

# Electric Cost of Service Study

City of Lake Worth Beach, Florida



November 2021



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November 17, 2021

The Honorable Mayor and City Commission  
City of Lake Worth Beach  
City Hall, 1900 2<sup>nd</sup> Avenue North  
Lake Worth Beach, Florida 33461

Subject: **Electric Cost of Service Study**

Honorable Mayor and Commissioners:

In keeping with the provisions of the professional services agreement between the City of Lake Worth Beach, Florida (the City) and Leidos Engineering, LLC, (the Consultant) and the direction provided by the City management and staff, the Electric Cost of Service Study (the Report) has been completed. The Report addresses the projected financial operations of the City's electric system (Electric System) for the fiscal years ending September 30, 2020 through 2024. We have summarized our assumptions and the results of our analyses and conclusions in this Report, which we hereby submit for your consideration. This Report summarizes the basis for the proposed rates for electric service that are necessary to meet the projected revenue requirements in the near future and which rates should recover such projected requirements from the customer classes generally in accordance with the direction provided by the City, the guidelines of the Florida Public Service Commission (the PSC) and the results of the allocated cost of service analyses.

In preparing the Electric Cost of Service Study, the Consultant relied upon historical and projected data for the development of operating revenues, operating expenses and capital requirements. Historical data were obtained from various monthly reports, the City's Comprehensive Annual Financial Reports, actual customer billing records, and analyses and discussions with members of the City management and staff. Projected data were, in part, derived from the Electric System's current forecast of demand and energy requirements, the Electric System Operating Budget for Fiscal Year 2020 (the Budget), and detailed information and data compiled and provided by members of the City management and staff.

The projected costs and revenues used in this Report are for the fiscal years ending September 30, 2020 through 2024, and have been developed using the City's Budget as a basis for the projected costs. Such costs and revenues, as initially reflected in the Budget, were adjusted for known or anticipated changes, including recent increases in natural gas costs.

**Leidos Engineering, LLC**

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## SUMMARY OF FINDINGS

### ADEQUACY OF EXISTING RATES

The various adjustments, assumptions and considerations are discussed in Section 2 regarding the projected number of customers, sales, and in Section 3 regarding the projected revenues and expenditures. In the fiscal years ending September 30, 2020 through 2024, the revenue requirements proposed herein include Operation and Maintenance expenses, a transfer to the City's General Fund, capital improvement expenditures, the payment of principal and interest on outstanding indebtedness, and an allowance for contingencies and reserves. Based on the foregoing, the Electric System revenue requirements for fiscal years ending September 30, 2020 through 2024 and the projected revenues, assuming the existing rates, are summarized on the following table:

Description	Projected				
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Net Revenue Requirements	\$58,158,995	\$58,300,746	\$64,422,550	\$62,237,218	\$61,950,862
Total Existing Rate Revenue	58,558,995	58,931,674	59,307,414	59,686,250	60,068,214
Surplus/(Deficiency)	\$400,000	\$630,927	(\$5,115,136)	(\$2,550,968)	(\$1,882,649)
Percent of Base and Fuel Revenue	0.8%	1.2%	-10.0%	-5.0%	-3.6%

As shown above, the existing rates produce revenues that are slightly greater than the projected revenue requirements in the fiscal years ending September 30, 2020 and 2021 and under recover the projected revenue requirements in the fiscal years ending September 30, 2022 through 2024.

Based on the analyses in this Report, the proposed rates represent a realignment of costs allocated among the residential and commercial classes. It is projected that the proposed rates will help to meet the projected revenue requirements for the fiscal year ending September 30, 2022. For certain analyses, the “Test Year” has been identified as the fiscal year ending September 30, 2020.

### COST OF SERVICE RESULTS

The Test Year revenue requirements were allocated to the customer classes based on a cost of service model that functionalizes costs among production, transmission, distribution and customer costs, and classifies costs according to demand related or energy related costs. Production (purchased power) demand related costs were allocated based on the contribution of each class to the average 12 month coincident peak demands and distribution demand related costs were allocated based on the contribution of each class to the annual system peak demand. Section 4 shows the development of allocation factors and Section 5 shows the results of the cost of service analysis.

The results of the cost of service analysis and target adjustments for the fiscal year ending September 30, 2022 are summarized as follows:

Customer Class	Fiscal Year 2022		
	Total Existing Revenue	Target Adjustments	
	(\$000)	(\$000)	(%) [1]
Residential	\$36,200	\$2,896	8.0%
Commercial	16,151	\$808	5.0%
Commercial Demand	6,162	\$308	5.0%
Lighting	700	\$35	5.0%
<b>Total System</b>	<b>\$59,213</b>	<b>\$4,047</b>	<b>6.8%</b>

[1] Percent of existing base rates and PCA revenues.

#### RATE DESIGN

The proposed electric rates shown in Section 6 reflect, to the extent permitted, (i) the lowest possible price consistent with the projected revenue requirements, (ii) the discouragement of wasteful, unnecessary use of service, (iii) the policies of the City, and (iv) the cost of service methodologies recommended by the Florida Public Service Commission (the PSC).

The principal effects of adopting the rates proposed herein would be:

- Rate structures and levels, in general, will be based, in part, on allocated cost of service techniques.
- Fuel and purchased power costs will continue to be shown in a separate charge, the Purchased Power Cost Adjustment (PCA).
- The proposed rates will help to meet the projected revenue requirements for the fiscal year ending September 30, 2022.

#### RATE COMPARISONS

To assist the City in its evaluation and consideration of proposed rate adjustments, included in Table No. 7-1 are comparisons of typical monthly bills for the major rate classifications at various levels of usage. Typical bills calculated under the proposed rates have been compared with bills calculated under the existing rates. In addition, typical monthly bills calculated under the Electric System’s existing and proposed rates have been compared with those calculated under the rates of other Florida investor-owned and municipal electric utilities in Table No. 7-2 for the billing month of January 2021.

When reviewing the comparisons of typical bills, it must be recognized that a substantial portion of the electric bill is comprised of fuel and purchased energy costs. For electric utilities other than the Electric System, the bill comparisons shown reflect fuel costs that were estimated in early 2021 and may not reflect actual current market prices for gas, oil and purchased energy.

As shown on Table No. 7-1, typical residential customers' bills under the proposed rates are approximately 8 percent higher than the existing rates, and typical commercial customers' bills can be expected to increase by approximately 5 percent on average.

## CONCLUSIONS

Based upon the results of our studies and analyses as summarized in this Report, which should be read in its entirety in conjunction with the following, and upon the numerous underlying assumptions and considerations relied upon in making such analyses and incorporated by reference herein, and the data and information provided by the City's management and staff and others, we are of the opinion that:

- (i) The existing rates produce revenues that are approximately equal to the projected revenue requirements in the fiscal years ending September 30, 2020 through 2021 and under recover the projected revenue requirements in the fiscal years ending September 30, 2022 through 2024;
- (ii) The proposed rates reflect a realignment of costs among the residential and commercial rate classes, and are projected to help meet the revenue requirements for the fiscal year ending September 30, 2022.
- (iii) The City should consider adopting the proposed rates shown in Section 6.
- (iv) The City should consider establishing a Rate Stabilization Fund to mitigate fluctuations in purchased power costs.
- (v) The City's existing and proposed rates are comparable to other Florida electric utilities;
- (vi) The City may want to investigate additional rate offerings such as an Economic Development Rider, Residential Time of Use Rate, Solar Subscription Rate, or Electric Vehicle Rate;
- (vii) The City should continue to monitor the cost of purchased power and current market conditions and should make adjustments, if necessary, to its power cost recovery factor to reflect such costs and conditions and to minimize the potential to under recover or over recover its fuel costs; and
- (viii) The City should consider submitting this Report, together with other appropriate filing requirements, to the PSC.

We are prepared to present our analyses and proposed rates to the City Commission and to assist the City with public meetings, with PSC filing requirements, and with presentations in connection with the adoption and implementation of the proposed rates.

The Honorable Mayor and City Commission  
City of Lake Worth Beach  
November 17, 2021  
Page 5

We want to take this opportunity to express our appreciation for the spirited cooperation and valuable assistance given us throughout the course of this study by each member of the City management and staff.

Respectfully submitted,

***LEIDOS ENGINEERING, LLC***

# Electric Cost of Service Study

## City of Lake Worth Beach, Florida

### Table of Contents

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#### *Table of Contents* *List of Tables*

<b>Section 1 INTRODUCTION, PURPOSE, AND SCOPE.....</b>	<b>1-1</b>
Introduction .....	1-1
Purpose .....	1-1
Scope .....	1-1
<b>Section 2 ENERGY REQUIREMENTS AND CUSTOMER STATISTICS .....</b>	<b>2-1</b>
General .....	2-1
Energy Requirements .....	2-1
Customer Statistics .....	2-3
<b>Section 3 REVENUE REQUIREMENTS.....</b>	<b>3-1</b>
General .....	3-1
Projected Revenue Requirements.....	3-2
Assumptions and Considerations .....	3-2
<b>Section 4 FUNCTIONALIZATION AND CLASSIFICATION OF COSTS AND DEVELOPMENT OF ALLOCATION FACTORS.....</b>	<b>4-1</b>
Functionalization and Classification .....	4-1
Development of Allocation Factors.....	4-2
<b>Section 5 ALLOCATED COST OF SERVICE.....</b>	<b>5-1</b>
General .....	5-1
Present and Proposed Rate Classifications.....	5-1
Allocation and Assignment of the Cost of Service .....	5-1
<b>Section 6 RATE DESIGN.....</b>	<b>6-1</b>
General Rate Design Criteria.....	6-1
Proposed Rates .....	6-1
Rate Stabilization Fund .....	6-2
Power Cost Adjustment.....	6-2
Summary.....	6-2
<b>Section 7 RATE COMPARISONS .....</b>	<b>7-1</b>
General .....	7-1
Existing and Proposed Rates .....	7-1
Comparisons with Other Utilities.....	7-1

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## Table of Contents

---

### List of Tables

Table No. 2-1	Historical and Projected Customers, Billing Demand, and Energy Sales
Table No. 2-2	Annual Billing Determinants Fiscal Year Ending September 30, 2020
Table No. 3-1	Summary of Projected Revenue Requirements and Existing Rate Revenues
Table No. 3-2	Projected Revenues at Existing Rates
Table No. 3-3	Summary of Other Electric Revenues
Table No. 3-4	Calculation of Power Cost Adjustment
Table No. 4-1	Functionalization of Test Year 2020 Projected Revenue Requirements
Table No. 4-2	Development of Demand Allocation Factors
Table No. 4-3	Summary of Energy Allocation Factors
Table No. 4-4	Summary of Customer Allocation Factors
Table No. 4-5	Comparison of Load Research Results
Table No. 5-1	Allocated Cost of Service Summary
Table No. 5-2	Functionalization and Classification of Test Year Revenue Requirements
Table No. 5-3	Results of the Cost of Service Analysis
Table No. 5-4	Calculation of Fixed Costs per Customer
Table No. 6-1	Rate Summary
Table No. 6-2	Projected Revenues at Proposed Rates
Table No. 7-1	Comparison of Existing and Proposed Rates
Table No. 7-2	Inter-Utility Comparison of Typical Monthly Electric Bills

# Section 1

## INTRODUCTION, PURPOSE, AND SCOPE

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### Introduction

The City of Lake Worth Beach (City), located in south Florida, operates a municipal utility system serving 473,590 MWh in 2019 with a system peak load of 97.2 MW. Lake Worth Beach currently meets its load requirements using a variety of resources, including self-owned and self-operated on-site generation assets and off-site resources as a member of Florida Municipal Power Agency (FMPA). As a participant in FMPA Projects, the City benefits from the associated capacity and energy (Generation Entitlements) to meet its customers' load requirements.

Leidos Engineering, LLC, (the Consultant or the firm) conducted this study, which relied upon historical and projected data for the development of operating revenues, operating expenses, and capital requirements. Historical data was obtained from various monthly reports, annual financial reports, actual billing records, analyses, and discussions with members of the management and staff of the City. Projected data was, in part, derived from historical data adjusted for current economic conditions, the Operating Budget for Fiscal Year ending September 30, 2020 and the Capital Improvement Plan for Fiscal Years 2020 through 2024, the City's demand and energy forecasts (including the effects of conservation), the various contracts, and the direction and instructions provided by the City, and other appropriate sources.

### Purpose

The primary purposes of the Electric Rate Study are:

1. To determine the estimated annual revenue requirements for the Fiscal Year ending September 30, 2020, as adjusted for known changes (the Test Year); and Fiscal Years ending September 30, 2021 through 2024 (Study Period).
2. To test the adequacy of the existing rates on a system wide basis for the Fiscal Years 2020 through 2024;
3. To prepare a cost of service analysis to estimate the cost of providing electric service by customer class;
4. To adjust rate levels, if necessary, in order to recover the cost of providing service, and to reflect the policies established by the City; and
5. To continue to recover periodically the costs of purchased power.

### Scope

The overall scope of services of the Electric Rate Study provided for (i) the development of a revenue requirements study for the Test Year and Study Period; (ii) the development

## Section 1

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of proposed rate levels and rate structures that are designed to recover the revenue requirements for the Test Year and Study Period which reflect the City's policy and industry practices; and (iii) the development of comparisons of typical bills for electric service calculated using the existing and proposed rates and the rates charged by neighboring private and public electric utilities.

The Electric Rate Study consists of two parts or phases. The results are presented in this report. Working closely with management and staff, Phase I activities included, among other things, (i) obtaining and reviewing historical billing data, (ii) reconciling such data, (iii) identifying the proper sales forecast to use for purposes of projecting rate revenues and costs (iv) projecting billing determinants in order to calculate the effect on revenues based on revised rates, (v) preparing projections of revenues by major customer class, (vi) developing projected annual revenue requirements for the Test Year and Study Period, (vii) preparing a comparison of the City's existing rates and the rates of other utilities, and (viii) preparing a Phase I report.

Phase II includes (i) the making of revisions to the revenue requirements, (ii) the affirmation of City policies and direction, (iii) the allocation of costs, (iv) the design of proposed rates, and (v) the preparation of a final report.

## ENERGY REQUIREMENTS AND CUSTOMER STATISTICS

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### General

The development of an accurate forecast of future power and energy requirements, sales, customers, and customer usage characteristics, is essential in the evaluation of the adequacy of electric rates and rate structures. This section summarizes the various factors considered and utilized in the development of the City's near term future power and energy requirements.

The estimates of energy and demand requirements developed for inclusion in this study were based on historical sales, customers, and customer usage characteristics.

### Energy Requirements

#### Projection of Electricity Sales to Ultimate Customers

The projections of electric energy sales to ultimate customers are based on an analysis of historical information for the fiscal year ended September 30, 2019. Historical growth, usage patterns, and normalized weather were tested for reasonableness.

Based on information filed with the Energy Information Administration (EIA) and information provided by the City, the following tables show the historical number of residential and commercial customers and residential and commercial energy sales.

Historical Number of Customers			
Fiscal Year	Residential	Commercial	Total
2014	22,179	3,648	25,827
2015	22,830	3,728	26,558
2016	23,053	3,739	26,792
2017	23,357	3,748	27,105
2018	23,399	3,746	27,145
2019	23,528	3,748	27,276
2020	23,758	3,763	27,520

Historical Retail Energy Sales (MWh)			
Fiscal Year	Residential	Commercial	Total
2014	195,937	177,660	373,597
2015	225,813	204,532	430,345
2016	254,734	180,024	434,758
2017	244,928	183,819	428,747
2018	253,196	179,990	433,186
2019	260,305	179,662	439,967
2020	264,974	169,047	434,021

Based on information provided by the City, it was projected that the reported number of customers and kWh sales would increase by 0.5% annually for the projected fiscal year 2021, and Study Period.

