 1         223.8380         159.679         1.622         159.807         157,395         14.63761         5.70866         14.9339         5.3385           2037         0.361         2288,857         4.489.431         18.40.005         25.702.090         164.154         1.622         165.005         16.62734         15.2156         5.34872         14.9339         4.9095           2040         0.286         4.221.110         4.463.128         19.046.579         12.622         165.051         16.2231         16.64734         5.1417         14.9339         4.612           2041         0.264         4.702.58         4.503.42         0.164.919         1.622         164.313         165.851         17.3077         4.966.53         14.9339         3.9458           2042         0.549.73         4.503.42         0.108.119         1.622         164.897         165.285         19.04156         4.311.4         14.9339         3.3458           2044         0.299         6.736.877         4.490.692         21.645.01         18.77.46         168.119         1.622         167.461         16.232         167.460         19.53517         4.8110         14.9339         3.1199 <td>2035</td> <td>0.423</td> <td></td>	2035	0.423												
0.361         2.388 859         4.188.331         17.788.469         24.228.839         161.502         16.322         161.532         160.870         16.0328         5.3767         14.9339         4.9905           2039         0.339         3.497.386         4.463.828         19.064.579         27.025.793         164.627         16.322         163.030         162.343         166.6474         5.14417         14.9339         4.6147           2040         0.264         4.221.10         4.481.034         19.741.619         12.622         163.397         162.635         18.10977         4.9665.51         14.9339         3.9458           2041         0.264         4.529.314         4.546.297         155.358         166.511         162.27         164.327         164.227         18.0558         19.04156         4.4454         14.9339         3.4587           2044         0.270         6.730.877         4.590.659         12.871.566         168,119         1.622         166.427         165.835         19.04156         4.349.343         3.3739           2044         0.197         77.81.877         4.590.659         12.453.0417         1.622         17.402         17.0078         20.2217.10411         14.93339         2.284.933         2.66777 </td <td></td> <td>0.391</td> <td>1,729,674</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5.72066</td> <td>14.9339</td> <td></td>		0.391	1,729,674									5.72066	14.9339	
2038         0.334         2.899.653         4.489.431         18.403.005         25.702.090         16.51.54         1.622         16.305         16.2343         16.61326         5.5377.6         14.9339         4.9905           2040         0.286         4.425.121         0         4.463.281         19.064.577         1.662         16.305         16.2343         16.6471         14.9339         4.2672           2041         0.246         4.272.589         4.520.322         20.139.168         12.9245.209         166.511         1.62.21         166.635         18.10937         4.7848.64         14.9339         3.4473.64           2042         0.244         5.439.331         4.546.299         20.970.229         30.555.589         166.511         1.622         166.497         166.355         18.10937         4.49339         3.3739           2044         0.209         6.758.877         4.599.659         21.453.011         3.275.477         1.699.659         1.64.397         1.66.497         166.497         165.435         1.40319         3.473.99           2046         0.179         7.781.187         4.481.21         2.384.102         2.166.497         167.358         1.721.135         1.64.22         171.2433         2.067277         3.4														
0.300         0.307,386         4.46,3828         19,064,579         270,2573         164,27         16,22         164,313         16,64734         5.14417         14,9339         4.6147           2041         0.264         4.722,599         4.520,342         20,139,168         29,452,099         164,913         163,551         164,313         163,561         17,38077         4.78486         14,9339         3.4457           2042         0.244         5,439,31         4.546,299         10,552,599         166,511         1,622         164,387         18,60189         4.54584         14,9339         3.37487           2044         0.276         6,132,363         4,471,101         12,015,471         16,1474         1,622         166,497         165,835         19,04156         4.30194         14,9339         3.37199           2045         0.193         7,374,177         4,401,481         21,904,944         3.770,602         171,355         1,622         171,400         170,788         20,22171         3.61222         14,9339         2.6677           2046         0.178         7,731,167         4,404,41         22,304,249         3.655,206         176,408         174,239         177,558         20,22171         3.61222         14,40339	2038	0.334			18,403,005									
2040         0.286         4.221,110         4.48,104         19,741,619         28,443,703         16,5235         16,22         163,137         163,651         17,38077         4.96635         14,9339         3.9458           2041         0.244         5,439,331         4,546,299         20,570,229         30,555,859         166,511         1,622         166,489         166,227         18,6089         4,54584         14,9339         3,3739           2044         0.206         6,152,333         4,437,010         12,100,114         14,173         169,744         1,622         166,497         166,849         169,511         1,922         167,460         19,93517         4,0010         14,9339         3,1799           2046         0.179         7,731,187         4,491,441         3,179,062         171,343         1,622         174,400         170,758         20221/11         3,61222         14,9339         2,6677           2047         0.165         8,408,367         4,406,441         2,284,403         3,739,417         1,622         173,495         174,213         21,6666         3,23290         14,9339         2,24668           2048         0.153         9,109,714         4,41,124         2,2304,119         3,565,164	2039	0.309	3,497,386		19,064,579			1,622		162,343			14.9339	4.6147
