

Application No.: A.16-09-001
Exhibit No.: SCE-59
Witnesses: B. Anderson
D. Bernaudo
T. Cameron
M. Childs
D. Gunn
T. Guntrip
G. Henry
C. Jacobs
D. Kempf
S. Menon
D. Tessler



SOUTHERN CALIFORNIA
EDISON[®]

An *EDISON INTERNATIONAL*[®] Company

(U 338-E)

2018 General Rate Case

| *Update Testimony*

Before the

Public Utilities Commission of the State of California

Rosemead, California
December 8, 2017

SCE-59: Update Testimony

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I.

INTRODUCTION AND SUMMARY OF UPDATED REVENUE REQUIREMENT REQUEST

In this exhibit, Southern California Edison Company (SCE) respectfully presents its testimony for the update phase of our Test Year 2018 General Rate Case.¹ The Commission's Rate Case Plan² outlines the criteria for update testimony:

A. Known changes in cost of labor based on contract negotiations completed or known changes that result from updated data using the same indices used in the original presentation during the hearing.

B. Changes in non-labor escalation factors based on the same indices the party used in its original presentation during hearings.

C. Known changes due to governmental action such as changes in tax rates, postage rates, or assessed valuation.

Table I-1 below summarizes the revenue requirement impact of the updates we have identified and supported in this testimony. The table is followed by a brief description of each line item.

In addition, this exhibit includes updates related to the recovery of the December 31, 2017 balances in the Residential Rate Implementation Memorandum Account (RRIMA), the SmartConnect Opt-Out Balancing Account (SOBA), and the Energy Data Request Program Memorandum Account (EDRPMA). This exhibit also provides updated Added Facilities rates to incorporate the impact of the 2018 Cost of Capital Decision (D.) 17-07-005. In addition, this exhibit also updates SCE's Pension and Benefits forecast for the 2018-2020 period, sales of streetlighting assets, and some internal changes in accounting that have been identified since we originally filed our Application in September, 2016, so that the revenue requirement request reflects these known changes.

SCE's GRC update filing reduces the 2018 Revenue Requirement by \$186 million compared to our prior request. With this update, we are requesting an increase of only \$33 million, an amount that is just 0.6% above 2017 authorized base revenues. The key drivers of this reduction are changes in Cost of Capital, Pensions and other Post Retirement Benefits, accounting methods, and escalation rates. Other increases and decreases make up the balance of the reduced revenue requirement. A complete list of changes included in this testimony is provided below.

¹ As discussed at the last day of evidentiary hearings. *See* Evid. Hearing Transcript, Vol. 21, p. 3026 (hearing date August 2, 2017).

² *See, e.g.*, D.89-01-040.

Table I-1

Southern California Edison Company Change in 2018-2020 GRC Revenue Requirement (Thousands of Dollars)			
	CPUC		
	<u>2018</u>	<u>2019</u>	<u>2020</u>
1. Rebuttal Revenue Requirement	5,859,260	6,339,298	6,895,677
2. Update for Joint Comparison	3	40	73
3. Joint Comparison Revenue Requirement	5,859,263	6,339,338	6,895,750
4. Update Changes			
5. Joint Comparison Exhibit Errata	(238)	(207)	(406)
6. Customer Deposits Concession	3,900	4,477	5,194
7. RO Model Updates	(423)	130	135
8. Escalation Rates	(15,001)	(14,888)	(8,982)
9. Postage Rates	200	204	209
10. Pension Forecast	(17,667)	(19,319)	(21,457)
11. PBOP Forecast	(13,840)	(16,226)	(19,130)
12. Pension/PBOP Accounting Change	(39,015)	(36,785)	(33,699)
13. TSD Forecast	145	328	497
14. JPO Accounting Change	(9,724)	(10,087)	(9,614)
15. Street Light Sales	(6,923)	(4,629)	(4,531)
16. Cost of Capital	(80,717)	(85,685)	(93,539)
17. OASDI Tax Limits	(436)	(681)	(781)
18. STIP Accounting Change Update	(6,211)	(6,129)	(6,203)
19. Total Revenue Requirement Changes	(185,950)	(189,497)	(192,305)
20. Update Revenue Requirement	5,673,313	6,149,841	6,703,445

Line 1: provides SCE's revenue requirement request reflected in SCE Rebuttal Exhibit SCE-25, Vol. 01, submitted on June 16, 2017;

Line 2: provides revenue requirement changes made in preparing the Joint Comparison Exhibit SCE-29;

Line 3: provides SCE's revenue requirement request reflected in the Joint Comparison Exhibit SCE-29, submitted on July 10, 2017;

Line 5: provides the revenue requirement change related to SCE's errata to the Joint Comparison Exhibit. This errata was designated Exhibit SCE-29A and submitted on September 6, 2017;