## Projected Demand

The historical system peak demand for the fiscal year ending September 30, 2019 was 97.2 MW. For purposes of this Study, it was projected that the system peak demand the Test Year would be 96.8 MW.

## Projected Energy Sales

The monthly system historical and projected energy sales are set forth in Table No. 2-1, page 2. The following tabulation is an annual summary of the historical and projected energy sales by major customer class:

Retail Energy Sales (MWh)			
Fiscal Year	Residential	Commercial	Total
Historical 2019	260,305	179,662	439,967
Historical 2020	264,974	169,047	434,021
Projected 2021	268,937	165,635	434,572

As can be seen from the summary table, energy sales in fiscal years ended September 30, 2019 were 439,967 MWh and 434,021 MWh in Fiscal Year 2020. Sales in Fiscal Year 2021 and the Study Period are based on a projected annual growth rate of 0.5 percent.

## Projected Average Number of Customers

An integral part of the forecasting process is the average number of customers the City expects to serve by major customer class. The detailed historical and projected customers are set forth on Table No. 2-1, page 1. The following is a summary of the historical and projected average number of customers used as a basis for this study:

<b>Average Number of Customers</b>			
<b>Fiscal Year</b>	<b>Residential</b>	<b>Commercial</b>	<b>Total</b>
Historical 2019	23,528	3,748	27,276
Historical 2020	23,758	3,763	27,520
Projected 2021	24,070	3,842	27,911

## **Purchased Power**

The City purchases capacity and energy requirements from a variety of sources, including the FMPA.

## **Energy Losses**

The loss factors utilized in developing the projected energy requirements for the Test Year are 7.3 percent of annual energy requirements and 7.8 percent of energy sales. This factor is used to take into account transmission and distribution losses and unaccounted for energy and demand.

## **Summary of Projected Demand and Energy Requirements**

The following tabulation sets forth the projected annual peak demand at the generation level, energy requirements and the system load factor used in this study:

<b>Description</b>	<b>2020 Test Year</b>
Annual 60-Minute Peak Demand (MW)	96.8
Annual Energy Sales (MWh)	434,021
Losses and Unaccounted for Energy (MWh)	<u>33,854</u>
Annual Energy Requirements (MWh)	<u>467,875</u>
Annual System Load Factor (%)	<u>55.2</u> %

## **Customer Statistics**

Projected customer statistics by major rate classification are set forth on Table No. 2-1 and No. 2-2. Table No. 2-1 sets forth for fiscal years ending September 30, 2019, 2020 and 2021 the historical and projected number of customers and energy sales. Table No. 2-2 sets forth the projected annual billing determinants by major rate classes for fiscal year 2020. The projected average annual number of customers and annual energy sales for the fiscal year ending September 30, 2020 incorporate the following considerations:

- i. continuation of recent historical sales and/or usage characteristics;
- ii. continuation of past, present, and projected conservation and demand-side management programs; and

## Section 2

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iii. continuation of the existing regulatory structure.

Any departure from those assumptions (e.g., change in economic activity) could have a material adverse effect on energy sales and revenues.

As derived from Table No. 2-1 and No. 2-2, the projected fiscal year 2020 composition of the City's ultimate customers and associated energy sales by major rate classification is tabulated below:

<b>Customer Class</b>	<b>Test Year 2020</b>			
	<b>Average Number of Customers</b>	<b>Percent of Total</b>	<b>Annual MWh Sales</b>	<b>Percent of Total</b>
Residential	23,758	86.3%	264,974	61.1%
Commercial	3,128	11.4%	115,953	26.7%
Commercial Demand	85	0.3%	49,286	11.4%
Lighting	550	2.0%	3,808	0.9%
<b>Total Customers and MWh Sales</b>	<b>27,520</b>	<b>100.0%</b>	<b>434,021</b>	<b>100.0%</b>

CITY OF LAKE WORTH BEACH, FLORIDA  
Electric Cost of Service Study

Historical and Projected Customers  
Fiscal Years 2019-2021

Ln. No.	Customer Classes (a)	Oct (b)	Nov (c)	Dec (d)	Jan (e)	Feb (f)	Mar (g)	Apr (h)	May (i)	Jun (j)	Jul (k)	Aug (l)	Sep (m)	Total (n)	Average (o)
<b>Historical FY 2019</b>															
<b>Regular Residential (Schedule R-S)</b>															
1	Residential (Regular)	23,474	23,322	23,408	23,401	23,395	23,462	23,502	23,498	23,431	23,607	23,651	23,464	281,615	23,468
2	Residential Net Metering	0	0	0	71	78	77	78	82	83	81	86	87	723	60
3	<b>Subtotal Residential</b>	<b>23,474</b>	<b>23,322</b>	<b>23,408</b>	<b>23,472</b>	<b>23,473</b>	<b>23,539</b>	<b>23,580</b>	<b>23,580</b>	<b>23,514</b>	<b>23,688</b>	<b>23,737</b>	<b>23,551</b>	<b>282,338</b>	<b>23,528</b>
<b>Regular Commercial (Schedule C-S)</b>															
4	Commercial (Regular)	3,117	3,104	3,113	3,115	3,089	3,136	3,105	3,123	3,108	3,124	3,118	3,101	37,353	3,113
5	Commercial Net Metering	0	0	0	5	6	6	7	4	4	8	8	8	56	5
6	<b>Subtotal Commercial</b>	<b>3,117</b>	<b>3,104</b>	<b>3,113</b>	<b>3,120</b>	<b>3,095</b>	<b>3,142</b>	<b>3,112</b>	<b>3,127</b>	<b>3,112</b>	<b>3,132</b>	<b>3,126</b>	<b>3,109</b>	<b>37,409</b>	<b>3,117</b>
7	<b>Demand Commercial (Schedule CD-S)</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>1,020</b>	<b>85</b>
<b>Lighting</b>															
8	Private Area Lighting	539	530	537	539	531	534	534	539	534	537	536	543	6,433	536
9	Street Lighting	9	9	9	9	9	9	9	9	9	9	9	9	108	9
10	<b>Subtotal Lighting</b>	<b>548</b>	<b>539</b>	<b>546</b>	<b>548</b>	<b>540</b>	<b>543</b>	<b>543</b>	<b>548</b>	<b>543</b>	<b>546</b>	<b>545</b>	<b>552</b>	<b>6,541</b>	<b>545</b>
11	<b>TOTAL CUSTOMERS</b>	<b>27,224</b>	<b>27,050</b>	<b>27,152</b>	<b>27,225</b>	<b>27,193</b>	<b>27,309</b>	<b>27,320</b>	<b>27,340</b>	<b>27,254</b>	<b>27,451</b>	<b>27,493</b>	<b>27,297</b>	<b>327,308</b>	<b>27,276</b>
<b>Historical FY 2020</b>															
<b>Regular Residential (Schedule R-S)</b>															
12	Residential (Regular)	23,647	23,528	23,582	23,664	23,645	23,760	23,727	23,651	23,663	23,716	23,600	23,675	283,858	23,655
13	Residential Net Metering	94	92	96	97	100	99	103	106	107	110	111	117	1,232	103
14	<b>Subtotal Residential</b>	<b>23,741</b>	<b>23,620</b>	<b>23,678</b>	<b>23,761</b>	<b>23,745</b>	<b>23,859</b>	<b>23,830</b>	<b>23,757</b>	<b>23,770</b>	<b>23,826</b>	<b>23,711</b>	<b>23,792</b>	<b>285,090</b>	<b>23,758</b>
<b>Regular Commercial (Schedule C-S)</b>															
15	Commercial (Regular)	3,099	3,109	3,101	3,106	3,092	3,121	3,127	3,125	3,107	3,145	3,142	3,151	37,425	3,119
16	Commercial Net Metering	8	8	8	9	9	9	9	9	9	9	9	9	105	9
17	<b>Subtotal Commercial</b>	<b>3,107</b>	<b>3,117</b>	<b>3,109</b>	<b>3,115</b>	<b>3,101</b>	<b>3,130</b>	<b>3,136</b>	<b>3,134</b>	<b>3,116</b>	<b>3,154</b>	<b>3,151</b>	<b>3,160</b>	<b>37,530</b>	<b>3,128</b>
18	<b>Demand Commercial (Schedule CD-S)</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>1,020</b>	<b>85</b>
<b>Lighting</b>															
19	Private Area Lighting	542	542	538	537	537	539	543	540	539	545	542	548	6,492	541
20	Street Lighting	9	9	9	9	9	9	9	9	9	9	9	9	108	9
21	<b>Subtotal Lighting</b>	<b>551</b>	<b>551</b>	<b>547</b>	<b>546</b>	<b>546</b>	<b>548</b>	<b>552</b>	<b>549</b>	<b>548</b>	<b>554</b>	<b>551</b>	<b>557</b>	<b>6,600</b>	<b>550</b>
22	<b>TOTAL CUSTOMERS</b>	<b>27,484</b>	<b>27,373</b>	<b>27,419</b>	<b>27,507</b>	<b>27,477</b>	<b>27,622</b>	<b>27,603</b>	<b>27,525</b>	<b>27,519</b>	<b>27,619</b>	<b>27,498</b>	<b>27,594</b>	<b>330,240</b>	<b>27,520</b>



CITY OF LAKE WORTH BEACH, FLORIDA  
Electric Cost of Service Study

Historical and Projected Customers  
*Fiscal Years 2019-2021*

Ln. No.	Customer Classes (a)	Oct (b)	Nov (c)	Dec (d)	Jan (e)	Feb (f)	Mar (g)	Apr (h)	May (i)	Jun (j)	Jul (k)	Aug (l)	Sep (m)	Total (n)	Average (o)
<b>Projected FY 2021</b>															
<b>Regular Residential (Schedule R-S)</b>															
23	Residential (Regular)	23,768	23,742	23,931	23,815	23,848	23,902	24,015	24,025	24,035	24,045	24,055	24,065	287,246	23,937
24	Residential Net Metering	121	126	127	128	131	133	137	137	137	137	137	137	1,588	132
25	<b>Subtotal Residential</b>	<b>23,889</b>	<b>23,868</b>	<b>24,058</b>	<b>23,943</b>	<b>23,979</b>	<b>24,035</b>	<b>24,152</b>	<b>24,162</b>	<b>24,172</b>	<b>24,182</b>	<b>24,192</b>	<b>24,202</b>	<b>288,834</b>	<b>24,070</b>
<b>Regular Commercial (Schedule C-S)</b>															
26	Commercial (Regular)	3,157	3,193	3,183	3,174	3,178	3,179	3,196	3,196	3,196	3,196	3,196	3,196	38,240	3,187
27	Commercial Net Metering	10	10	10	10	10	10	10	10	10	10	10	10	120	10
28	<b>Subtotal Commercial</b>	<b>3,167</b>	<b>3,203</b>	<b>3,193</b>	<b>3,184</b>	<b>3,188</b>	<b>3,189</b>	<b>3,206</b>	<b>3,206</b>	<b>3,206</b>	<b>3,206</b>	<b>3,206</b>	<b>3,206</b>	<b>38,360</b>	<b>3,197</b>
29	<b>Demand Commercial (Schedule CD-S)</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>85</b>	<b>1,020</b>	<b>85</b>
<b>Lighting</b>															
30	Private Area Lighting	553	546	545	546	546	554	554	554	554	554	554	554	6,614	551
31	Street Lighting	9	9	10	9	9	9	9	9	9	9	9	9	109	9
32	<b>Subtotal Lighting</b>	<b>562</b>	<b>555</b>	<b>555</b>	<b>555</b>	<b>555</b>	<b>563</b>	<b>563</b>	<b>563</b>	<b>563</b>	<b>563</b>	<b>563</b>	<b>563</b>	<b>6,723</b>	<b>560</b>
33	<b>TOTAL CUSTOMERS</b>	<b>27,703</b>	<b>27,711</b>	<b>27,891</b>	<b>27,767</b>	<b>27,807</b>	<b>27,872</b>	<b>28,006</b>	<b>28,016</b>	<b>28,026</b>	<b>28,036</b>	<b>28,046</b>	<b>28,056</b>	<b>334,937</b>	<b>27,911</b>

\* Historical amounts through April 2021 provided by the City and remaining FY2021 months estimated using 0.5% projected residential growth.

CITY OF LAKE WORTH BEACH, FLORIDA  
Electric Cost of Service Study

Historical and Projected Energy Sales (kWh)  
Fiscal Years 2019-2021

Ln. No.	Customer Classes (a)	Oct (b)	Nov (c)	Dec (d)	Jan (e)	Feb (f)	Mar (g)	Apr (h)	May (i)	Jun (j)	Jul (k)	Aug (l)	Sep (m)	Total (n)	Average (o)
<b>Historical FY 2019</b>															
<b>Regular Residential (Schedule R-S)</b>															
1	Residential (Regular)	27,512,330	23,176,876	17,372,046	16,019,712	14,266,563	16,493,207	16,536,972	21,358,775	25,785,557	27,015,766	28,276,368	26,016,577	259,830,749	21,652,562
2	Residential Net Metering	0	0	0	38,675	24,881	33,142	31,093	43,170	47,074	78,105	89,679	88,587	474,406	39,534
3	<b>Subtotal Residential</b>	27,512,330	23,176,876	17,372,046	16,058,387	14,291,444	16,526,349	16,568,065	21,401,945	25,832,631	27,093,871	28,366,047	26,105,164	260,305,155	21,692,096
<b>Regular Commercial (Schedule C-S)</b>															
4	Commercial (Regular)	12,742,432	11,490,716	9,329,240	8,697,885	8,343,637	9,197,057	9,060,828	10,787,044	11,541,895	11,412,080	12,157,110	11,384,156	126,144,080	10,512,007
5	Commercial Net Metering	0	0	0	7,580	19,403	14,200	15,920	17,580	22,760	28,159	33,662	31,636	190,900	15,908
6	<b>Subtotal Commercial</b>	12,742,432	11,490,716	9,329,240	8,705,465	8,363,040	9,211,257	9,076,748	10,804,624	11,564,655	11,440,239	12,190,772	11,415,792	126,334,980	10,527,915
7	<b>Demand Commercial (Schedule CD-S)</b>	4,589,459	4,482,597	3,656,680	3,726,406	3,552,872	3,490,700	3,556,593	4,077,286	4,631,304	4,501,099	4,812,655	4,485,084	49,562,735	4,130,228
<b>Lighting</b>															
8	Private Area Lighting	100,930	99,672	100,564	101,174	100,230	100,432	100,532	100,822	100,828	101,772	101,634	102,176	1,210,766	100,897
9	Street Lighting	212,810	212,810	212,810	212,810	212,810	212,810	212,810	212,810	212,810	212,810	212,810	212,810	2,553,720	212,810
10	<b>Subtotal Lighting</b>	313,740	312,482	313,374	313,984	313,040	313,242	313,342	313,632	313,638	314,582	314,444	314,986	3,764,486	313,707
11	<b>TOTAL ENERGY SALES</b>	45,157,961	39,462,671	30,671,340	28,804,242	26,520,396	29,541,548	29,514,748	36,597,487	42,342,228	43,349,791	45,683,918	42,321,026	439,967,356	36,663,946
<b>Historical FY 2020</b>															
<b>Regular Residential (Schedule R-S)</b>															
12	Residential (Regular)	25,581,857	22,673,609	16,632,869	16,318,036	14,778,853	16,359,464	21,034,935	22,118,591	23,711,330	28,382,026	27,076,413	29,327,150	263,995,133	21,999,594
13	Residential Net Metering	79,999	88,014	38,768	57,705	45,334	45,399	66,558	76,872	106,337	117,025	115,786	141,111	978,908	81,576
14	<b>Subtotal Residential</b>	25,661,856	22,761,623	16,671,637	16,375,741	14,824,187	16,404,863	21,101,493	22,195,463	23,817,667	28,499,051	27,192,199	29,468,261	264,974,041	22,081,170
<b>Regular Commercial (Schedule C-S)</b>															
15	Commercial (Regular)	11,737,967	10,793,914	9,137,961	8,801,693	8,384,596	9,224,617	8,816,243	7,843,706	9,086,543	10,588,744	10,077,301	10,981,931	115,475,216	9,622,935
16	Commercial Net Metering	30,623	32,611	26,344	29,654	35,760	33,361	40,891	42,123	45,734	52,477	51,571	56,310	477,459	39,788
17	<b>Subtotal Commercial</b>	11,768,590	10,826,525	9,164,305	8,831,347	8,420,356	9,257,978	8,857,134	7,885,829	9,132,277	10,641,221	10,128,872	11,038,241	115,952,675	9,662,723
18	<b>Demand Commercial (Schedule CD-S)</b>	4,507,729	4,284,893	3,801,114	3,978,279	3,674,724	3,811,177	4,004,282	3,756,058	4,191,759	4,396,329	4,405,591	4,473,877	49,285,812	4,107,151
<b>Lighting</b>															
19	Private Area Lighting	106,270	105,048	103,742	103,970	103,900	103,766	105,818	104,196	104,246	105,076	103,820	104,098	1,253,950	104,496
20	Street Lighting	212,810	212,810	212,810	212,810	212,810	212,898	212,898	212,898	212,898	212,898	212,898	212,898	2,554,336	212,861
21	<b>Subtotal Lighting</b>	319,080	317,858	316,552	316,780	316,710	316,664	318,716	317,094	317,144	317,974	316,718	316,996	3,808,286	317,357
22	<b>TOTAL ENERGY SALES</b>	42,257,255	38,190,899	29,953,608	29,502,147	27,235,977	29,790,682	34,281,625	34,154,444	37,458,847	43,854,575	42,043,380	45,297,375	434,020,814	36,168,401