014         0.244         4.792,589         4.520,342         20139,168         20432,099         164,919         1,622         162,297         112,655         181,10937         4.78486         14.9339         3.3458           2043         0.226         6,132,363         4.457,101         21,1008,142         31,577,666         168,119         1,622         166,497         165,835         19.04156         4.30104         14.9339         3.3139           2044         0.209         6,758,877         4.590,659         21.453,011         32.713,471         169,744         1,622         169,763         169,101         19.97070         3.85790         14.9339         2.8849           2046         0.179         7,781,187         4.491,481         2.2364,409         34.550,258         17.71         1.6622         171,420         170,078         20.22171         3.61222         14.9339         2.6677           2047         0.166         8.408,667         4.406,614         2.280,437         3.56,64,148         174,171         1.6622         174,268         174,124         21.16666         3.22209         14.9339         2.1652           2049         0.131         9.804,831         4.35,97,561         179,842         1,6622         178,260	2040	0.286	4,221,110	4,481,034	19,741,619			1,622			17.38077	4.96635	14.9339	4.2672
0124         0.244         5.499.31         4.546.299         0.2070.229         0.555.859         166,511         1.622         164.889         164.227         18.6089         4.54554         14.9339         3.6487           034         0.209         6.759.877         4.500,659         21,453,011         32,713,547         169,744         1.622         166,122         167,460         19.51517         4.08110         14.9339         3.1199           2046         0.179         7,781,187         4,491,481         2.1304,044         3.3770,602         171,385         160,716         109,101         19.97070         3.87900         14.9339         2.8849           2046         0.179         7,781,187         4,406,614         2.2304,437         35.645,418         174,717         1.622         173,095         172,433         20.67207         3.41459         14.9339         2.2666           2048         0.131         9.109,714         4.441,272         3.35,650         178,618         1662         178,495         175,833         2.16803         3.06246         14.9339         2.1692           2049         0.141         1.955.16         4.951,833         3.718,602         178,486         177,433         2.6677         14.9339 <t< td=""><td>2041</td><td>0.264</td><td></td><td>4,520,342</td><td>20,139,168</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>14.9339</td><td></td></t<>	2041	0.264		4,520,342	20,139,168								14.9339	
0249         0.570,877         4,509,659         21,453,011         32,713,547         169,744         1,622         167,460         19,5317         4,08110         14,9339         3,1199           0346         0.193         7,731,187         4,481,821         21,9444         32,700,021         17,385         1,622         167,60         169,101         19,9707         3,6122         14,9339         2,8849           0346         0.153         9,100,714         4,441,274         23,804,10         35,565,61         17,042         1,622         171,476         174,178         12,16606         3,23200         14,9339         2,4668           0448         0.133         9,100,714         4,441,274         23,304,219         36,552,66         17,648         1,622         174,766         174,124         21,16606         3,23200         14,9339         2,2810           0441         9,830,412         4,400,410         23,785,509         38,125,813         178,116         1,622         178,433         21,6803         3,06246         14,9339         1,6502           0501         11,155,561         4,395,123         24,717,076         40,321,761         181,855         1,622         187,240         177,588         22,8167         2,4533	2042	0.244	5,439,331	4,546,299	20,570,229	30,555,859	166,511	1,622	164,889	164,227	18.60589	4.54584	14.9339	3.6487
0249         0.570,877         4,509,659         21,453,011         32,713,547         169,744         1,622         167,460         19,5317         4,08110         14,9339         3,1199           0346         0.193         7,731,187         4,481,821         21,9444         32,700,021         17,385         1,622         167,60         169,101         19,9707         3,6122         14,9339         2,8849           0346         0.153         9,100,714         4,441,274         23,804,10         35,565,61         17,042         1,622         171,476         174,178         12,16606         3,23200         14,9339         2,4668           0448         0.133         9,100,714         4,441,274         23,304,219         36,552,66         17,648         1,622         174,766         174,124         21,16606         3,23200         14,9339         2,2810           0441         9,830,412         4,400,410         23,785,509         38,125,813         178,116         1,622         178,433         21,6803         3,06246         14,9339         1,6502           0501         11,155,561         4,395,123         24,717,076         40,321,761         181,855         1,622         187,240         177,588         22,8167         2,4533	2043	0.226												