CITY OF LAKE WORTH BEACH, FLORIDA  
Electric Cost of Service Study

Historical and Projected Energy Sales (kWh)  
Fiscal Years 2019-2021

Ln. No.	Customer Classes (a)	Oct (b)	Nov (c)	Dec (d)	Jan (e)	Feb (f)	Mar (g)	Apr (h)	May (i)	Jun (j)	Jul (k)	Aug (l)	Sep (m)	Total (n)	Average (o)
<b>Projected FY 2021</b>															
<b>Regular Residential (Schedule R-S)</b>															
23	Residential (Regular)	25,872,026	24,031,892	19,817,202	16,662,623	14,674,480	16,832,990	18,481,380	22,229,184	23,829,887	28,523,936	27,211,795	29,473,786	267,641,181	22,303,432
24	Residential Net Metering	131,201	143,169	87,824	75,828	55,739	57,624	54,991	99,353	136,151	145,749	142,907	165,233	1,295,769	107,981
25	<b>Subtotal Residential</b>	<b>26,003,227</b>	<b>24,175,061</b>	<b>19,905,026</b>	<b>16,738,451</b>	<b>14,730,219</b>	<b>16,890,614</b>	<b>18,536,371</b>	<b>22,328,537</b>	<b>23,966,038</b>	<b>28,669,685</b>	<b>27,354,702</b>	<b>29,639,018</b>	<b>268,936,950</b>	<b>22,411,412</b>
<b>Regular Commercial (Schedule C-S)</b>															
26	Commercial (Regular)	10,682,709	11,006,391	9,318,144	7,779,003	7,321,101	8,270,695	9,061,479	7,843,706	9,086,543	10,588,744	10,077,301	10,981,931	112,017,747	9,334,812
27	Commercial Net Metering	52,469	53,665	45,176	40,164	34,838	37,068	38,601	42,123	45,734	52,477	51,571	56,310	550,196	45,850
28	<b>Subtotal Commercial</b>	<b>10,735,178</b>	<b>11,060,056</b>	<b>9,363,320</b>	<b>7,819,167</b>	<b>7,355,939</b>	<b>8,307,763</b>	<b>9,100,080</b>	<b>7,885,829</b>	<b>9,132,277</b>	<b>10,641,221</b>	<b>10,128,872</b>	<b>11,038,241</b>	<b>112,567,943</b>	<b>9,380,662</b>
29	<b>Demand Commercial (Schedule CD-S)</b>	<b>4,507,729</b>	<b>4,284,893</b>	<b>3,801,114</b>	<b>3,978,279</b>	<b>3,674,724</b>	<b>3,811,177</b>	<b>4,004,282</b>	<b>3,756,058</b>	<b>4,191,759</b>	<b>4,396,329</b>	<b>4,405,591</b>	<b>4,473,877</b>	<b>49,285,812</b>	<b>4,107,151</b>
<b>Lighting</b>															
30	Private Area Lighting	105,850	102,510	102,374	102,336	101,844	102,900	102,626	102,626	102,626	102,626	102,626	102,626	1,233,570	102,798
31	Street Lighting	212,898	212,898	211,666	212,282	212,282	212,282	212,282	212,282	212,282	212,282	212,282	212,282	2,548,000	212,333
32	<b>Subtotal Lighting</b>	<b>318,748</b>	<b>315,408</b>	<b>314,040</b>	<b>314,618</b>	<b>314,126</b>	<b>315,182</b>	<b>314,908</b>	<b>314,908</b>	<b>314,908</b>	<b>314,908</b>	<b>314,908</b>	<b>314,908</b>	<b>3,781,570</b>	<b>315,131</b>
33	<b>TOTAL ENERGY SALES</b>	<b>41,564,882</b>	<b>39,835,418</b>	<b>33,383,500</b>	<b>28,850,515</b>	<b>26,075,008</b>	<b>29,324,736</b>	<b>31,955,641</b>	<b>34,285,332</b>	<b>37,604,982</b>	<b>44,022,143</b>	<b>42,204,073</b>	<b>45,466,044</b>	<b>434,572,275</b>	<b>36,214,356</b>

\* Historical amounts through April 2021 provided by the City and remaining FY2021 months estimated using 0.5% projected growth.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Projected Annual Billing Determinants**  
**Fiscal Year Ending September 30, 2020**

Ln. No.	Customer Class Description	Number of Bills	Billing Demand (kW)	Energy Sales (kWh)
	(a)	(b)	(c)	(d)
1	Residential Regular	283,858	0	263,995,133
2	Residential Net Metering	1,232	0	978,908
3	<b>Total Residential</b>	285,090	0	264,974,041
4	Commercial Regular	37,425	0	115,475,216
5	Commercial Net Metering	105	0	477,459
6	<b>Total Commercial</b>	37,530	0	115,952,675
7	<b>Commercial Service Demand</b>	1,020	104,476	49,285,812
8	<b>Lighting</b>	6,600	0	3,808,286
9	<b>TOTAL Residential Service</b>	285,090	0	264,974,041
10	<b>TOTAL Commercial Service</b>	37,530	0	115,952,675
11	<b>TOTAL Commercial Service Demand</b>	1,020	104,476	49,285,812
12	<b>TOTAL Lighting</b>	6,600	0	3,808,286
13	<b>TOTAL SYSTEM</b>	<b>330,240</b>	<b>104,476</b>	<b>434,020,814</b>

## Section 3

# REVENUE REQUIREMENTS

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### General

The various components of costs associated with the operation, maintenance, funding of improvements, renewal and replacement of facilities, and assurance of the adequacy and continuity of reliable service to customers are generally referred to as the revenue requirements of a municipally owned and operated utility. The determination of the revenue requirements as they relate to the City, consistent with the methods of other publicly owned utilities, includes the various generalized cost components described below.

***Operation and Maintenance Expenses:*** These expenses include the cost of purchased power, labor, materials, supplies, transportation, services, and other expenses, which are necessary to the operation and maintenance of the Electric Utility. These expenses do not include an allowance for depreciation or replacement of capital assets, any monies for the payment of interest on indebtedness or any monies transferred to a Reserve Fund.

***Debt Service:*** Included in the debt service component of cost is the annual principal of and interest on bonds and related costs/transfers payable from the net revenues.

***Capital Improvements:*** These expenditures are for the purpose of paying the cost of construction or acquisition of necessary improvements, betterments, extensions, enlargements or additions to, or the renewal and replacement of capital assets of the system and for unusual or extraordinary repairs thereto.

***Revenues Available for Other Lawful Purposes:*** This component of cost is paid out of revenues and includes (a) any additional capital improvements to be financed from revenues; (b) additional working cash to provide for the payment of expenses incurred in providing service prior to the receipt of revenues associated with such service; (c) the establishment of operating reserves for special purposes such as providing funds for self-insuring the facilities against certain perils and for the stabilization of rates to smooth out rate increases and minimize customer rate shock, (d) transfers of certain amounts of revenues from the earnings of the Electric Utility to the City; and (e) allowances for any other lawful purpose.

***Revenue Credits:*** In the determination of projected annual costs, adjustments should be made to reflect among other things, (a) the receipt of revenues from the investment of monies, and (b) the receipt of revenues from other operating sources such as the rental of land, the use of poles and the sale of scrap. The recognition of these revenue credits reduces the overall annual revenue requirement from electric rates to ultimate customers.

***Total Annual Net Revenue Requirements:*** The total of the cost components described above less other income and other operating revenues is the total annual net revenue

requirements and such total represents the amount of revenues required to be recovered through rates and charges to ultimate customers.

### **Projected Revenue Requirements**

Electric rates should be set at a level such that the revenues produced will be sufficient to meet near future revenue requirements. An important objective of a projected test year is to establish rates and rate levels that will also reflect the then current and near future costs of providing service and market conditions. Thus, it is necessary to estimate or project the various cost components over a reasonable period of time in order to determine the required rate levels. Projections must consider changes in operating practices, new facilities, increased regulatory (environmental) costs, expected changes in cost, and other factors that may affect the overall cost of operating and maintaining the utility system.

It was determined that the revenue requirements for this Electric Cost of Service Study would be predicated on the budgeted costs of the Electric Utility for the fiscal year ending September 30, 2020. The budgeted expenditures were used as a baseline in the development of the projections of the annual revenue requirements for the fiscal period ending September 30, 2020 through 2024. Based upon that detailed data and certain adjustments to reflect any known and anticipated changes and certain pro forma adjustments, the Consultant, together with members of the management and staff of the City, developed detailed estimates of projected expenditures for the fiscal years 2020 through 2024.

### **Assumptions and Considerations**

The development of the projected revenue requirements for the Test Year required certain assumptions and considerations in order to reflect certain known or anticipated changes and certain pro forma adjustments. The analyses, estimates and projections summarized herein have been based upon an understanding of certain contracts, agreements, regulations, statutory requirements and planned operations. In the preparation of this report, certain assumptions have been made with respect to conditions, which may occur in the future. While these assumptions are reasonable for the preparation of this study, they are dependent upon future events and actual conditions may differ from those assumed. To the extent that actual future conditions differ from those assumed herein or provided to us by others, the actual results will vary from those projected.

The major assumptions and considerations included in the development of the projected annual revenue requirements have been divided into two categories and are listed below:

#### **General**

1. The general economic activity will not have a major impact on the City's electric sales and annual inflation will be approximately 1.5 percent.

2. Existing federal and state environmental laws, including the Clean Air Act Amendments of 1990, the Clean Air Interstate Rule and the Clean Air Mercury Rule, will continue to be implemented, applied and enforced, and no new laws, regulations, rules and interpretations will be imposed on the City or its wholesale suppliers resulting in more stringent environmental restrictions in the near term.
3. There will be no material change in the taxation of fuel used to produce electricity.
4. There will be no material change in the taxation of municipally-owned or municipally financed electric generation or purchased power, transmission and distribution systems.
5. There will be no material change in the level of federal, state or local regulation of municipally-owned utilities.
6. There will be no material change in the City's existing ability to import or export power over the transmission grid.
7. The existing form of governance and policies established by the City will continue throughout the Study Period.
8. The City will continue to be the exclusive owner and operator of the Electric Utility, including its transmission, distribution, and customer care facilities.

## **Specific**

1. The fiscal year period ending September 30, 2020 through 2024 revenues and expenses for the Electric Utility and the underlying assumptions included therein provide a reasonable basis and reflect normalized system operation.
2. As discussed in Section 2, the sales forecast was the basis for the development of the projected retail energy and demand requirements for the Test Year. It should be recognized that (a) any meaningful variances in the load characteristics of existing or new customers, and/or (b) any differences in expected initiation of service for anticipated new customers, and/or (c) differences in the expected effectiveness of the various conservation programs initiated and contemplated by the City and/or (d) any changes in federal or state legislation that permit customers to select their energy service provider may result in a distortion and/or an over or under recovery of revenue requirements for the Test Year.
3. Power supply costs used herein are predicated in part on cost data provided by the City and on the continued purchase of power supply from its wholesale suppliers.
4. Expenses for the fiscal years 2020 through 2024 have been increased based on an assumed inflation rate of 1.5 percent per year except where noted in Table No. 3-1. Salaries have been escalated at 3.0 percent, benefits at 6.5 percent, insurance at 5.0 percent, and information technology at 15.0 percent for 2021 and 5.0 percent for years 2022 through 2024.

## Section 3

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5. Projected purchased power expenses have been estimated based on an analysis of purchased power expenses assuming an overall increase in kWh usage from 2020 of 0.5 percent per year, as shown on Table No. 3-4.
6. Projected debt service payments have been based on information provided by the City.
7. Capital improvement expenditures have been assumed to be funded from bond proceeds.
8. The amount for the Transfer to the General Fund has been based on current City policies and assumed to be constant at the current level.
9. Other Revenue has been projected based on the adopted fiscal year ending September 30, 2020 Budget and is set forth in Table No. 3-3.
10. Projected revenues from existing rates have been estimated based on the projected increases in sales from 2020 levels of 0.5 percent per year, as shown on Table No. 3-2.

Shown on Table No. 3-1 are the various expenditures and revenues for the fiscal years ending September 30, 2020 through 2024, and the adjustments discussed herein. In addition, each of the adjustments is noted in the footnotes to Table No. 3-1.

### Summary

Based on the projected Test Year revenue requirements developed on Table No. 3-1, the existing rates produce revenues that are approximately the same as the cost of providing service on a system wide basis through fiscal year 2021 but under recover the revenue requirements beginning in fiscal year 2022. The projected revenue requirements and existing rate revenues are summarized below.

Description	Projected				
	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Net Revenue Requirements	\$58,158,995	\$58,300,746	\$64,422,550	\$62,237,218	\$61,950,862
Total Existing Rate Revenue	58,558,995	58,931,674	59,307,414	59,686,250	60,068,214
Surplus/(Deficiency)	\$400,000	\$630,927	(\$5,115,136)	(\$2,550,968)	(\$1,882,649)
Percent of Base and Fuel Revenue	0.8%	1.2%	-10.0%	-5.0%	-3.6%



CITY OF LAKE WORTH BEACH, FLORIDA  
Electric Cost of Service Study

Summary of Projected Revenue Requirements and Existing Rate Revenues  
Fiscal Year Ending September 30

Ln. No.	Description	Adopted Budget 2020 [1]	Adjustments to Adopted Budget 2020	2020 Revenue Requirements	2021 Revenue Requirements	2022 Revenue Requirements	2023 Revenue Requirements	2024 Revenue Requirements
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
	<b>Operating Expenses [2]</b>							
1	System Operations							
2	FMPA St. Lucie Project [3]	\$13,383,500	(1,017,663)	\$12,365,837	\$11,311,919	\$10,301,940	\$8,038,739	\$8,038,739
3	Supplemental Purchased Power [3]	6,883,410	(192,587)	6,690,823	2,544,328	2,864,617	3,211,790	4,734,130
4	FMPA Stanton Project [3]	4,068,280	(478,638)	3,589,642	9,222,373	12,019,686	11,178,003	8,406,524
5	Gas Transportation [4]	4,907,122	(899,312)	4,007,810	4,839,676	4,839,676	4,839,676	4,839,676
6	FPL Transmission [3]	2,060,000	(350)	2,059,650	2,105,482	2,263,692	2,275,010	2,286,385
7	Other System Operations	2,139,585	0	2,139,585	2,212,997	2,280,323	2,350,436	2,423,480
8	Total System Operations	33,441,897	(2,588,550)	30,853,347	32,236,775	34,569,933	31,893,654	30,728,934
9	Power Plant	2,811,675	0	2,811,675	2,920,412	3,030,805	3,146,279	3,267,096
10	Transmission and Distribution [5]	6,829,322	(1,345,646)	5,483,676	5,951,008	6,144,635	6,346,475	6,556,950
11	Customer Service	1,786,238	0	1,786,238	1,866,136	1,925,733	1,987,820	2,052,522
12	Meter Shop	1,252,515	0	1,252,515	1,296,276	1,340,612	1,386,903	1,435,250
13	Engineering	1,795,371	0	1,795,371	1,861,627	1,925,470	1,992,052	2,061,514
14	Administration	1,804,700	0	1,804,700	1,868,885	1,928,243	1,990,085	2,054,537
15	Conservation Management	16,390	0	16,390	17,621	18,279	18,966	19,684
16	Total Operating Expenses	49,738,108	(3,934,196)	45,803,912	48,018,740	50,883,710	48,762,233	48,176,487
	<b>Other Revenue Requirements</b>							
17	Debt Service [6]	3,493,633	0	3,493,633	1,120,169	2,964,875	2,974,500	3,686,600
18	Interfund Administrative Services	1,814,900	0	1,814,900	1,924,900	1,953,774	1,983,080	2,012,826
19	Contribution to General Fund	4,536,491	0	4,536,491	4,536,491	4,536,491	4,536,491	4,536,491
20	Other	420,000	0	420,000	426,300	432,695	439,185	445,773
21	Transfer to Rate Stabilization Fund	0	0	0	0	500,000	500,000	500,000
22	Reserves [7]	0	2,090,059	2,090,059	2,274,146	3,151,006	3,041,729	2,592,685
23	Total Other Revenue Requirements	10,265,024	2,090,059	12,355,083	10,282,006	13,538,840	13,474,985	13,774,375
24	<b>TOTAL REVENUE REQUIREMENTS</b>	60,003,132	(1,844,137)	58,158,995	58,300,746	64,422,550	62,237,218	61,950,862
	<b>Projected Revenue From Sales</b>							
25	Existing Base Rate Revenues	38,073,168	(2,736,514)	35,336,654 [8]	35,513,337	35,690,904	35,869,359	36,048,705
26	Power Cost Adjustment (PCA) [9]	15,842,358	(608,411)	15,233,947 [8]	15,310,116	15,386,667	15,463,600	15,540,918
27	Other Revenue	7,588,394	400,000	7,988,394 [10]	8,108,220	8,229,843	8,353,291	8,478,590
28	<b>TOTAL REVENUES FROM SALES</b>	61,503,920	(2,944,925)	58,558,995	58,931,674	59,307,414	59,686,250	60,068,214
29	Revenue Surplus or (Deficiency)	\$1,500,788	(\$1,100,788)	\$400,000	\$630,927	(\$5,115,136)	(\$2,550,968)	(\$1,882,649)
	<b>Surplus or (Deficiency) as a % of:</b>							
30	Existing Base Rate Revenues			1.1%	1.8%	-14.3%	-7.1%	-5.2%
31	Existing Base Rate and PCA Revenues			0.8%	1.2%	-10.0%	-5.0%	-3.6%

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Footnotes to Table No. 3-1**

- [1] Based on the Fiscal Year Ending September 30, 2020 Budget.
- [2] Unless otherwise noted, operating expenses are based on the 2020 Budget, escalated in 2021 through 2024 by the assumed general inflation rate of 1.5% per year; salaries escalated at 3.0%, benefits at 6.6%, insurance at 5.0% and information technology at 15.0% for 2021 and 5% for years 2022 through 2024.
- [3] FY 2020 adjustments based on actual expenses. FY 2021-2024 projections provided by the City's power supply consultant, as shown on Table No. 3-4.
- [4] FY 2020 adjustment based on actual expenses.
- [5] FY 2020 adjustment based on actual expenses. The adjustment includes a \$670,077 reduction in maintenance expenses, a \$398,624 reduction in personnel expenses, and a \$276,945 reduction in other expenses.
- [6] Based on information provided by the City.
- [7] Replenishment of Reserves to maintain cash balances.
- [8] From Table No. 3-2, Page 2.
- [9] Based on current PCA.
- [10] From Table No. 3-3.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Projected Revenues at**  
**EXISTING RATES**  
**Fiscal Year Ending September 30, 2020**

Ln. No.	Customer Class Description	Existing Rate	Billing Determinants	Base Rate Revenue	Power Cost Adjustment	Total Revenue
	(a)	(b)	(c)	(d)	(e)	(f)
<b>Residential Regular</b>						
1	Customer Charge	\$ 10.53	283,858	\$ 2,989,025	\$ -	\$ 2,989,025
2	Energy Charge < 1,000 kWhs	\$ 0.05148	208,292,160	10,722,880	-	10,722,880
3	Energy Charge > 1,000 kWhs	\$ 0.07880	55,702,973	4,389,394	-	4,389,394
4	Power Cost Adjustment < 1,000 kWhs	\$ 0.03578	208,292,160	-	7,452,693	7,452,693
5	Power Cost Adjustment > 1,000 kWhs	\$ 0.03900	55,702,973	-	2,172,416	2,172,416
6	Capacity Charge	\$ 0.01020	263,995,133	2,692,750	-	2,692,750
7	<i>Subtotal Residential Regular</i>			\$ 20,794,050	\$ 9,625,109	\$ 30,419,159
<b>Residential Net Metering</b>						
8	Customer Charge	\$ 10.53	1,232	\$ 12,973	\$ -	\$ 12,973
9	Energy Charge < 1,000 kWhs	\$ 0.05148	772,358	39,761	-	39,761
10	Energy Charge > 1,000 kWhs	\$ 0.07880	206,550	16,276	-	16,276
11	Power Cost Adjustment < 1,000 kWhs	\$ 0.03578	772,358	-	27,635	27,635
12	Power Cost Adjustment > 1,000 kWhs	\$ 0.03900	206,550	-	8,055	8,055
13	Capacity Charge	\$ 0.01020	978,908	9,985	-	9,985
14	<i>Subtotal Residential Net Metering</i>			\$ 78,995	\$ 35,690	\$ 114,685
15	<b>Total Residential</b>		<u>264,974,041</u>	<u>\$ 20,873,045</u>	<u>\$ 9,660,800</u>	<u>\$ 30,533,845</u>
<b>Commercial Regular</b>						
16	Customer Charge	\$ 16.66	37,425	\$ 623,501	\$ -	\$ 623,501
17	Energy Charge	\$ 0.07040	115,475,216	8,129,455	-	8,129,455
18	Capacity Charge	\$ 0.01020	115,475,216	1,177,847	-	1,177,847
19	Power Cost Adjustment	\$ 0.03578	115,475,216	-	4,131,703	4,131,703
20	<i>Subtotal Commercial Regular</i>			\$ 9,930,803	\$ 4,131,703	\$ 14,062,506
<b>Commercial Net Metering</b>						
21	Customer Charge	\$ 16.66	105	\$ 1,749	\$ -	\$ 1,749
22	Energy Charge	\$ 0.07040	477,459	33,613	-	33,613
23	Capacity Charge	\$ 0.01020	477,459	4,870	-	4,870
24	Power Cost Adjustment	\$ 0.03578	477,459	-	17,083	17,083
25	<i>Subtotal Commercial Net Metering</i>			\$ 40,232	\$ 17,083	\$ 57,316
26	<b>Total Commercial</b>		<u>115,952,675</u>	<u>\$ 9,971,035</u>	<u>\$ 4,148,787</u>	<u>\$ 14,119,822</u>

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**  
**Projected Revenues at**  
**EXISTING RATES**  
**Fiscal Year Ending September 30, 2020**

Ln. No.	Customer Class Description (a)	Existing Rate (b)	Billing Determinants (c)	Base Rate Revenue (d)	Power Cost Adjustment (e)	Total Revenue (f)
	<b>Commercial Service Demand</b>					
27	Customer Charge	\$ 120.00	1,020	\$ 122,400	\$ -	\$ 122,400
28	Energy Charge	\$ 0.03550	49,285,812	1,749,646	-	1,749,646
29	Capacity Charge	\$ 0.01020	49,285,812	502,715	-	502,715
30	Power Cost Adjustment	\$ 0.02890	49,285,812	-	1,424,360	1,424,360
31	Demand Charge	\$ 14.48	104,476	1,512,812	-	1,512,812
32	<b>Total Commercial Service Demand</b>			\$ 3,887,574	\$ 1,424,360	\$ 5,311,934
33	<b>Total Private Area Lighting</b>		1,253,950	\$ 250,000		250,000
34	<b>Total Street Lights</b>		2,554,336	\$ 355,000		355,000
35	<b>TOTAL RATE REVENUES</b>			\$ 35,336,654	\$ 15,233,947	\$ 50,570,601
36	<b>OTHER REVENUES</b>					7,588,394
37	<b>TOTAL REVENUES</b>					\$ 58,158,995

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Summary of Other Electric Revenues**

*Fiscal Year Ending September 30*

Ln. No.	Description (a)	Adopted Budget 2020 [1] (b)	Adjustments to Budget (c)	Adjusted Test Year Revenues (d)
<b><u>Other Electric Revenues</u></b>				
1	Gas Transportation Revenues	\$5,090,719	\$0	\$5,090,719
2	NSF and Bank Charges	15,000	0	15,000
3	Miscellaneous [2]	246,600	0	246,600
4	Service Charge	670,000	0	670,000
5	Penalties/Late Fees	520,000	0	520,000
6	Tampering Fines	15,000	0	15,000
7	Investments	147,895	0	147,895
8	FDOT-Reimbursement	131,000	0	131,000
9	Other	38,100	0	38,100
10	Water	381,310	0	381,310
11	Refuse	32,770	0	32,770
12	Local Sewer	300,000	0	300,000
13	Increased Commercial Minimum Charge	0	400,000	400,000
14	<b>Total Other Electric Revenues</b>	<b>\$7,588,394</b>	<b>\$400,000</b>	<b>\$7,988,394</b>

[1] Based on the Budgeted 2020 Electric Revenue Fund provided by the City.

[2] Pole Attachment Fees.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Calculation of Power Cost Adjustment (PCA)**

*Fiscal Year Ending September 30*

Ln. No.	Description	2021	2022	2023	2024	2025
	(a)	(b)	(c)	(d)	(e)	(f)
	<b><u>Power Costs [1]</u></b>					
1	FMPA St. Lucie Project	\$11,311,919	\$10,301,940	\$8,038,739	\$8,038,739	\$8,037,000
2	FMPA Stanton Project	2,544,328	2,428,222	1,975,310	2,074,134	2,178,057
3	Supplemental Purchased Power	9,222,373	12,019,686	11,178,003	8,406,524	8,967,850
4	Solar	0	436,395	1,236,480	2,659,996	2,678,831
5	FPL Transmission	2,105,482	2,263,692	2,275,010	2,286,385	2,297,817
6	<b>Total Power Costs</b>	<u>\$25,184,102</u>	<u>\$27,449,935</u>	<u>\$24,703,542</u>	<u>\$23,465,778</u>	<u>\$24,159,554</u>
7	<b>Total Energy Purchased (kWh)</b>	474,426,000	474,426,718	476,798,852	479,182,846	481,578,760
8	<b>Total Cost Per kWh Purchased</b>	\$0.0531	\$0.0579	\$0.0518	\$0.0490	\$0.0502
9	<b>Total Energy Sales (kWh) [2]</b>	434,572,275	433,070,899	435,236,253	437,412,435	439,599,497
10	<b>Total Cost Per kWh Sold</b>	<u>\$0.0580</u>	<u>\$0.0634</u>	<u>\$0.0568</u>	<u>\$0.0536</u>	<u>\$0.0550</u>
11	FMPA St. Lucie Project Fixed Costs	\$11,311,919	\$10,301,940	\$8,038,739	\$8,038,739	\$8,037,000
12	FMPA Stanton Project Fixed Costs	<u>1,120,499</u>	<u>1,120,499</u>	<u>1,120,499</u>	<u>1,120,499</u>	<u>1,120,499</u>
13	<b>Net Power Costs</b>	\$12,751,684	\$16,027,496	\$15,544,304	\$14,306,540	\$15,002,055
14	Transfer to Rate Stabilization Fund	<u>0</u>	<u>500,000</u>	<u>500,000</u>	<u>500,000</u>	<u>500,000</u>
15	<b>Net Power Costs for PCA</b>	\$12,751,684	\$16,527,496	\$16,044,304	\$14,806,540	\$15,502,055
16	<b>Calculated PCA per kWh</b>	<u>\$0.0293</u>	<u>\$0.0382</u>	<u>\$0.0369</u>	<u>\$0.0339</u>	<u>\$0.0353</u>

[1] FY 2021-2025 provided by the City's power supply consultant.

[2] FY 2022 from Table No. 2-2; FY 2023-2025 based on a growth rate of 0.5% per year.

**Section 4**

## **FUNCTIONALIZATION AND CLASSIFICATION OF COSTS AND DEVELOPMENT OF ALLOCATION FACTORS**

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### **Functionalization and Classification**

In allocating utility costs to the various customer classes, there are three major processes: functionalization, classification, and allocation. The functionalization and classification of the Test Year revenue requirement are discussed in the first part of this section. The development of allocation factors for the Test Year revenue requirement is discussed and set forth in the second half of this section.

### **Functionalization of Test Year Expenditures**

Although budgeting and accounting systems generally follow functional groups, i.e., production, transmission, etc., certain costs such as those associated with administrative and general expenses and bond service generally are not assigned by accounting and budgetary convention to a major function. A COS study usually requires the rearrangement of certain expenditures into functional groups (i) to be more representative of the expenditure causation, (ii) to combine costs that have been incurred for a similar purpose, and (iii) to facilitate the allocation of cost responsibility. Thus, the functionalization of certain costs is merely a ratemaking mechanism to apportion such costs to the common utility function.

The typical functions of the Test Year Revenue Requirements are developed in the COS model and summarized on Table 4-1 and below.

<u><b>Function and Description</b></u>	<u><b>Test Year Amount</b></u>
<b>Production.</b> Those costs associated with generating or purchasing power and delivering that power to the utility's bulk transmission system	\$40,313,652
<b>Transmission and Distribution.</b> Those costs incurred in connection with the delivery of power over the bulk transmission system through the primary and secondary distribution system to the utility's consumers	\$13,863,265
<b>Customer.</b> Those costs that are related to the number, type and size of customers	<u>\$3,982,058</u>
<b>Total</b>	<u><u>\$58,158,995</u></u>

An analysis of the Test Year revenue requirements was made to estimate the functionalized Test Year revenue requirements.