2046         0.179         7.781.187         4.385.021         22.364.049         34.530.258         173.042         1.622         171.400         170.758         20.22171         3.61222         14.9339         2.6677           2047         0.165         8,408.367         4,406.614         22,80.437         35.654.5418         174.717         1.622         173.095         172.433         20.67207         3.41459         14.9339         2.4668           2049         0.141         9,80,412         4,509.803         23,785.509         38,125,813         178,116         1.622         174,786         174,124         21.16606         3.23290         14.9339         2.2810           2050         0.131         10.893.818         4.399.122         24.271422         39.57,561         179.842         1.622         178,220         177.558         22.2816         2.91055         14.9339         1.805           2051         0.121         11.1675.170         4.650.040         25.275.51         14.160.801         183.346         1.622         187.144         181.062         22.91055         14.9339         1.4220           2053         0.131         12.788,322         4.911.342         25.786.088         14.450.457         26.831.349.4451.21.33	2044	0.209	6,750,877		21,453,011								14.9339	
2046         0.179         7.781.187         4.385.021         22.364.049         34.530.258         173.042         1.622         171.400         170.758         20.22171         3.61222         14.9339         2.6677           2047         0.165         8,408.367         4,406.614         22,80.437         35.654.5418         174.717         1.622         173.095         172.433         20.67207         3.41459         14.9339         2.4668           2049         0.141         9,80,412         4,509.803         23,785.509         38,125,813         178,116         1.622         174,786         174,124         21.16606         3.23290         14.9339         2.2810           2050         0.131         10.893.818         4.399.122         24.271422         39.57,561         179.842         1.622         178,220         177.558         22.2816         2.91055         14.9339         1.805           2051         0.121         11.1675.170         4.650.040         25.275.51         14.160.801         183.346         1.622         187.144         181.062         22.91055         14.9339         1.4220           2053         0.131         12.788,322         4.911.342         25.786.088         14.450.457         26.831.349.4451.21.33	2045	0.193	7,374,177	4,491,481	21,904,944	33,770,602	171,385	1,622	169,763	169,101	19.97070	3.85790	14.9339	2.8849
2047         0.165         8.408.367         4.406.614         22.830.437         35.645.418         174.171         1.622         172.095         172.433         20.67207         3.41459         14.9339         2.4668           2048         0.153         9.109714         4.441.274         23.304.219         36.855.206         176.408         1.622         174.786         171.1424         21.16606         3.23290         14.9339         2.2102           2050         0.131         10.893.818         4.399.122         24.774.822         39.567.361         179.842         1.622         178.583         21.68303         3.06246         14.9339         1.8035           2051         0.112         11.155.516         4.395.123         24.771.076         40.321.761         181.585         1.622         181.724         181.062         22.97597         2.56577         14.9339         1.637           2053         0.103         12.783.224         49.1142         25.75.891         44.50.001         183.346         1.622         183.503         182.481         23.76608         24.43435         14.9339         1.6427           2054         0.088         13.288.399         4.923.714         26.307.139         44.519.233         186.921         16.22 <td>2046</td> <td>0.179</td> <td></td>	2046	0.179												
2049         0.141         9.830.412         4.509.893         23.785.509         38.125.813         178,116         1.622         176,495         175,833         21.68303         3.06246         14.9339         2.1902           2050         0.131         10.893,818         4,399,122         24,27,4422         39,567,361         179,842         1.622         178,220         177,558         22.28416         2.91035         14.9339         1.9504           2051         0.112         11,155,516         4,395,123         24,771,076         40,521,761         181,854         1,622         118,724         181,062         22.97597         2.56577         14.9339         1.6677           2053         0.103         12,758,322         4,911,342         25,788,088         34,347,752         185,125         1.622         183,500         184,637         24,1171         2.30233         14.9339         1.3421           2054         0.095         13,288,399         4,923,714         26,630,349         4,519,253         186,921         1,622         187,114         186,637         24,1171         2.30233         14.9339         1.3486           2055         0.088         13,460,864         4,766,875         26,834,393         4,519,231         190,569	2047	0.165	8,408,367	4,406,614	22,830,437	35,645,418	174,717		173,095			3.41459	14.9339	2.4668
2050         0.131         10,893,818         4,399,122         24,274,422         39,567,361         179,842         1,622         178,200         177,558         22.28416         2.91035         14.9339         1.9504           2051         0.121         11,155,561         4,395,123         24,771,076         40,321,761         181,585         1.622         179,963         179,301         22.48826         2.71583         14,9339         1.6677           2052         0.103         12,758,322         4,911,342         25,788,088         43,457,752         185,125         1,622         183,503         182,841         23.76808         2.45435         14,9339         1.5421           2054         0.095         13,288,399         4,023,714         26,307,139         44,519,233         186,921         1.622         187,114         186,637         24,11171         2.30233         14,9339         1.3186           2055         0.088         13,540,864         4,766,875         26,834,393         45,142,133         188,736         1,622         187,114         186,457         24,11171         2.30233         14,9339         1.2193           2056         0.082         14,481,052         5,306,304         27,369,977         47,157,332         19	2048	0.153	9,109,714	4,441,274	23,304,219	36,855,206	176,408	1,622	174,786	174,124	21.16606	3.23290	14.9339	2.2810
2050         0.131         10,893,818         4,399,122         24,274,422         39,567,361         179,842         1,622         178,220         177,558         22,28416         2,91035         14,9339         1,9504           2051         0.121         11,155,561         4,395,123         24,771,076         40,321,761         181,855         1,622         187,724         181,062         2,7957         2,5657         14,9339         1,6677           2052         0.103         12,758,322         4,911,342         25,788,088         43,457,752         185,125         1,622         183,503         182,841         23,76808         2,45435         14,9339         1,4260           2054         0.095         13,288,399         4,023,714         26,307,139         44,519,233         186,921         1,622         187,114         186,457         24,11171         2,30233         14,9339         1,4260           2055         0.088         13,540,864         4,766,875         26,834,393         45,142,133         188,736         1,622         187,114         186,457         24,11171         2,302,33         14,290         1,2137           2056         0.082         14,481,052         5,366,304         27,369,977         47,157,332         199,2	2049	0.141	9,830,412	4,509,893										2.1092
2051         0.121         11,155,561         4,395,123         24,771,076         40,321,761         181,585         1,622         179,963         179,301         22,48826         2.71583         14,9339         1.8035           2052         0.112         11,675,170         4,650,040         25,275,591         41,600,801         183,346         1,622         181,724         181,062         22,97597         2.56577         14,9339         1.6677           2053         0.103         12,758,322         4,911,342         25,788,088         43,457,752         185,125         1,622         183,503         182,841         23,76008         2.44545         14,9339         1.5421           2054         0.095         13,258,399         4,923,714         26,634,393         45,142,133         186,921         1,622         187,114         186,452         24,21109         2.13773         14,9339         1,3186           2055         0.088         13,454,103         5,186,997         27,14,017         47,975,118         199,469         1,622         187,114         186,452         24,21109         2.13773         14,9339         1,2193           2057         0.075         14,481,052         5,306,907         27,914,017         47,975,118         199	2050	0.131	10,893,818	4,399,122	24,274,422	39,567,361	179,842	1,622	178,220	177,558	22.28416	2.91035	14.9339	1.9504
2053         0.103         12,758,322         4,911,342         25,788,088         43,457,752         185,125         1,622         183,503         182,841         23,76808         2.45435         14,9339         1.5421           2054         0.095         13,288,399         4,923,714         26,307,139         44,519,253         186,921         1,622         185,300         184,637         24,11171         2.0323         14,9339         1.4260           2055         0.088         13,540,864         4,766,875         26,834,393         45,121,33         188,736         1,622         188,948         188,252         22,0196         2.13773         14,9339         1.2193           2057         0.075         14,874,103         5,186,997         27,914,017         47,975,118         192,421         1,622         190,799         190,137         25,23184         1.90495         14,9339         1.2175           2058         0.075         14,874,103         5,186,997         27,914,017         47,975,118         192,421         1,622         192,670         192,008         25,45471         1.7775         14,9339         1.0426           2059         0.065         15,472,568         5,487,463         29,598,199         50,859,231         198,09	2051	0.121	11,155,561	4,395,123	24,771,076		181,585	1,622	179,963		22.48826	2.71583	14.9339	1.8035
2054         0.095         13,288,399         4,923,714         26,307,139         44,519,253         186,221         1,622         185,300         184,637         24,11171         2.30233         14,9339         1.4260           2055         0.082         14,841,052         5.306,304         7.369,977         47,157,332         190,569         1,622         187,114         186,452         24,21109         2.13773         14,9339         1.2193           2057         0.005         14,874,103         5,186,997         27,914,017         47,975,118         192,421         1,622         190,799         190,137         25,23184         1.90495         14,9339         1.1275           2058         0.070         15,106,388         5,301,975         28,466,646         48,875,009         194,222         1,622         192,670         192,008         25,54561         1.66233         14,9339         1.0426           2059         0.065         15,772,568         5,482,491         29,027,995         49,92,495         196,181         1,622         194,559         193,897         25,75050         1.66233         14,9339         0.8413           2060         0.060         15,773,568         5,487,463         29,581,99         10,623         194,632 </td <td>2052</td> <td>0.112</td> <td>11,675,170</td> <td>4,650,040</td> <td>25,275,591</td> <td>41,600,801</td> <td>183,346</td> <td>1,622</td> <td>181,724</td> <td>181,062</td> <td>22.97597</td> <td>2.56577</td> <td>14.9339</td> <td>1.6677</td>	2052	0.112	11,675,170	4,650,040	25,275,591	41,600,801	183,346	1,622	181,724	181,062	22.97597	2.56577	14.9339	1.6677