## Classification of Various Costs

Historically, electric utility costs or the components of the annual revenue requirement have generally been classified as (1) demand-related, (2) variable or energy-related, and (3) customer-related. Thus, if a cost or expense is fixed or does not vary directly with the level of kWh purchased or sold, the cost was assumed to be generally related to the demands or load of the customers and was allocated to the various customer classes on the basis of demand or load relationships. Debt service is one example of an expenditure generally classified as demand-related. If a cost or expense was viewed to vary with the amount of kWh the electric utility sold, the cost or expense was usually classified as energy-related and allocated to the various customer classes on the basis of kWh relationships. Purchased energy costs are a primary example of expenses classified as variable or energy-related and allocated on the basis of kWh sales. If the cost is directly related to the number of customers which are being served, these costs would generally be classified as such and allocated to the customer classes based on the customer relationship among the customer classes. An example of customer-related costs is meter reading expenses.

Until such time that the development of more detailed data with regard to hourly usage characteristics and costs is economically justified or legally required, the classification of costs described below reflects usual regulatory practice as well as a reasonable and equitable approach.

**Demand (Fixed) Costs:** Are defined as those costs incurred to maintain in readiness-to-serve an electric system capable of meeting the total combined demands of all classes of customers. Demand costs are those costs that are generally fixed in the short-run, that do not materially vary directly with the number of kWh generated or sold, and that are not defined as customer costs. Demand costs will include that portion of operation and maintenance expenses; debt service; renewals, replacements and improvements; and other costs which are not designated as specifically customer or variable energy costs.

**Customer Costs:** Are defined as those costs directly related to the number, type and size of customers, such as customer accounting and collecting, and costs of meters and services.

**Energy (Variable) Costs:** Are defined as those costs that vary substantially or directly with the amount of energy sold or generated and purchased, including such items as fuel and a portion of operation and maintenance expense for production facilities.

## Development of Allocation Factors

### General

This section discusses the development of the factors utilized to allocate the capacity related, energy related, customer related, and other costs to the various customer classes. The aforementioned costs are allocated to the customer classes according to their respective customer class, and the particular cost allocation factor developed for each



class and for each type of cost. The customer classes include Residential, Commercial, Commercial Demand, and Lighting.

## **Demand Allocation Factors**

"Demand Allocation" refers to the basis on which capacity and other demand related costs are distributed or assigned (allocated) among the various customer classes for the purpose of determining the revenues required from each class to recover such costs. The demand allocation factors, as developed and used herein, reflect the cost responsibility for each of the various customer classes in relation to the capacity or demand related costs to be allocated. The demand allocation factors were used to apportion the following capacity or demand related costs among the various customer classes.

- Production and purchased power expenses (fixed capacity costs only);
- Transmission and distribution expenses;
- Debt service requirements;
- Allowances for renewal and replacements, and reserves; and
- Payments to the City.

The demand allocation factors were developed based on historical demand and energy relationships filed with the Public Service Commission by the investor-owned utilities in Florida for 2018 and an analysis of the City's billing demands. The demand allocation factors are based on the estimated annual coincident and non-coincident peak demands. Table No. 4-2 summarizes the demand allocation factors. Table No. 4-5 shows a comparison of the results of the load research for the investor-owned utilities.

## **Energy Allocation Factors**

Energy allocation factors are the basis for apportioning those costs or expenses classified as variable or energy related and assumed to vary directly with the level of kWh sales or generation. The costs classified herein as variable or energy related are fuel, purchased power, and the variable portion of other production expenses.

The projected fiscal year energy sales data are discussed in Section 2. The resulting energy allocation factors are shown on Table No. 4-3.

## **Customer Allocation Factors**

Customer costs are defined herein as those costs related to the number of customers and the size of service required. Included in the customer related costs are the costs associated with meter reading, meter maintenance, customer installations, billing, collecting, and other customer related accounting, service, and information functions. The customer allocation factors were based on the projected average number of customers in each customer classification during the Test Year.

In apportioning customer related costs and revenues to the various customer classifications, customer allocation factors were utilized that recognized weighted and

unweighted customers and fixtures. The customer weighting factors were based on FPL customer charges. The customer allocation factors are shown on Table No. 4-4.

### **Other Allocation Factors**

Certain elements of the annual revenue requirement are related to revenues. Miscellaneous other allocation factors including the revenue allocation factors are included in the COS model.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**  
**Functionalization of Test Year Revenue Requirements**

<b>Ln</b>		<i>FY 2020</i>
<b>No</b>	<b>Function</b>	<b><i>Test Year Amount</i></b>
1	Production	\$ 40,313,652
2	Transmission and Distribution	\$ 13,863,285
3	Customer	\$ 3,982,058
4	<b>TOTAL REVENUE REQUIREMENTS</b>	<b>\$ 58,158,995</b>

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Summary of Demand Allocation Factors**

Ln. No.	Customer Class	Average 12 CP		Average Demand			PSC 12 CP Methodology				NCP Demand	
		Demand @ Source (kW)	Percent of Total (%)	2020 Energy at Source (Mwh)	Average Demand (kW)	Percent of Total (%)	Avg. 12 CP @ 12/13 (kW)	Avg. kW @ 1/13 (kW)	Total (kW) (%)		Demand @ Source (kW)	Percent of Total (%)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	Residential	47,377	59.73%	274,869	31,378	61.05%	43,733	2,414	46,146	59.80%	62,668	62.36%
2	Commercial	22,054	27.81%	120,283	13,731	26.72%	20,358	1,056	21,414	27.75%	25,878	25.75%
3	Commercial Demand	8,979	11.32%	51,126	5,836	11.36%	8,288	449	8,737	11.32%	11,012	10.96%
4	Lighting	902	1.14%	3,951	451	0.88%	833	35	867	1.12%	941	0.94%
5	<b>TOTAL SYSTEM</b>	<b>79,312</b>	<b>100.00%</b>	<b>450,229</b>	<b>51,396</b>	<b>100.00%</b>	<b>73,211</b>	<b>3,954</b>	<b>77,165</b>	<b>100.00%</b>	<b>100,499</b>	<b>100.00%</b>

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Development of Demand Allocation Factors**

Ln. No.	Customer Class	Total FY 2020 Energy (Mwh)	Average 12 CP				Non-Coincident Peak					
			Load Factor (%) [1]	Demand @ Meter (kW)	Delivery Efficiency	Demand @ Source (kW)	Percent of Total (%)	Load Factor (%) [1]	Demand @ Meter (kW)	Delivery Efficiency	Demand @ Source (kW)	Percent of Total (%)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1	Residential	264,974	66.23%	45,671	0.9640	47,377	59.73%	50.07%	60,412	0.9640	62,668	62.36%
2	Commercial	115,953	62.26%	21,260	0.9640	22,054	27.81%	53.06%	24,946	0.9640	25,878	25.75%
3	Commercial Demand	49,286	65.00%	8,656	0.9640	8,979	11.32%	53.00%	10,616	0.9640	11,012	10.96%
4	Lighting	3,808	50.00%	869	0.9640	902	1.14%	47.90%	908	0.9640	941	0.94%
5	<b>TOTAL SYSTEM</b>	<u>434,021</u>		<u>76,457</u>		<u>79,312</u>	<u>100.00%</u>		<u>96,881</u>		<u>100,499</u>	<u>100.00%</u>

[1] Average 12 CP and NCP Load Factors are based on an FPL 2018 Load Research Study filed with the PSC and an analysis of billing demands for the Commercial Demand class.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Summary of Energy Allocation Factors**

*Fiscal Year 2020*

Ln. No.	Customer Class	Energy (Mwh) [1]		Allocation Factors (%)	
		Energy Sales	Net Generation	Energy Sales	Net Generation
	(a)	(b)	(c)	(d)	(e)
1	Residential	264,974	274,869	<b>61.05%</b>	<b>61.05%</b>
2	Commercial	115,953	120,283	<b>26.72%</b>	<b>26.72%</b>
3	Commercial Demand	49,286	51,126	<b>11.36%</b>	<b>11.36%</b>
4	Lighting	3,808	3,951	<b>0.88%</b>	<b>0.88%</b>
5	<b>TOTAL SYSTEM</b>	<b>434,021</b>	<b>450,229</b>	<b>100.00%</b>	<b>100.00%</b>

[1] A factor of 3.6% was assumed for System Losses based on data received from the City of Lake Worth.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Summary of Customer Allocation Factors**  
*Fiscal Year 2020*

Ln. No.	Customer Class (a)	Unweighted Customers		Weighted Customers			Unweighted - No Lighting	
		Customers (b)	Factor (c)	Weighting Factor <sup>[1]</sup> (d)	Customers <sup>[2]</sup> (e)	Factor (f)	Customers (g)	Factor (h)
1	Residential	23,758	86.33%	1.00	23,758	85.05%	23,758	88.09%
2	Commercial	3,128	11.37%	1.30	4,066	14.55%	3,128	11.60%
3	Commercial Demand	85	0.31%	1.30	111	0.40%	85	0.32%
4	Lighting	549	1.99%	0.00	0	0.00%	0	0.00%
5	<b>TOTAL SYSTEM</b>	<b>27,519</b>	<b>100.00%</b>		<b>27,934</b>	<b>100.00%</b>	<b>26,970</b>	<b>100.00%</b>

[1] Based on FPL customer charges.

[2] Weighted customers are equal to Column (b), Unweighted Customers multiplied times Column (d), the Weighting Factor.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Comparison of Load Research Results \***

Ln. No.	<u>Utility</u> (a)	<u>Rate Schedule</u> (b)	<b>12 CP Load Factor</b> (c)	<b>NCP Load Factor</b> (d)
<b><u>Residential Service</u></b>				
1	Florida Power & Light Company	RS-1	66.2%	50.1%
2	Duke Energy Florida	RS-1	54.8%	37.0%
3	Tampa Electric Company	RS	56.0%	45.0%
4	Gulf Power Company	RS	58.4%	38.8%
<b><u>General Service Non-Demand</u></b>				
5	Florida Power & Light Company	GS-1 (less than 21kw)	62.3%	53.1%
6	Duke Energy Florida	GS-1 (no demand breakpoint)	57.6%	45.1%
7	Tampa Electric Company	GS (less than 50 kw)	58.0%	43.0%
8	Gulf Power Company	GS (less than 20 kw)	57.4%	43.5%
<b><u>General Service Demand</u></b>				
9	Florida Power & Light Company	GSD-1 (21 - 499 kw)	72.1%	64.0%
10	Duke Energy Florida	GSD-1 (above 24,000 kwh/year)	74.2%	62.6%
11	Tampa Electric Company	GSD-1 (50 - 999 kw)	75.0%	63.0%
12	Gulf Power Company	GSD-1 (20 - 499 kw)	74.4%	56.4%

\* The information shown for the investor owned electric utilities reflects the results of 2017-2018 Load Research reported to the PSC.



## Section 5 ALLOCATED COST OF SERVICE

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### General

As one of the factors considered in the development of the proposed rate levels and rate structures included herein, certain analyses common in ratemaking have been employed which provide a reasonable indication of the revenue levels required to recover the full cost of service or revenue requirement of each customer class. Since it is not the practice in utility accounting to maintain a subdivision of accounts that will report the cost of rendering service to each customer class, an allocation of costs must be made on the basis of parameters predicated upon the available classifications of operating expense and utility plant.

### Present and Proposed Rate Classifications

The present customer classifications are as follows:

- Residential
- Commercial
- Commercial Demand
- Lighting

### Allocation and Assignment of the Cost of Service

The allocated cost of service was developed, along with the target rate change for each class, based on a comparison of existing rate revenues.

Table No. 5-1 summarizes the results of the allocated COS study. Table No. 5-2 shows the results of the functionalization and classification of the Test Year revenue requirements and Table No. 5-3 summarizes the cost of service by customer class.

The target rate changes by customer class were developed to move toward the cost of service. The projected Test Year revenues under the existing rates and charges, the target revenue adjustments, and the percentage change necessary to recover the revenue requirements to move toward the cost of service for each of the major rate classifications, as summarized from the COS model, are as follows:

**Section 5**

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<b>Test Year 2020</b>				
<b>Customer Class</b>	<b>Total Existing</b>		<b>Target Adjustments</b>	
	<b>Revenue</b>			
	<b>(\$000)</b>	<b>(\$000)</b>	<b>(%) [1]</b>	
Residential	\$35,500	\$0	0.0%	
Commercial	16,207	(313)	-2.2%	
Commercial Demand	6,143	(117)	-2.2%	
Lighting	708	30	5.0%	
<b>Total System</b>	<b>\$58,559</b>	<b>(\$400)</b>	<b>-0.8%</b>	

[1] Percent of existing base rates and PCA revenues.

Based on the cost of service and target adjustments for the Test Year and the projected revenue requirements, the target adjustments for Fiscal Year 2022 can be estimated as follows:

<b>Fiscal Year 2022</b>				
<b>Customer Class</b>	<b>Total Existing</b>		<b>Target Adjustments</b>	
	<b>Revenue</b>			
	<b>(\$000)</b>	<b>(\$000)</b>	<b>(%) [1]</b>	
Residential	\$36,200	\$2,896	8.0%	
Commercial	16,151	\$808	5.0%	
Commercial Demand	6,162	\$308	5.0%	
Lighting	700	\$35	5.0%	
<b>Total System</b>	<b>\$59,213</b>	<b>\$4,047</b>	<b>6.8%</b>	

[1] Percent of existing base rates and PCA revenues.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**  
**Test Year Cost of Service by Customer Class**

Table No. 5-1  
Page 1 of 2

Line No.	Description	Total	Allocation Factor	Residential	Commercial	Commercial Demand	Lighting	Total
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(j)
3								
4								
5	<b>Production</b>							
6	<b>Production Demand related</b>							
7	Production - D	31,643,020	12 CP	18,923,262	8,781,229	3,582,894	355,635	31,643,020
8	Blank	0	N/A	0	0	0	0	0
9	Blank	0	N/A	0	0	0	0	0
10	Blank	0	N/A	0	0	0	0	0
11	Blank	0	N/A	0	0	0	0	0
12	Blank	0	N/A	0	0	0	0	0
13	<b>Production Energy related</b>							
14	Fuel & PP	8,670,632	Test Year Sales - kWh	5,293,507	2,316,439	984,605	76,080	8,670,632
15	Variable O&M	0	N/A	0	0	0	0	0
16	Blank	0	N/A	0	0	0	0	0
17	Blank	0	N/A	0	0	0	0	0
18	<b>Production Direct Assignment</b>							
19	Direct Assignment A	0	N/A	0	0	0	0	0
20	Other	0	N/A	0	0	0	0	0
21	<b>Total Production</b>	40,313,652		24,216,769	11,097,669	4,567,499	431,715	40,313,652
22	Check	TRUE						
23		40,313,652						
24	<b>Transmission</b>							
25	<b>Demand Related</b>							
26	115 kV	0	N/A	0	0	0	0	0
27	69 kV	0	N/A	0	0	0	0	0
28	115 kV - Sub	0	N/A	0	0	0	0	0
29	69 kV - Sub	0	N/A	0	0	0	0	0
30	Blank	0	N/A	0	0	0	0	0
31	Blank	0	N/A	0	0	0	0	0
32	<b>Direct Assignment</b>							
33	Service 1	0	N/A	0	0	0	0	0
34	Service 2	0	N/A	0	0	0	0	0
35	Blank	0	N/A	0	0	0	0	0
36	<b>Total Transmission</b>	0		0	0	0	0	0
37	Check	TRUE						
38		0						
39	<b>Distribution</b>							
40	<b>Demand Related</b>							
41	Substations	0	N/A	0	0	0	0	0
42	Primary-Dmd	0	N/A	0	0	0	0	0
43	Sec-Dmd	0	N/A	0	0	0	0	0
44	Total Demand	13,863,285	1 NCP	8,644,650	3,569,729	1,519,035	129,872	13,863,285
45	Blank	0	N/A	0	0	0	0	0
46	Blank	0	N/A	0	0	0	0	0
47	<b>Customer Related</b>							
48	Primary-Cust	0	N/A	0	0	0	0	0
49	Sec-Cust	0	N/A	0	0	0	0	0
50	Service Drp	0	N/A	0	0	0	0	0
51	Trans-CR	0	N/A	0	0	0	0	0
52	Total Cust	0	N/A	0	0	0	0	0
53	Blank	0	N/A	0	0	0	0	0
54	<b>Direct Assignment</b>							
55	Lighting	0	N/A	0	0	0	0	0
56	Blank	0	N/A	0	0	0	0	0
57	<b>Total Distribution</b>	13,863,285		8,644,650	3,569,729	1,519,035	129,872	13,863,285
58	Check	TRUE						
59		13,863,285						