2054         0.095         13,288,399         4,923,714         26,307,139         44,519,253         186,221         1,622         185,300         184,637         24,11171         2.30233         14,9339         1.4260           2055         0.082         14,841,052         5.306,304         7.369,977         47,157,332         190,569         1,622         187,114         186,452         24,21109         2.13773         14,9339         1.2193           2057         0.005         14,874,103         5,186,997         27,914,017         47,975,118         192,421         1,622         190,799         190,137         25,23184         1.90495         14,9339         1.1275           2058         0.070         15,106,388         5,301,975         28,466,646         48,875,009         194,222         1,622         192,670         192,008         25,54561         1.66233         14,9339         1.0426           2059         0.065         15,772,568         5,482,491         29,027,995         49,92,495         196,181         1,622         194,559         193,897         25,75050         1.66233         14,9339         0.8413           2060         0.060         15,773,568         5,487,463         29,581,99         10,623         194,632 </td <td>2053</td> <td>0.103</td> <td>12,758,322</td> <td>4,911,342</td> <td>25,788,088</td> <td>43,457,752</td> <td>185,125</td> <td>1,622</td> <td>183,503</td> <td>182,841</td> <td>23.76808</td> <td>2.45435</td> <td>14.9339</td> <td>1.5421</td>	2053	0.103	12,758,322	4,911,342	25,788,088	43,457,752	185,125	1,622	183,503	182,841	23.76808	2.45435	14.9339	1.5421
20560.08214,481,0525,306,30427,369,97747,157,332190,5691,622188,948188,28525.045662.0448814.93391.219320570.07514,874,1035,186,99727,914,01747,975,118192,4211,622190,799190,13725.231841.9049514.93391.127520580.07015,106,3885,301,97528,466,64648,875,009194,2921,622192,670192,00825,457111.7770514.93390.964120590.06615,773,5685,428,93129,027.99549,929,495196,1811,622194,559193,89725,750301.6623314.93390.964120600.06015,773,5685,487,46329,598,19950,859,231198,0901,622196,468195,80625,774331.5505014.93390.824320610.05516,657,0045,500,23830,177,39551,734,637200,0181,622198,396197,73426.163801.4442014.93390.824320620.05116,649,3235,277,15630,765,72152,452,200201,9651,622200,343199,68126.267991.3407614.93390.762320640.04417,716,2345,685,03431,363,31954,978,72205,9191,622204,297203,63526.893461.1737314.93390.602720660.03718,449,8515,744,35131,363,31955,057,521209,9541,622206	2054	0.095	13,288,399	4,923,714	26,307,139		186,921	1,622	185,300	184,637	24.11171	2.30233	14.9339	1.4260
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20580.07015,106,3885,301,97528,466,64648,875,009194,2921,622192,670192,00825,454711.7770514,93391.042620590.06515,472,5685,428,93129,027,99549,929,495196,1811,622194,559193,89725,750501.6623314,93390.964120600.06015,773,5685,487,46329,598,19950,859,231198,0901,622196,468195,80625,974331.5505014,93390.891520610.05516,657,0045,500,23830,177,39557,74,637200,0181,622198,396197,73426.163801.4442014,93390.762320620.05116,409,3235,277,15630,765,72152,452,200201,9651,622200,343199,68126.267991.3407614,93390.762320630.04717,71,11,425,524,30131,363,31954,098,763203,9321,622202,310201,64826.828291.2662414,93390.762320640.04417,716,2345,685,03431,363,31955,092,142207,9261,622204,297203,63526.893461.1737314,93390.602720660.03718,449,8515,744,35131,363,31955,092,142207,9261,622206,305205,64326.790251.0811714,93390.557320670.03518,800,2245,841,29331,363,31955,092,142207,9261,62220														
20590.06515,472,5685,428,93129,027,99549,929,495196,1811,622194,559193,89725.750501.6623314.93390.964120600.06015,773,5685,487,46329,598,19950,859,231198,0901,622196,468195,80625.974331.5505014.93390.891520610.05516,057,0045,500,23830,177,39551,734,637200,0181,622198,396197,73426.163801.4442014.93390.824320620.05116,409,3235,277,15630,765,72152,452,200201,9651,622200,313199,68126.267991.3407614.93390.762320630.04717,211,1425,524,30131,363,31954,098,763203,9321,622202,310201,64826.828291.2662414.93390.704820640.04417,716,2345,685,03431,363,31954,098,763205,9191,622204,297203,63526.893461.1737314.93390.651820650.04018,070,9325,657,89131,363,31955,092,142207,9261,622206,305205,64326.790251.0811714.93390.602720660.03718,849,8515,744,35131,363,31955,092,142207,9261,622208,332207,67026.752780.9983614.93390.557320670.03518,800,2245,841,29331,363,31956,004,836212,0021,62221	2057	0.075	14,874,103	5,186,997	27,914,017	47,975,118	192,421	1,622	190,799	190,137	25.23184	1.90495	14.9339	1.1275
20600.06015,775,5685,487,46329,598,19959,859,231198,0901,622196,468195,80625.974331.5505014.93390.891520610.05516,057,0045,500,23830,177,39551,734,637200,0181,622198,396197,73426.163801.4442014.93390.824320620.05116,409,3235,277,15630,765,72152,452,200201,9651,622200,343199,68126.267991.3407614.93390.762320630.04717,211,1425,524,30131,363,31954,764,587205,9191,622202,310201,64826.828291.2662414.93390.704820640.04411,7716,2345,685,03431,363,31954,764,587205,9191,622204,297203,63526.893461.1737314.93390.602720650.04018,070,9325,657,89131,363,31955,092,142207,9261,622206,305205,64326.790251.0811714.93390.602720660.03718,449,8515,744,35131,363,31955,557,521209,9541,622208,332207,67026.752780.9983614.93390.557320670.03518,800,2245,841,29331,363,31956,004,836212,0021,622210,380209,71826.704810.9215214.93390.518320680.03219,106,6156,022,52631,363,31956,665,856216,1611,6222														
20610.05516,057,0045,500,23830,177,39551,734,637200,0181,622198,396197,73426.163801.4442014.93390.824320620.05116,409,3235,277,15630,765,72152,452,200201,9651,622200,343199,68126.267991.3407614.93390.762320630.04717,211,1425,524,30131,363,31954,764,587203,9321,622202,310201,64826.828291.2662414.93390.676320640.04417,716,2345,685,03431,363,31954,764,587205,9191,622204,297203,63526.893461.1737314.93390.601820650.04018,070,9325,657,89131,363,31955,092,142207,9261,622206,305205,64326.790251.0811714.93390.602720660.03718,449,8515,744,35131,363,31955,557,521209,9541,622208,332207,67026.752780.9983614.93390.557320670.03518,800,2245,841,29331,363,31956,004,836212,0021,622210,380209,71826.704810.9215214.93390.515320680.03219,106,6156,022,52631,363,31956,665,856216,1611,622214,539213,87726.494620.7811514.93390.476520690.03019,497,0085,805,52931,363,31956,665,856216,1611,62221														
20620.05116,409,3235,277,15630,765,72152,452,200201,9651,622200,343199,68126,267991.3407614,93390.762320630.04717,211,1425,524,30131,363,31954,098,763203,9321,622202,310201,64826,828291.2662414,93390.704820640.04417,716,2345,685,03431,363,31954,764,587205,9191,622204,297203,63526,893461.1737314,93390.651820650.04018,070,9325,657,89131,363,31955,092,142207,9261,622206,305205,64326,790251.0811714,93390.602720660.03718,449,8515,744,35131,363,31955,57,521209,9541,622208,332207,67026,752780.9983614,93390.557320670.03518,800,2245,841,29331,363,31955,604,836212,0021,622210,380209,71826,704810.9215214,93390.515320680.03219,106,6156,022,52631,363,31956,402,460214,0711,622212,449211,78726,674190.811414,93390.476520690.03019,497,0085,805,52931,363,31956,402,460214,0711,622212,449211,78726,674190.7817514,93390.446620700.02719,913,6516,141,93131,363,31957,418,901218,2721,622216,														
20630.04717,211,1425,524,30131,363,31954,098,763203,9321,622202,310201,64826.828291.2662414.93390.704820640.04417,716,2345,685,03431,363,31954,764,587205,9191,622204,297203,63526.893461.1737314.93390.651820650.04018,070,9325,657,89131,363,31955,092,142207,9261,622206,305205,64326.790251.0811714.93390.602720660.03718,449,8515,744,35131,363,31955,557,521209,9541,622208,332207,67026.752780.9983614.93390.557320670.03518,800,2245,841,29331,363,31955,557,521209,9541,622210,380209,71826.704810.9215214.93390.515320680.03219,106,6156,022,52631,363,31956,492,460214,0711,622212,449211,78726.674190.8511414.93390.476520690.03019,497,0085,805,52931,363,31956,665,856216,1611,622214,539213,87726.494620.7817514.93390.4476520700.02719,913,6516,141,93131,363,31957,418,901218,2721,622216,650215,98826.584320.7253314.93390.4075														
20640.04417,716,2345,685,03431,363,31954,764,587205,9191,622204,297203,63526.893461.1737314.93390.651820650.04018,070,9325,657,89131,363,31955,092,142207,9261,622206,305205,64326.790251.0811714.93390.602720660.03718,449,8515,744,35131,363,31955,57,521209,9541,622208,332207,67026.752780.9983614.93390.557320670.03518,800,2245,841,29331,363,31955,094,836212,0021,622210,380209,71826.704810.9215214.93390.476520680.03219,106,6156,022,52631,363,31956,492,460214,0711,622212,449211,78726.674190.8511414.93390.476520690.03019,497,0085,805,52931,363,31956,665,856216,1611,622214,539213,87726.494620.7817514.93390.440620700.02719,913,6516,141,93131,363,31957,418,901218,2721,622216,650215,98826.584320.7253314.93390.4075														
20650.04018,070,9325,657,89131,363,31955,092,142207,9261,622206,305205,64326.790251.0811714.93390.602720660.03718,449,8515,744,35131,363,31955,557,521209,9541,622208,332207,67026.752780.9983614.93390.557320670.03518,800,2245,841,29331,363,31956,004,836212,0021,622210,380209,71826.704810.9215214.93390.515320680.03219,106,6156,022,52631,363,31956,049,460214,0711,622212,449211,78726.674190.8511414.93390.476520690.03019,497,0085,805,52931,363,31956,665,856216,1611,622214,539213,87726.494620.7817514.93390.440620700.02719,913,6516,141,93131,363,31957,418,901218,2721,622216,650215,98826.584320.7253314.93390.4075														
20660.03718,449,8515,744,35131,363,31955,557,521209,9541,622208,332207,67026,752780.9983614.93390.557320670.03518,800,2245,841,29331,363,31956,004,836212,0021,622210,380209,71826,704810.9215214.93390.515320680.03219,106,6156,022,52631,363,31956,492,460214,0711,622212,449211,78726,674190.8511414.93390.476520690.03019,497,0085,805,52931,363,31956,665,856216,1611,622214,539213,87726,494620.7817514.93390.440620700.02719,913,6516,141,93131,363,31957,418,901218,2721,622216,650215,98826,584320.7253314.93390.4075	2064				31,363,319									
20670.03518,800,2245,841,29331,363,31956,004,836212,0021,622210,380209,71826,704810.9215214.93390.515320680.03219,106,6156,022,52631,363,31956,492,460214,0711,622212,449211,78726,674190.8511414.93390.476520690.03019,497,0085,805,52931,363,31956,665,856216,1611,622214,539213,87726,494620.7817514.93390.440620700.02719,913,6516,141,93131,363,31957,418,901218,2721,622216,650215,98826,584320.7253314.93390.4075	2065	0.040												
2068         0.032         19,106,615         6,022,526         31,363,319         56,492,460         214,071         1,622         212,449         211,787         26,67419         0.85114         14.9339         0.4765           2069         0.030         19,497,008         5,805,529         31,363,319         56,665,856         216,161         1,622         214,539         213,877         26,49462         0.78175         14.9339         0.4406           2070         0.027         19,913,651         6,141,931         31,363,319         57,418,901         218,272         1,622         216,650         215,988         26,58432         0.72533         14.9339         0.4075														
2069         0.030         19,497,008         5,805,529         31,363,319         56,665,856         216,161         1,622         214,539         213,877         26,49462         0.78175         14.9339         0.4406           2070         0.027         19,913,651         6,141,931         31,363,319         57,418,901         218,272         1,622         216,650         215,988         26,58432         0.72533         14,9339         0.4075														
2070         0.027         19,913,651         6,141,931         31,363,319         57,418,901         218,272         1,622         216,650         215,988         26.58432         0.72533         14.9339         0.4075														
<u>193.30643</u> <u>193.30643</u>	2070	0.027	19,913,651	6,141,931	31,363,319	57,418,901	218,272	1,622	216,650	215,988	26.58432		14.9339	
												193.30643		193.30643