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**  
**Test Year Cost of Service by Customer Class**

Table No. 5-1  
Page 2 of 2

Line No.	Description	Total	Allocation Factor	Residential	Commercial	Commercial Demand	Lighting	Total
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(j)
60	<b>Customer</b>							
61	Meters	1,672,339	Weighted Customers	1,422,315	243,408	6,615	0	1,672,339
62	Cust. Accounting	0	Weighted Customers	0	0	0	0	0
63	Cust. Service	2,309,719	Weighted Customers	1,964,403	336,179	9,137	0	2,309,719
64	Sales	0	Weighted Customers	0	0	0	0	0
65	Blank	0	N/A	0	0	0	0	0
66	<b>Total Customer</b>	<b>3,982,058</b>		<b>3,386,718</b>	<b>579,587</b>	<b>15,752</b>	<b>0</b>	<b>3,982,058</b>
67	Check	TRUE						
68		3,982,058						
69	<b>Direct Assignments Other</b>							
70	Lighting Adjustment	0		(90,000)	(50,000)	(50,000)	190,000	0
71	<b>Total Direct Assignment Other</b>	<b>0</b>		<b>(90,000)</b>	<b>(50,000)</b>	<b>(50,000)</b>	<b>190,000</b>	<b>0</b>
72	Check	TRUE						
73								
74	<b>Total Cost of Service</b>	<b>\$ 58,158,995</b>		<b>\$ 36,158,138</b>	<b>\$ 15,196,985</b>	<b>\$ 6,052,286</b>	<b>\$ 751,587</b>	<b>\$ 58,158,995</b>
75	Check	TRUE						
76	Total Unit Cost (\$/kWh)			\$ 0.136	\$ 0.131	\$ 0.123	\$ 0.197	\$ 0.134
77	Base Rate Unit Cost (\$/kWh)			\$ 0.136	\$ 0.131	\$ 0.123	\$ 0.197	\$ 0.134
78								
79								
80	<b>Revenue Adequacy Check</b>							
81	TY Base Rate Revenue	\$35,336,654	TY Base Rate Rev	\$20,873,045	\$9,971,035	\$3,887,574	\$605,000	\$35,336,654
82	TY Other Revenue - PCA	\$15,233,947	PCA	9,660,800	4,148,787	1,424,360	0	15,233,947
83	TY Other Revenue	\$7,988,394	Revenue Req	4,966,479	2,087,373	831,308	103,234	\$7,988,394
84	TY Other Revenue	\$0		\$0	\$0	\$0	\$0	\$0
85	Subtotal	<b>\$58,558,995</b>		<b>\$35,500,324</b>	<b>\$16,207,195</b>	<b>\$6,143,242</b>	<b>\$708,234</b>	<b>\$58,558,995</b>
86	Existing Rate Unit Cost (\$/kwh)			\$ 0.134	\$ 0.140	\$ 0.125	\$ 0.186	\$ 0.135
87								
88	TY Rate Revenue	\$58,558,995		\$35,500,324	\$16,207,195	\$6,143,242	\$708,234	\$58,558,995
89	TY Retail Rate Revenue	\$0	Other Revenue	0	0	0	0	\$0
90	TY Total Rate Revenue	<b>\$58,558,995</b>		<b>\$35,500,324</b>	<b>\$16,207,195</b>	<b>\$6,143,242</b>	<b>\$708,234</b>	<b>\$58,558,995</b>
91								
92	TY Rate Revenue Requirement	\$58,158,995		\$ 36,158,138	\$ 15,196,985	\$6,052,286	\$751,587	\$58,158,995
93	TY Other Retail Rate Revenue	\$0		0	0	0	0	0
94	TY Total Rate Revenue Requirement	<b>\$58,158,995</b>		<b>\$36,158,138</b>	<b>\$15,196,985</b>	<b>\$6,052,286</b>	<b>\$751,587</b>	<b>\$58,158,995</b>
95								
96	<b>Difference \$</b>	<b>(\$400,000)</b>		<b>\$ 657,814</b>	<b>(\$1,010,210)</b>	<b>(\$90,956)</b>	<b>\$43,353</b>	<b>(400,000)</b>
97								
98								
99	<b>Unadjusted Difference \$</b>	<b>(\$400,000)</b>		<b>\$657,814</b>	<b>(\$1,010,210)</b>	<b>(\$90,956)</b>	<b>\$43,353</b>	<b>(400,000)</b>
100	<b>Unadjusted Difference %</b>	<b>-0.8%</b>		<b>2.2%</b>	<b>-7.2%</b>	<b>-1.7%</b>	<b>7.2%</b>	
101								
102	<b>Target Difference \$</b>	<b>(\$400,000)</b>		<b>\$0</b>	<b>(\$313,387)</b>	<b>(\$116,863)</b>	<b>\$30,250</b>	<b>(400,000)</b>
103	<b>Target Difference %</b>	<b>-0.8%</b>		<b>0.0%</b>	<b>-2.2%</b>	<b>-2.2%</b>	<b>5.0%</b>	

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**  
**Classification of Test Year Revenue Requirements**

<b>Ln No</b>	<b>Classification</b>	<i>FY 2020</i> <u><i>Test Year Amount</i></u>
	<b>Production</b>	
1	Demand Related	\$ 31,643,020
2	Energy Related	8,670,632
3	<b>Total Production</b>	<u>\$ 40,313,652</u>
	<b>Transmission and Distribution</b>	
4	Demand Related	\$ 13,863,285
5	Customer Related	0
6	Direct Assignment	0
7	<b>Total Distribution</b>	<u>\$ 13,863,285</u>
8	<b>Customer</b> ( <i>Customer Related</i> )	<u>\$ 3,982,058</u>
9	<b>TOTAL REVENUE REQUIREMENTS</b>	<u><u>\$ 58,158,995</u></u>

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**  
**Results of the Cost of Service Analysis**

Ln No	Customer Class (a)	Test Year 2020			Difference (%) [1] (e)
		Cost of Service (b)	Existing Revenues (c)	Difference (d)	
1	Residential	\$36,158,138	\$35,500,324	(\$657,814)	-2.2%
2	Commercial	15,196,985	16,207,195	1,010,210	7.2%
3	Commercial Demand	6,052,286	6,143,242	90,956	1.7%
4	Lighting	<u>751,587</u>	<u>708,234</u>	<u>(43,353)</u>	-7.2%
5	<b>TOTAL</b>	<u>\$58,158,995</u>	<u>\$58,558,995</u>	<u>\$400,000</u>	<b>0.8%</b>

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[1] Percent of existing base rates and PCA revenues.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Calculation of Fixed Costs per Customer [1]**

Ln. No.	Description (a)	Residential (b)	Commercial (c)
1	Distribution Fixed Costs [2]	\$8,644,650	\$3,569,729
2	Customer Fixed Costs [2]	\$3,386,718	\$579,587
3	<b>Total</b>	<b>\$12,031,368</b>	<b>\$4,149,316</b>
4	Number of Customers [3]	23,758	3,128
5	Fixed Cost/Customer/Year	\$506.41	\$1,326.51
6	Fixed Cost/Customer/Month	\$42.20	\$110.54
7	Purchased Capacity [2]	\$18,923,262	\$8,781,229
8	Total Including Purchased Capacity	\$30,954,630	\$12,930,545
9	Fixed Cost/Customer/Month	\$108.58	\$344.48
10	Current Minimum Monthly Bill	\$31.40	\$50.00
11	Percent of Line 6	74%	45%
12	Percent of Line 9	29%	15%
13	Proposed Minimum Monthly Bill	\$35.00	\$100.00

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[1] Based on Electric Cost of Service Study.

[2] From Table No. 5-1.

[3] From Table No. 2-1.

## **General Rate Design Criteria**

Rate design is the culmination of a rate study whereby the rates and charges for each customer classification are established in such a manner that the total revenue requirement of the system will be recovered in an equitable manner consistent with the results of the allocated cost of service study and any applicable orders and/or requirements of local, state, and federal regulatory authorities. To the extent possible, rate design should consider and reflect overall revenue stability, historical rate form, conservation considerations, competitiveness with neighboring utility systems, and the policies of those charged with the management and operation of the City.

The proposed rate levels and rate structures developed and submitted to the City for consideration and adoption should continue to meet the following electric utility rate criteria for service provided by municipally owned utilities:

- Electric rates should be based on a rate policy which calls for the lowest possible prices consistent with customer requirements, quality service efficiently rendered, and a payment to the City.
- Electric rates should be simple and understandable.
- Electric rates should be equitable among classes of customers and individuals within classes, taking into consideration the cost of service.
- Electric rates should be designed to encourage the most efficient use of the utility plant and discourage unnecessary or wasteful use of service.
- Electric rates should comply with applicable orders and requirements of local, state and federal regulatory authorities that have jurisdiction.

## **Proposed Rates**

The existing rates and the proposed rates necessary to recover the revenue requirements are summarized on Table No. 6-1. The proposed rates reflect with the required rate changes by class applied to the customer, demand and energy charges. Table No. 6-2 shows calculation of the projected revenues at the proposed rates.

Table No. 6-1 also shows the existing and proposed minimum bills for each rate class. Base on the cost of service shown on Table No. 5-1 and Table No. 5-4, the fixed distribution and customer costs allocated to the residential class are \$8,664,650 and \$3,386,718, respectively, for a total of \$12,051,368. Dividing this total by 23,758 residential customers results in \$507 per customer per year, or approximately \$42 per customer per month. This does not include fixed purchased power costs. Based on this fixed cost per customer, it is proposed that the residential minimum charge be increased



to \$35 per month. Similarly, the fixed distribution and customer costs allocated to the commercial class results in approximately \$111 per customer per month, and it is proposed that the commercial minimum charge be increased to \$100 per month.

## Rate Stabilization Fund

It is recommended that the City establish a Rate Stabilization Fund to use if necessary to avoid variations in customers’ bills because of changes in the cost of purchased power. Section 4.08 of the City’s Bond Resolution states “The issuer may transfer into the Rate Stabilization Fund such moneys which are on deposit in the Utility Reserve Fund as it deems appropriate. The issuer may transfer such amount of moneys from the Rate Stabilization Fund to the Revenue Fund as it deems appropriate.”

## Power Cost Adjustment

It is recommended that a separate rate component continue to be implemented that recovers the cost of purchased power. It is proposed that this factor be calculated every year and adjusted as necessary. The proposed factor includes the variable Stanton costs, capacity and energy purchased power costs, fuel and transmission costs. Table No. 3-4 shows the proposed calculation of the PCA.

## Summary

The following is a comparison of the projected Fiscal Year 2022 revenues produced by applying the projected billing determinants to the existing rates and the proposed rates for each classification, plus an allocation of other revenues:

Customer Class	Fiscal Year 2022		
	Total Existing	Proposed	Rate
	Revenue	Revenue	Adjustment
	(\$000)	(\$000)	(%) [1]
Residential	\$36,200	\$39,096	8.0%
Commercial	16,151	16,959	5.0%
Commercial Demand	6,162	6,470	5.0%
Lighting	700	735	5.0%
<b>Total System</b>	<b>\$59,213</b>	<b>\$63,260</b>	<b>6.8%</b>

[1] Percent of existing base rates and PCA revenues.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

Table No. 6-1  
Page 1 of 2

Summary of Existing and Proposed Rates and Charges

Ln. No.	Rate Description (a)	Unit (b)	Existing Rates Effective October 1, 2019 (c)	Proposed Rates Effective April 1, 2022 (d)
<b>Residential Service</b>				
<b>Schedule R-S</b>				
1	Monthly Customer Charge	\$/Mo.	\$10.53	\$10.55
<u>Energy Charges &lt; 1,000 kWh's</u>				
2	Base	\$/kWh	\$0.05148	\$0.07000
3	Power Cost Adjustment	\$/kWh	\$0.03578	\$0.03610
<u>Energy Charges &gt; 1,000 kWh's</u>				
4	Base	\$/kWh	\$0.07880	\$0.09000
5	Power Cost Adjustment	\$/kWh	\$0.03900	\$0.04610
6	Capacity Charge All kWh's	\$/kWh	\$0.01020	-
7	Minimum Bill	\$/Mo.	\$31.40	\$35.00
<b>Commercial Service</b>				
<b>Schedule C-S</b>				
8	Monthly Customer Charge	\$/Mo.	\$16.66	\$17.00
<u>Energy Charges All kWh's</u>				
9	Base	\$/kWh	\$0.07040	\$0.08400
10	Power Cost Adjustment	\$/kWh	\$0.03578	\$0.03820
11	Capacity	\$/kWh	\$0.01020	-
12	Minimum Bill - Single Phase	\$/Mo.	\$50.00	\$50.00
13	Minimum Bill - Poly Phase	\$/Mo.	\$50.00	\$100.00
<b>Commercial TOU Service</b>				
<b>Schedule CT-S</b>				
14	Monthly Customer Charge	\$/Mo.	\$28.97	\$30.00
<u>Energy Charges All kWh's</u>				
15	Off - Peak	\$/kWh	\$0.08460	\$0.08400
16	On - Peak	\$/kWh	\$0.26510	\$0.26000
<b>Commercial Demand Service</b>				
<b>Schedule CD-S</b>				
17	Monthly Customer Charge	\$/Mo.	\$120.00	\$130.00
<u>Energy Charges All kWh's</u>				
18	Base	\$/kWh	\$0.03550	\$0.04950
19	Power Cost Adjustment	\$/kWh	\$0.02890	\$0.03820
20	Capacity	\$/kWh	\$0.01020	-
21	Demand Charge	\$/kW	\$14.48	\$12.00
22	Minimum Bill	\$/Mo.	\$140.00	\$250.00

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

Table No. 6-1  
Page 2 of 2

Summary of Existing and Proposed Rates and Charges

Ln. No.	Rate Description (a)	Unit (b)	Existing Rates Effective October 1, 2019 (c)	Proposed Rates Effective April 1, 2022 (d)
<b>Commercial Demand TOU Service</b>				
<b>Schedule CDT-S</b>				
23	Monthly Customer Charge	\$/Mo.	\$130.32	\$140.00
<u>Energy Charges All kWh's</u>				
24	Off - Peak	\$/kWh	\$0.06270	\$0.06200
25	On - Peak	\$/kWh	\$0.24320	\$0.24000
26	Demand Charge	\$/kW	\$7.39	\$7.00
<b>Private Area Lighting</b>				
<b>Schedule L-P</b>				
27	175 W Mercury Vapor	\$/Mo.	\$11.63	\$12.21
28	400 W Mercury Vapor	\$/Mo.	\$18.24	\$19.15
29	1,000 W Mercury Vapor	\$/Mo.	\$35.89	\$37.68
30	100 W Sodium Vapor	\$/Mo.	\$9.46	\$9.93
31	250 W Sodium Vapor	\$/Mo.	\$13.58	\$14.26
32	360 W Sodium Vapor	\$/Mo.	\$16.24	\$17.05
33	400 W Sodium Vapor	\$/Mo.	\$16.33	\$17.15
34	48 W LED	\$/Mo.	-	20 \$9.00
35	70 W LED	\$/Mo.	-	29 \$9.70
36	80 W LED	\$/Mo.	-	33 \$9.70
37	101 W LED	\$/Mo.	-	41 \$16.30
38	110 W LED	\$/Mo.	-	45 \$16.30
39	133 W LED	\$/Mo.	-	55 \$16.30
40	150 W LED	\$/Mo.	-	62 \$16.30
41	Wood Pole and Span	\$/Mo.	\$2.55	\$10.00
42	Concrete Pole and Span	\$/Mo.	\$3.82	\$15.00
43	Underground Conductors up to 150 ft	\$/ft/Mo.	\$1.27	\$1.33
44	Underground Conductors 150-300 ft	\$/ft/Mo.	\$2.55	\$2.68
<b>Street Lighting</b>				
<b>Schedule L-S</b>				
45	100 W Sodium Vapor	\$/Mo.	\$7.48	\$7.85
46	150 W Sodium Vapor	\$/Mo.	\$8.89	\$9.33
47	250 W Sodium Vapor	\$/Mo.	\$11.68	\$12.26
48	360 W Sodium Vapor	\$/Mo.	\$14.47	\$15.19
49	400 W Sodium Vapor	\$/Mo.	\$16.28	\$17.09
50	48 W LED	\$/Mo.	-	20 \$9.00
51	70 W LED	\$/Mo.	-	29 \$9.70
52	80 W LED	\$/Mo.	-	33 \$9.70
53	101 W LED	\$/Mo.	-	41 \$16.30
54	110 W LED	\$/Mo.	-	45 \$16.30
55	133 W LED	\$/Mo.	-	55 \$16.30
56	150 W LED	\$/Mo.	-	62 \$16.30
50	Wood Pole and Span	\$/Mo.	\$2.55	\$10.00
57	Concrete Pole and Span	\$/Mo.	\$3.82	\$15.00
58	Underground Conductors up to 150 ft	\$/ft/Mo.	\$1.27	\$1.33
59	Underground Conductors 150-300 ft	\$/ft/Mo.	\$2.55	\$2.68

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Projected Revenues at  
PROPOSED RATES  
Fiscal Year Ending September 30, 2022**

Ln. No.	Customer Class Description (a)	Proposed Rate (b)	Billing Determinants (c)	Base Rate Revenue (d)	Power Cost Adjustment (e)	Total Revenue (f)
<b>Residential Regular</b>						
1	Customer Charge	\$ 10.55	286,364	\$ 3,021,140	\$ -	\$ 3,021,140
2	Energy Charge < 1,000 kWhs	\$ 0.07000	210,058,337	14,704,084	-	14,704,084
3	Energy Charge > 1,000 kWhs	\$ 0.09000	56,175,297	5,055,777	-	5,055,777
4	Power Cost Adjustment < 1,000 kWhs	\$ 0.03610	210,058,337	-	7,583,106	7,583,106
5	Power Cost Adjustment > 1,000 kWhs	\$ 0.04610	56,175,297	-	2,589,681	2,589,681
6	Capacity Charge	\$ -	266,233,634	-	-	-
7	<i>Subtotal Residential Regular</i>			\$ 22,781,001	\$ 10,172,787	\$ 32,953,788
<b>Residential Net Metering</b>						
8	Customer Charge	\$ 10.55	1,588	\$ 16,753	\$ -	\$ 16,753
9	Energy Charge < 1,000 kWhs	\$ 0.07000	1,022,362	71,565	-	71,565
10	Energy Charge > 1,000 kWhs	\$ 0.09000	273,407	24,607	-	24,607
11	Power Cost Adjustment < 1,000 kWhs	\$ 0.03610	1,022,362	-	36,907	36,907
12	Power Cost Adjustment > 1,000 kWhs	\$ 0.04610	273,407	-	12,604	12,604
13	Capacity Charge	\$ -	1,295,769	-	-	-
14	<i>Subtotal Residential Net Metering</i>			\$ 112,925	\$ 49,511	\$ 162,437
15	<b>Residential Minimum Bill Revenue</b>	<b>\$35.00</b>	23,160	\$ 566,262	\$ -	\$ 566,262
16	<b>Total Residential</b>		<u>267,529,403</u>	<u>\$ 23,460,188</u>	<u>\$ 10,222,299</u>	<u>\$ 33,682,486</u>
<b>Commercial Regular</b>						
17	Customer Charge	\$ 17.00	37,416	\$ 636,072	\$ -	\$ 636,072
18	Energy Charge	\$ 0.08400	111,923,908	9,401,608	-	9,401,608
19	Capacity Charge	\$ -	111,923,908	-	-	-
20	Power Cost Adjustment	\$ 0.03820	111,923,908	-	4,275,493	4,275,493
21	<i>Subtotal Commercial Regular</i>			\$ 10,037,680	\$ 4,275,493	\$ 14,313,174
<b>Commercial Net Metering</b>						
22	Customer Charge	\$ 17.00	120	\$ 2,040	\$ -	\$ 2,040
23	Energy Charge	\$ 0.08400	550,196	46,216	-	46,216
24	Capacity Charge	\$ -	550,196	-	-	-
25	Power Cost Adjustment	\$ 0.03820	550,196	-	21,017	21,017
26	<i>Subtotal Commercial Net Metering</i>			\$ 48,256	\$ 21,017	\$ 69,274
27	<b>Commercial Minimum Bill Revenue -1Ph</b>	<b>\$50.00</b>	6,240	\$ 205,920	\$ -	\$ 205,920
28	<b>Commercial Minimum Bill Revenue -PolyPh</b>	<b>\$100.00</b>	1,440	\$ 119,520	\$ -	\$ 119,520
29	<b>Total Commercial</b>		<u>112,474,104</u>	<u>\$ 10,411,377</u>	<u>\$ 4,296,511</u>	<u>\$ 14,707,888</u>

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Projected Revenues at  
PROPOSED RATES  
Fiscal Year Ending September 30, 2022**

Ln. No.	Customer Class Description (a)	Proposed Rate (b)	Billing Determinants (c)	Base Rate Revenue (d)	Power Cost Adjustment (e)	Total Revenue (f)
	<b>Commercial Service Demand</b>					
30	Customer Charge	\$ 130.00	1,020	\$ 132,600	\$ -	\$ 132,600
31	Energy Charge	\$ 0.04950	49,285,812	2,439,648	-	2,439,648
32	Capacity Charge	\$ -	49,285,812	-	-	-
33	Power Cost Adjustment	\$ 0.03820	49,285,812	-	1,882,718	1,882,718
34	Demand Charge	\$ 12.00	105,763	1,269,156	-	1,269,156
35	<b>Total Commercial Service Demand</b>			\$ 3,841,404	\$ 1,882,718	\$ 5,724,122
36	<b>Total Private Area Lighting</b>		1,233,570	\$ 262,500		\$ 262,500
37	<b>Total Street Lights</b>		2,548,000	\$ 372,750		\$ 372,750
38	<b>TOTAL RATE REVENUES</b>			\$ 38,348,218	\$ 16,401,527	\$ 54,749,746
39	<b>OTHER REVENUES</b>					7,993,439
40	<b>TOTAL REVENUES</b>					\$ 62,743,185
41	<b>ADJUSTED FOR 4/22 EFFECTIVE DATE</b>					\$ 61,154,597

## Section 7 RATE COMPARISONS

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### General

This section provides a summary of the billing effects of the proposed rates for major rate classifications. Specifically, the tables in this section provide for two types of billing comparisons for each major rate classification at various levels of usage which include (i) monthly bills calculated under the City's proposed rates compared with bills calculated under its existing rates, and (ii) monthly bills calculated under the City's existing and proposed rates compared with those calculated under the rates of selected utilities for the billing month of January 2021.

### Existing and Proposed Rates

Table No. 7-1 provides a comparison of monthly bills calculated under the proposed rates and the existing rates over a wide range of usage levels.

### Comparisons with Other Utilities

Table No. 7-2 show the City's existing and proposed rates along with those of other electric utilities. As can be seen from these tables, the City's rates are comparable to other utilities.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Comparison of Existing and Proposed Residential Service Rates [1]**

Residential Service						
			Existing	Proposed 2022		
Customer Charge		(\$)	\$10.53	\$10.55		
Energy Charge	First 1,000 kWh	(\$/kWh)	\$0.05148	\$0.07000		
Energy Charge	Additional kWh	(\$/kWh)	\$0.07880	\$0.09000		
PCA	First 1,000 kWh	(\$/kWh)	\$0.03578	\$0.03610		
PCA	Additional kWh	(\$/kWh)	\$0.03900	\$0.04610		
Capacity Charge	All kWh	(\$/kWh)	\$0.01020	-		
Minimum Bill			\$31.40	\$35.00		
Total for 1,000 kWh			\$107.99	\$116.65		
Neighboring Utility 1,000 kWh			\$106.47	\$119.37		
Usage (kWh)	Existing		Proposed		Difference	
	Amount (\$)	Unit Cost (Cents/kWh)	Amount (\$)	Unit Cost (Cents/kWh)	Amount (\$)	Unit Cost (Cents/kWh)
<b>500</b>	59.26	11.852	63.60	12.720	4.34	0.868
<b>600</b>	69.01	11.501	74.21	12.368	5.20	0.867
<b>700</b>	78.75	11.250	84.82	12.117	6.07	0.867
<b>800</b>	88.50	11.062	95.43	11.929	6.93	0.867
<b>900</b>	98.24	10.916	106.04	11.782	7.80	0.866
<b>1,000</b>	107.99	10.799	116.65	11.665	8.66	0.866
<b>1,100</b>	120.79	10.981	130.26	11.842	9.47	0.861
<b>1,200</b>	133.59	11.133	143.87	11.989	10.28	0.857
<b>1,300</b>	146.39	11.261	157.48	12.114	11.09	0.853
<b>1,400</b>	159.19	11.371	171.09	12.221	11.90	0.850
<b>1,500</b>	171.99	11.466	184.70	12.313	12.71	0.847
<b>2,000</b>	235.99	11.800	252.75	12.638	16.76	0.838
<b>2,500</b>	299.99	12.000	320.80	12.832	20.81	0.832
<b>3,000</b>	363.99	12.133	388.85	12.962	24.86	0.829
<b>4,000</b>	491.99	12.300	524.95	13.124	32.96	0.824
<b>5,000</b>	619.99	12.400	661.05	13.221	41.06	0.821

[1] Amounts shown reflect single phase, inside the City service.

[2] Proposed Power Cost Adjustment for April 2022.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Comparison of Existing and Proposed General Service Non-Demand Rates [1]**

		<b>General Service Non-Demand</b>	
		<b>Existing</b>	<b>Proposed 2022</b>
Customer Charge	(\$)	\$16.66	\$17.00
Energy Charge	All kWh (\$/kWh)	\$0.07040	\$0.08400
Power Cost Adjustment	(\$/kWh)	\$0.03578	\$0.03820
Capacity Charge	(\$/kWh)	\$0.01020	-
Minimum Bill - Single Phase		\$50.00	\$50.00
Minimum Bill - Poly Phase		\$50.00	\$100.00
Total for 1,500 kWh		\$191.23	\$200.30

Usage (kWh)	<b>Existing</b>		<b>Proposed</b>		<b>Difference</b>	
	Amount (\$)	Unit Cost (Cents/kWh)	Amount (\$)	Unit Cost (Cents/kWh)	Amount (\$)	Unit Cost (Cents/kWh)
<b>1,000</b>	133.04	13.304	<b>139.20</b>	13.920	6.16	0.616
<b>1,250</b>	162.14	12.971	<b>169.75</b>	13.580	7.62	0.609
<b>1,500</b>	191.23	12.749	<b>200.30</b>	13.353	9.07	0.605
<b>1,750</b>	220.33	12.590	<b>230.85</b>	13.191	10.53	0.601
<b>1,900</b>	237.78	12.515	<b>249.18</b>	13.115	11.40	0.600
<b>2,000</b>	249.42	12.471	<b>261.40</b>	13.070	11.98	0.599
<b>3,000</b>	365.80	12.193	<b>383.60</b>	12.787	17.80	0.593
<b>4,000</b>	482.18	12.055	<b>505.80</b>	12.645	23.62	0.590
<b>5,000</b>	598.56	11.971	<b>628.00</b>	12.560	29.44	0.589
<b>6,000</b>	714.94	11.916	<b>750.20</b>	12.503	35.26	0.588
<b>7,000</b>	831.32	11.876	<b>872.40</b>	12.463	41.08	0.587
<b>8,000</b>	947.70	11.846	<b>994.60</b>	12.433	46.90	0.586
<b>9,000</b>	1,064.08	11.823	<b>1,116.80</b>	12.409	52.72	0.586
<b>10,000</b>	1,180.46	11.805	<b>1,239.00</b>	12.390	58.54	0.585

[1] Amounts shown reflect single phase, inside the City service.  
[2] Proposed Power Cost Adjustment for April 2022.



**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

**Comparison of Existing and Proposed Rates for General Service Demand [1]**

<b>General Service Demand</b>								
					<u>Existing</u>	<u>Proposed 2022</u>		
		Customer Charge		(\$)	\$120.00	\$130.00		
		Demand Charge		(\$/kW)	\$14.48	\$12.00		
		Energy Charge	All kWh	(\$/kWh)	\$0.03550	\$0.04950		
		Power Cost Adjustment		(\$/kWh)	\$0.02890	\$0.03820		
		Capacity Charge		(\$/kWh)	\$0.01020	-		
Total for 30 kW and 6,000 kWh					\$1,002.00	\$1,016.20		

  

Demand (kW)	Hours	Usage (kWh)	Existing		Proposed		Difference	
			Amount (\$)	Unit Cost (Cents/kWh)	Amount (\$)	Unit Cost (Cents/kWh)	Amount (\$)	Unit Cost (Cents/kWh)
<b>30</b>	<b>200</b>	<b>6,000</b>	1,002.00	16.700	<b>1,016.20</b>	16.937	14.20	0.237
	<b>300</b>	<b>9,000</b>	1,225.80	13.620	<b>1,279.30</b>	14.214	53.50	0.594
	<b>400</b>	<b>12,000</b>	1,449.60	12.080	<b>1,542.40</b>	12.853	92.80	0.773
<b>150</b>	<b>200</b>	<b>30,000</b>	4,530.00	15.100	<b>4,561.00</b>	15.203	31.00	0.103
	<b>300</b>	<b>45,000</b>	5,649.00	12.553	<b>5,876.50</b>	13.059	227.50	0.506
	<b>400</b>	<b>60,000</b>	6,768.00	11.280	<b>7,192.00</b>	11.987	424.00	0.707
<b>500</b>	<b>200</b>	<b>100,000</b>	14,820.00	14.820	<b>14,900.00</b>	14.900	80.00	0.080
	<b>300</b>	<b>150,000</b>	18,550.00	12.367	<b>19,285.00</b>	12.857	735.00	0.490
	<b>400</b>	<b>200,000</b>	22,280.00	11.140	<b>23,670.00</b>	11.835	1,390.00	0.695

[1] Amounts shown reflect inside the City service, and exclude any applicable primary service discount or power factor correction.