\* 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.).

Levelized System Average Electric Rate (cents/kWh) = 14.9339

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

### FEL Plan Analysis: Comparison of Levelized System Average Electric Rates

	<b>x</b> 11 1
	Levelized
	System Average
	Electric Rate
Resource Plan	(cents/kWh)
RIM Plan	14.8311
Supply Only Plan	14.8366
Proposed Plan	14.8485
TRC Plan	14.8849
FEL Plan	14.9339

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#### FEL Plan Analysis: Additional Cost Needed to be Added to FPL's Proposed Plan to Increase its Levelized System Average Electric Rate to That of FEL Plan Analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	(-)	(-)	(2)	(.)	(-)	=(2)+(3)+(4)+(5)	()	(*)	=(7) - (8)	=((6)/(9))/10	=(10)*(1)	()	=(12)*(1)
										((0),())), 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	2.698.824	172,693	10,999,155	0	13,870,672	140,469	113	140,356	9.88250	9.88250	14.9339	14.9339
2025	0.925	2,844,460	378,968	11,341,613	0	14,565,041	141,761	201	141,560	10.28897	9.51415	14.9339	13.8093
2025	0.855	2,955,492	1.015.395	12,296,936	0	16,267,824	142,991	289	142,702	11.39982	9.74752	14.9339	12.7694
2020	0.791	2,531,108	1,531,236	12,934,262	0	16,996,606	144,053	376	143,677	11.82976	9.35341	14.9339	11.8078
2027	0.731	2,340,043	2.012.082	13,212,472	0	17,564,597	145.101	464	144,637	12.14389	8.87871	14.9339	10.9186
2020	0.676	2,068,999	2,481,309	13,591,962	0	18,142,269	146,551	552	145,999	12.42628	8.40100	14.9339	10.0963
2025	0.625	1,550,197	2,893,964	13,974,533	0	18,418,694	148,290	640	147,650	12.47455	7.79853	14.9339	9.3360
2030	0.578	1,163,233	3,308,892	14,390,022	0	18,862,146	149,578	728	148,849	12.67198	7.32539	14.9339	8.6330
2031	0.575	909,703	3,719,379	14,842,757	0	19,471,839	151,677	818	150,860	12.90724	6.89950	14.9339	7.9828
2032	0.333	799,057	4,098,843	15,344,989	0	20,242,889	153,686	908	152,779	13.24982	6.54926	14.9339	7.3817
2033	0.494	846,719	4,696,437	15,895,257	3,740,926	25,179,339	155,678	908	154,679	16.27840	7.44032	14.9339	6.8258
2034	0.437	1,235,907	4,506,974	16,484,421	0	22,227,302	155,078	998	156,717	14.18306	5.99443	14.9339	6.3118
2035	0.423	1,233,907	4,306,974	17,107,511	0	23,151,757	159,679	998	158,681	14.18306	5.70212	14.9339	5.8365
2036	0.391	2,293,857	4,321,798	17,748,649	0	24,229,130	161,502	998	160,503	14.39017	5.45541	14.9339	5.3969
2037	0.334	2,293,837	4,180,024	18,403,005	0	25,793,442	163,154	998	162,156	15.90655	5.31555	14.9339	4.9905
2038	0.334	3,502,023	4,450,104	19,064,579	0	27,016,706	164,627	998	163,629	16.51096	5.10202	14.9339	4.9903
2039	0.309	4,224,490	4,461,454	19,004,579	0	28,427,563	165,935	998	164,937	17.23544	4.92482	14.9339	4.2672
2040	0.286	4,224,490	4,401,434	20,139,168	0	29,438,079	165,955	998	163,920	17.95875	4.92482	14.9339	3.9458
2041	0.264	5,454,498	4,499,155	20,139,108	0	30,506,713	166,511	998	165,513	17.93875	4.50327	14.9339	3.6487
2042	0.244	6,148,262	4,481,980	21,008,142	0		168,119	998	167,121	18.94503	4.30327	14.9339	3.3739
2043	0.226	6,772,594	4,457,055	/ /	0	31,661,132	168,119	998	168,746	19.36800	4.28013	14.9339	3.1199
-				21,453,011		32,682,660		998				14.9339	2.8849
2045	0.193	7,393,400	4,405,548	21,904,944	0	33,703,892	171,385		170,387	19.78082	3.82122	14.9339	
2046	0.179	7,807,402	4,450,236	22,364,049	0	34,621,688	173,042	998	172,044	20.12370	3.59471		2.6677
2047	0.165	8,445,471	4,319,912	22,830,437	0	35,595,819	174,717	998 998	173,719	20.49050	3.38459	14.9339 14.9339	2.4668
2048	0.153	9,145,723	4,339,017	23,304,219	0	36,788,959	176,408		175,410	20.97312	3.20343		2.2810
2049	0.141	9,906,850	4,391,602	23,785,509	0	38,083,960	178,116	998	177,118	21.50197	3.03689	14.9339	2.1092
2050	0.131	10,978,179	4,305,484	24,274,422	0	39,558,085	179,842	998	178,844	22.11875	2.88874	14.9339	1.9504
2051	0.121	11,240,533	4,282,113	24,771,076	0	40,293,722	181,585	998	180,587	22.31260	2.69461	14.9339	1.8035
2052	0.112	11,759,395	4,560,642	25,275,591	0	41,595,629	183,346	998	182,348	22.81111	2.54736	14.9339	1.6677
2053	0.103	12,860,981	4,836,349	25,788,088	0	43,485,418	185,125	998	184,127	23.61711	2.43876	14.9339	1.5421
2054	0.095	13,391,506	4,828,110	26,307,139	0	44,526,756	186,921	998	185,923	23.94898	2.28680	14.9339	1.4260
2055	0.088	13,654,207	4,864,268	26,834,393	0	45,352,869	188,736	998	187,738	24.15751	2.13300	14.9339	1.3186
2056	0.082	14,595,288	5,194,695	27,369,977	0	47,159,960	190,569	998	189,571	24.87715	2.03113	14.9339	1.2193
2057	0.075	14,996,865	5,295,014	27,914,017	0	48,205,896	192,421	998	191,423	25.18290	1.90125	14.9339	1.1275
2058	0.070	15,219,363	5,214,789	28,466,646	0	48,900,799	194,292	998	193,294	25.29871	1.76616	14.9339	1.0426
2059	0.065	15,594,296	5,273,132	29,027,995	0	49,895,423	196,181	998	195,183	25.56339	1.65025	14.9339	0.9641
2060	0.060	15,921,899	5,354,935	29,598,199	0	50,875,033	198,090	998	197,092	25.81288	1.54087	14.9339	0.8915
2061	0.055	16,175,609	5,374,204	30,177,395	0	51,727,208	200,018	998	199,020	25.99102	1.43466	14.9339	0.8243
2062	0.051	16,519,169	5,138,209	30,765,721	0	52,423,099	201,965	998	200,967	26.08543	1.33144	14.9339	0.7623
2063	0.047	17,349,218	5,636,001	31,363,319	0	54,348,538	203,932	998	202,934	26.78137	1.26402	14.9339	0.7048
2064	0.044	17,861,299	5,551,696	31,363,319	0	54,776,315	205,919	998	204,921	26.73043	1.16661	14.9339	0.6518
2065	0.040	18,219,167	5,508,714	31,363,319	0	55,091,201	207,926	998	206,928	26.62331	1.07444	14.9339	0.6027
2066	0.037	18,608,157	5,576,712	31,363,319	0	55,548,188	209,954	998	208,956	26.58368	0.99205	14.9339	0.5573
2067	0.035	18,961,075	5,693,950	31,363,319	0	56,018,344	212,002	998	211,004	26.54846	0.91612	14.9339	0.5153
2068	0.032	19,254,978	5,820,945	31,363,319	0	56,439,243	214,071	998	213,073	26.48823	0.84521	14.9339	0.4765
2069	0.030	19,645,491	6,016,986	31,363,319	0	57,025,797	216,161	998	215,163	26.50356	0.78201	14.9339	0.4406
2070	0.027	20,055,695	5,979,662	31,363,319	0	57,398,677	218,272	998	217,274	26.41767	0.72078	14.9339	0.4075
											193.30643		193.30643