[2] Proposed Power Cost Adjustment for April 2022.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

Inter-Utility Comparison of Typical Monthly Electric Bills <sup>[1]</sup>

Ln. No.	Utility	Fuel Adj. \$/1000 kWh	Residential Class							
			250 kWh	500 kWh	750 kWh	1,000 kWh	1,200 kWh	2,000 kWh	2,500 kWh	3,000 kWh
1	City of Lake Worth Beach <b>(Existing)</b>	35.78	34.90	59.26	83.63	107.99	133.59	235.99	299.99	363.99
2	City of Lake Worth Beach <b>(Proposed)</b>	36.10	37.08	63.60	90.13	116.65	143.87	252.75	320.80	388.85
<b><u>Other Florida Municipalities:</u></b>										
3	City of Alachua	10.75	35.18	61.22	87.25	113.29	136.16	227.64	284.82	341.99
4	City of Bushnell	19.00	37.41	64.83	92.24	119.65	141.58	229.30	284.13	338.95
5	Fort Pierce Utilities Authority	(8.00)	31.07	56.12	81.18	108.84	130.96	219.48	274.80	330.12
6	Gainesville Regional Utilities	30.00	41.13	67.25	93.38	123.13	148.87	251.83	316.18	380.53
7	Jacksonville Electric Authority	32.50	31.25	57.00	82.75	108.50	129.10	211.50	263.00	317.00
8	Kissimmee Utilities Authority	(38.28)	31.38	52.58	73.79	94.99	114.48	192.46	241.20	289.93
9	City of Lakeland	35.00	33.22	55.43	77.65	99.87	119.08	198.98	250.07	301.15
10	City of Leesburg	2.50	35.29	58.39	81.48	104.58	127.59	219.63	277.15	334.67
11	City of New Smyrna Beach	15.75	28.70	51.75	74.80	97.85	116.29	190.05	236.15	282.25
12	City of Newberry	5.00	35.00	61.50	88.00	114.50	144.00	228.00	280.50	333.00
13	City of Ocala	14.00	42.91	68.82	94.73	120.64	141.37	224.28	276.10	327.92
14	Orlando Utilities Commission	32.02	36.75	61.00	85.25	109.50	132.90	226.50	285.00	343.50
15	City of Tallahassee	28.08	33.66	59.27	84.89	110.50	130.99	212.96	264.19	315.42
<b><u>Florida Cooperatives</u></b>										
16	Sumter Electric Cooperative	(20.70)	53.48	75.95	98.43	120.90	142.88	230.80	285.75	340.70
17	Central Florida Cooperative	(5.50)	52.58	75.70	98.83	121.95	140.45	214.45	260.70	306.95
18	Clay Electric Cooperative	11.40	43.98	64.95	85.93	106.90	127.44	209.60	260.95	312.30
<b><u>Investor-Owned Utilities: <sup>[2]</sup></u></b>										
19	Florida Power and Light	21.23	32.22	55.60	78.98	102.36	125.44	217.75	275.44	333.13
20	Gulf Power Company	30.70	51.58	82.80	114.03	145.25	170.23	270.15	332.60	395.05
21	Duke Energy	28.11	41.78	71.48	101.17	130.87	160.38	278.43	352.21	425.99
22	Tampa Electric Company	28.56	39.21	62.46	85.71	108.97	131.81	223.18	280.29	337.40

[1] Amounts shown are based on the rates for single phase service and reflect when applicable, inside city service. In addition, amounts include January 2021 fuel adjustments and franchise fees but do not include taxes.

[2] Amounts shown include the energy conservation, capacity, environmental and storm cost recovery charges where appropriate, as filed with the the Florida Public Service Commission (FPSC). Franchise fees of 6 percent are included for each of the IOU's listed.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

Inter-Utility Comparison of Typical Monthly Electric Bills <sup>[1]</sup>

Ln. No.	Utility	Fuel Adj. \$/1000 kWh	General Service Non-Demand Class							
			250 kWh	500 kWh	750 kWh	1,000 kWh	1,500 kWh	2,000 kWh	2,500 kWh	3,000 kWh
1	City of Lake Worth Beach <b>(Existing)</b>	35.78	45.76	74.85	103.95	133.04	191.23	249.42	307.61	365.80
2	City of Lake Worth Beach <b>(Proposed)</b>	38.20	47.55	78.10	108.65	139.20	200.30	261.40	322.50	383.60
<b><u>Other Florida Municipalities:</u></b>										
3	City of Alachua	10.75	38.99	66.31	93.62	120.93	175.56	230.18	284.81	339.43
4	City of Bushnell	19.00	40.72	71.43	102.15	132.86	194.29	255.72	317.15	378.58
5	Fort Pierce Utilities Authority	(8.00)	33.61	61.37	89.14	116.90	172.43	227.96	283.49	339.02
6	Gainesville Regional Utilities	30.00	63.10	95.20	127.30	159.40	223.60	304.05	384.50	464.95
7	Jacksonville Electric Authority	32.50	33.65	58.05	82.44	106.84	155.64	204.43	253.23	302.02
8	Kissimmee	(38.28)	35.08	59.09	83.09	107.09	155.10	203.10	251.11	299.11
9	City of Lakeland	35.00	35.01	57.01	79.02	101.03	145.04	189.05	233.06	277.08
10	City of New Smyrna Beach	15.75	28.61	51.18	73.74	96.30	141.43	186.55	231.68	276.80
11	City of Ocala	14.00	46.19	72.39	98.58	124.77	177.16	229.54	281.93	334.31
12	Orlando Utilities Commission	32.02	40.30	65.84	91.39	116.93	168.02	219.11	270.20	321.29
13	City of Tallahassee	28.08	32.66	54.39	76.12	97.85	141.31	184.77	228.23	271.69
<b><u>Florida Cooperatives</u></b>										
14	Sumter Electric Cooperative	(20.70)	56.80	80.42	104.05	127.67	174.92	222.17	269.42	316.67
15	Clay Electric Cooperative	17.40	47.68	72.35	97.03	121.70	171.05	220.40	269.75	319.10
<b><u>Investor-Owned Utilities: <sup>[2]</sup></u></b>										
16	Florida Power and Light	24.49	35.11	58.98	82.84	106.71	154.44	202.17	249.91	297.64
17	Gulf Power Company	30.70	58.79	90.81	122.83	154.86	218.90	282.95	346.99	411.04
18	Duke Energy	30.94	47.66	79.32	110.98	142.64	205.97	269.29	332.62	395.94
19	Tampa Electric Company	31.67	43.91	68.68	93.44	118.21	167.75	217.28	266.81	316.35

[1] Amounts shown are based on the rates for single phase service and reflect when applicable, inside city service. In addition, amounts include January 2021 fuel adjustments and franchise fees but do not include taxes.

[2] Amounts shown include the energy conservation, capacity, environmental and storm cost recovery charges where appropriate, as filed with the the Florida Public Service Commission (FPSC). Franchise fees of 6 percent are included for each of the IOU's listed.

**CITY OF LAKE WORTH BEACH, FLORIDA**  
**Electric Cost of Service Study**

[Inter-Utility Comparison of Typical Monthly Electric Bills \[1\]](#)

		<b>General Service Demand Class</b>								
		30 kW			150 kW			500 kW		
Ln. No.	Utility	6,000 kWh	12,000 kWh	18,000 kWh	30,000 kWh	60,000 kWh	90,000 kWh	100,000 kWh	200,000 kWh	300,000 kWh
1	City of Lake Worth Beach <b>(Existing)</b>	1,002	1,450	1,897	4,530	6,768	9,006	14,820	22,280	29,740
2	City of Lake Worth Beach <b>(Proposed)</b>	1,016	1,542	2,069	4,561	7,192	9,823	14,900	23,670	32,440
<b><u>Other Florida Municipalities:</u></b>										
3	Fort Pierce Utilities Authority	719	1,196	1,673	3,439	5,822	8,206	11,370	19,316	27,262
4	Gainesville Regional Utilities	976	1,548	2,120	4,482	7,341	10,200	14,705	24,235	33,765
5	Jacksonville Electric Authority	737	1,137	1,537	3,345	5,345	7,345	10,952	17,619	24,286
6	Kissimmee	701	1,080	1,459	3,284	5,179	7,074	11,618	17,099	22,580
7	City of Lakeland	637	980	1,324	3,017	4,734	6,452	9,958	15,683	21,409
8	City of New Smyrna Beach	721	1,205	1,690	3,469	5,891	8,314	10,859	18,434	26,009
9	City of Ocala	700	1,140	1,579	3,301	5,498	7,695	11,522	18,634	25,746
10	Orlando Utilities Commission	683	1,029	1,374	3,265	4,993	6,720	10,796	16,554	22,312
11	City of Tallahassee	804	1,115	1,365	3,720	5,275	6,524	12,162	17,284	21,417
<b><u>Florida Cooperatives</u></b>										
12	Sumter Electric Cooperative	680	1,099	1,518	3,069	5,163	7,257	10,038	17,018	23,998
<b><u>Investor-Owned Utilities:</u> <sup>[2]</sup></b>										
13	Florida Power and Light	693	998	1,304	3,352	4,879	6,407	11,926	16,524	21,121
14	Gulf Power Company	767	1,261	1,754	3,638	6,105	8,573	14,461	20,620	26,779
15	Duke Energy	784	1,182	1,579	3,858	5,846	7,833	12,789	19,382	25,975
16	Tampa Electric Company	741	1,060	1,379	3,576	5,173	6,770	11,847	17,169	22,491

[1] Amounts shown are based on the rates for single phase service and reflect when applicable, inside city service. In addition, amounts include January 2021 fuel adjustments and franchise fees but do not include taxes.

[2] Amounts shown include the energy conservation, capacity, environmental and storm cost recovery charges where appropriate, as filed with the the Florida Public Service Commission (FPSC). Franchise fees of 6 percent are included for each of the IOU's listed.

## GLOSSARY [1]

**Administrative and general expenses:** Expenses of an electric utility relating to the overall directions of its corporate offices and administrative affairs, as contrasted with expenses incurred for specialized functions. Examples include office salaries, office supplies, advertising, and other general expenses.

**AMI:** Advanced Metering Infrastructure is a term denoting electricity meters that measure and record usage data at a minimum, in hourly intervals, and provide usage data to both consumers and energy companies at least once daily.

**Base rate:** A fixed kilowatthour charge for electricity consumed that is independent of other charges and/or adjustments.

**Bulk power transactions:** The wholesale sale, purchase, and interchange of electricity among electric utilities. Bulk power transactions are used by electric utilities for many different aspects of electric utility operations, from maintaining load to reducing costs.

**Capacity (purchased):** The amount of energy and capacity available for purchase from outside the system.

**Capacity charge:** An element in a two-part pricing method used in capacity transactions (energy charge is the other element). The capacity charge, sometimes called Demand Charge, is assessed on the amount of capacity being purchased.

**Capacity factor:** The ratio of the electrical energy produced by a generating unit for the period of time considered to the electrical energy that could have been produced at continuous full power operation during the same period.

**Capital cost:** The cost of field development and plant construction and the equipment required for industry operations.

**Class rate schedule:** An electric rate schedule applicable to one or more specified classes of service, groups of businesses, or customer uses.

**Classes of service:** Customers grouped by similar characteristics in order to be identified for the purpose of setting a common rate for electric service. Usually classified into groups identified as residential, commercial, industrial, and other.

**Coincidental demand:** The sum of two or more demands that occur in the same time interval.

**Coincidental peak load:** The sum of two or more peak loads that occur in the same time interval.

**Consumer charge:** An amount charged periodically to a consumer for such utility costs as billing and meter reading, without regard to demand or energy consumption.

**Cost of service:** A ratemaking concept used for the design and development of rate schedules to ensure that the filed rate schedules recover only the cost of providing the electric service at issue. This concept attempts to correlate the utility's costs and revenue with the service provided to each of the various customer classes.

**Demand charge:** That portion of the consumer's bill for electric service based on the consumer's maximum electric capacity usage and calculated based on the billing demand charges under the applicable rate schedule.

**Distribution system:** The portion of the transmission and facilities of an electric system that is dedicated to delivering electric energy to an end-user.

**Electric rate:** The price set for a specified amount and type of electricity by class of service in an electric rate schedule or sales contract.

**Electric rate schedule:** A statement of the electric rate and the terms and conditions governing its application, including attendant contract terms and conditions that have been accepted by a regulatory body with appropriate oversight authority.

**Electricity sales:** The amount of kilowatthours sold in a given period of time; usually grouped by classes of service, such as residential, commercial, industrial, and other. "Other" sales include sales for public street and highway lighting and other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

**Energy charge:** That portion of the charge for electric service based upon the electric energy (kWh) consumed or billed.

**Federal Energy Regulatory Commission (FERC):** The Federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification. FERC is an independent regulatory agency within the Department of Energy and is the successor to the Federal Power Commission.

**FERC guidelines:** A compilation of the Federal Energy Regulatory Commission's enabling statutes; procedural and program regulations; and orders, opinions, and decisions.

**Fixed cost (expense):** An expenditure or expense that does not vary with volume level of activity.

**Fixed operating costs:** Costs other than those associated with capital investment that do not vary with the operation, such as maintenance and payroll.

**Investor-owned utility (IOU):** A privately-owned electric utility whose stock is publicly traded. It is rate regulated and authorized to achieve an allowed rate of return.

**Kilowatt (kW):** One thousand watts.

**Kilowatthour (kWh):** A measure of electricity defined as a unit of work or energy, measured as 1 kilowatt (1,000watts) of power expended for 1 hour. One kWh is equivalent to 3,412 Btu.

**Load diversity:** The difference between the peak of coincident and noncoincident demands of two or more individual loads.

**Load factor:** The ratio of the average load to peak load during a specified time interval.

**Megawatt (MW):** One million watts of electricity.

**Megawatthour (MWh):** One thousand kilowatt-hours or 1million watt-hours.

**Noncoincident demand:** Sum of two or more demands on individual systems that do not occur in the same demand interval.

**Noncoincidental peak load:** The sum of two or more peak loads on individual systems that do not occur in the same time interval. Meaningful only when considering loads within a limited period of time, such as a day, week, month, a heating or cooling season, and usually for not more than 1 year.

**O&M:** Operation and Maintenance.

**Peak demand:** The maximum load during a specified period of time.

**Purchased power:** Power purchased or available for purchase from a source outside the system.

**Rate schedule (electric):** The rates, charges, and provisions under which service is supplied to the designated class of customers.

**Ratemaking authority:** A utility commission's legal authority to fix, modify, approve, or disapprove rates as determined by the powers given the commission by a State or Federal legislature.

**Rates:** The authorized charges per unit or level of consumption for a specified time period for any of the classes of utility services provided to a customer.

**Time-of-day rate:** The rate charged by an electric utility for service to various classes of customers. The rate reflects the different costs of providing the service at different times of the day.

**Watt (W):** The unit of electrical power equal to one ampere under a pressure of one volt. A Watt is equal to 1/746 horse power.

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[1] From U. S. Energy Information Administration Glossary  
<https://www.eia.gov/tools/glossary/index.php?id=xyz>.