\* 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.).



Docket No. 20240012-EG FEL Plan Analysis: Additional Cost Needed to be Added to FPL's Proposed Plan to Increase its Levelized System Average Electric Rate to That of FEL Plan Analysis Exhibit AWW-20, Page 1 of 1

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

#### FEL Plan Analysis: 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 Resource Plan		RIM Resource Plan		TRC Resource Plan		FEL Plan		
	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	Projected	
	Electric Rate	Customer Bill	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)	(cents/kWh)	(\$/1,000 kWh)	
2024	9.883	\$98.83	9.883	\$98.83	9.883	\$98.83	9.882	\$98.82	9.882	\$98.82	
2025	10.275	\$102.75	10.289	\$102.89	10.276	\$102.76	10.298	\$102.98	10.326	\$103.26	
2026	11.379	\$113.79	11.400	\$114.00	11.383	\$113.83	11.410	\$114.10	11.443	\$114.43	
2027	11.802	\$118.02	11.830	\$118.30	11.805	\$118.05	11.839	\$118.39	11.877	\$118.77	
2028	12.117	\$121.17	12.144	\$121.44	12.119	\$121.19	12.161	\$121.61	12.204	\$122.04	
2029	12.391	\$123.91	12.426	\$124.26	12.398	\$123.98	12.445	\$124.45	12.493	\$124.93	
2030	12.434	\$124.34	12.475	\$124.75	12.441	\$124.41	12.498	\$124.98	12.550	\$125.50	
2031	12.622	\$126.22	12.672	\$126.72	12.634	\$126.34	12.699	\$126.99	12.755	\$127.55	
2032	12.853	\$128.53	12.907	\$129.07	12.862	\$128.62	12.941	\$129.41	13.000	\$130.00	
2033	13.254	\$132.54	13.250	\$132.50	13.206	\$132.06	13.285	\$132.85	13.348	\$133.48	
2034	13.723	\$137.23	13.860	\$138.60	13.686	\$136.86	13.852	\$138.52	13.926	\$139.26	

2) Projection of Average Customer Bill Differentials:

	Bill Differentials for Each Plan Compared to the Supply Only Plan								
	TRC	FEL							
Year	<b>Resource Plan</b>	Resource Plan	<b>Resource Plan</b>	<b>Resource Plan</b>	Plan				
2024	\$0.00	(\$0.01)	(\$0.00)	(\$0.01)	(\$0.01)				
2025	\$0.00	\$0.14	\$0.01	\$0.22	\$0.50				
2026	\$0.00	\$0.20	\$0.04	\$0.30	\$0.63				
2027	\$0.00	\$0.27	\$0.02	\$0.36	\$0.75				
2028	\$0.00	\$0.27	\$0.02	\$0.43	\$0.86				
2029	\$0.00	\$0.36	\$0.07	\$0.55	\$1.02				
2030	\$0.00	\$0.40	\$0.07	\$0.64	\$1.15				
2031	\$0.00	\$0.50	\$0.12	\$0.77	\$1.33				
2032	\$0.00	\$0.54	\$0.09	\$0.88	\$1.47				
2033	\$0.00	(\$0.04)	(\$0.48)	\$0.31	\$0.94				
2034	\$0.00	\$1.37	(\$0.37)	\$1.29	\$2.03				

#### 3) Projection of Annual & 10-Year Total Customer Bill Impacts for 1.000 kWh Usage:

impacts for 1,000 KWit Usage.								
		FEL						
	FPL Proposed Plan vs.	Plan vs.						
	Supply Only	Supply Only						
Year	Plan	Plan						
2024								
2025	\$1.64	\$6.05						
2026	\$2.44	\$7.57						
2027	\$3.27	\$8.94						
2028	\$3.22	\$10.38						
2029	\$4.29	\$12.28						
2030	\$4.83	\$13.86						
2031	\$6.00	\$15.93						
2032	\$6.50	\$17.63						
2033	(\$0.48)	\$11.26						
2034	\$16.44	\$24.41						
Total =	\$48.17	\$128.31						

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