1 Line 6: provides the revenue requirement change related to accepting the Office of Ratepayer
2 Advocates' (ORA's) calculation method for customer deposits;³
3 Line 7 provides the revenue requirement change for updates to the RO model that have been
4 made consistent with SCE's request supported in testimony (e.g., Shareholder
5 Assigned Cost update as described in Advice 3702-E filed on November 20, 2017);
6 Line 8: provides the revenue requirement change related to updated capital escalation rates
7 and O&M labor and non-labor escalation rates, as supported in Chapter III of this
8 Update testimony;
9 Line 9: provides the revenue requirement change related to an increase in postage rates, as
10 supported in Chapter V of this Update testimony;
11 Lines 10-11: provides the revenue requirement change related to decreases in SCE's Pension and
12 Post-Employment Benefits Other Than Pensions (PBOPs) based on updated actuarial
13 studies. This change is supported in Chapter VI of this Update testimony;
14 Line 12: provides the revenue requirement change related to a Pension and PBOP accounting
15 change, as supported in Chapter VI of this Update testimony;
16 Line 13: provides the revenue requirement change related to a Transportation Services
17 Division (TSD) vehicle law change, as supported in Chapter VII of this Update
18 testimony;
19 Line 14: provides the revenue requirement change related to a Joint Pole Organization (JPO)
20 accounting change, as supported in Chapter VIII of this Update testimony;
21 Line 15: provides the revenue requirement change related to the removal from rate base of
22 streetlight assets that have been included in a section 851 application or advice letter
23 that has received Commission approval, and that have completely (or will soon)
24 transfer in terms of ownership and responsibility from SCE to the purchasing entity.
25 This change is supported in Chapter IX of this Update testimony;
26 Line 16: provides the revenue requirement decrease to reflect the new 2018 cost of capital, as
27 adopted in D.17-07-005. This decision revised SCE's currently authorized Return on
28 Equity from 10.45% to 10.30% and reset the authorized costs of long-term debt and
29 preferred stock beginning in Test Year 2018. As described and supported in Advice

³ Please refer to SCE-25, Volume 2, p. 26 and SCE-29A, p. 259.

3665-E filed on September 29, 2017, SCE's currently authorized Return on Rate Base (RORB) of 7.90% is reduced to 7.61% as a result of D.17-07-005. This RORB reduction is effective January 1, 2018;

Line 17: provides the revenue requirement decrease related to Old-Age, Survivors, and Disability Insurance (OASDI) Tax limitations included in the 2017 OASDI Trustees Report. This decrease is supported in Chapter XI of this Update testimony;

Line 18: As discussed in SCE-24, Volume 2, page 21, SCE updated the proposed capitalization rate for the expenses related to the Short Term Incentive Plan (STIP) from the A&G capitalization rate to the P&B capitalization rate. SCE has implemented this change in 2017. Our intent in the rebuttal was to update our revenue requirement request for the years 2018-2020 through the 2018 GRC, and make the 2017 adjustment through the currently authorized Results Sharing Memorandum Account (RSMA), since this funding for 2017 is already authorized through the 2015 GRC.

While updating the RO Model for the rebuttal testimony SCE submitted on June 16, 2017, SCE inadvertently adjusted the STIP capitalization rate from the A&G capitalization rate to the P&B capitalization rate for years 2015-2020 instead of 2018-2020. The correction SCE proposes in this Update testimony reverses the STIP capitalization rate for 2015-2017, and has the RO model reflect the STIP capitalization at the P&B capitalization rate for 2018-2020 only.

Line 20: provides SCE's updated revenue requirement request in this Update testimony as a result of the changes shown on Lines 2 – 18.

This exhibit is organized as follows:

Chapter II sets forth SCE's requested 2018 GRC Results of Operations, as well as the Post-Test year Results of Operations for 2019 and 2020.

Chapter III provides SCE's update testimony regarding the calculation of escalation rates used to project O&M and capital expenses for the years 2016 through 2020.

Chapter IV provides testimony addressing the recovery of the December 31, 2017 balances in the RRIMA, SOBA, and the EDRPMA.

Chapter V describes the changes resulting from an increase in postal rates.

1 Chapter VI addresses updated pensions and PBOPS forecast, including a related accounting
2 change.

3 Chapter VII describes the changes resulting from an increase in fuel taxes and vehicle license
4 fees.

5 Chapter VIII address a request for an accounting change in the Joint Pole Organization.

6 Chapter IX describes the removal from rate base of streetlight assets that have been included in
7 an 851 application or advice letter that has received Commission approval.

8 Chapter X discusses a change in Tax Accounting Method included in SCE's 2016 tax return that
9 expands the definition of capitalized software costs. SCE proposes that any recorded-to-forecast
10 differences related to deductible capitalized software be recorded in the Tax Accounting
11 Memorandum Account (TAMA).

12 Chapter XI describes the changes resulting from updated OASDI Tax limitations included in the
13 2017 OASDI Trustees Report;

14 Chapter XII provides SCE's update to its 2018 Added Facilities rates to reflect the new 2018
15 Cost of Capital.

1 II.

2 **RESULTS OF OPERATIONS**

3 This chapter presents our revised 2018 Test Year Results of Operations (RO) based on the
4 updated information presented in Chapters III through XII. We respectfully request that the Commission
5 adopt a 2018 revenue requirement of \$5.673 billion. Table II-2 presents our revised Results of
6 Operations for Test Year 2018 and Post-Test Years 2019 and 2020.⁴

⁴ Please refer to Appendix B for additional information.

Table II-2
Revised Results of Operations At Proposed Rates
Commission Jurisdictional
(Thousands of Dollars)

		GRC CPUC		
Line	Item	2018	2019	2020
1.	Total Operating Revenues	5,673,313	6,149,841	6,703,445
2.	Operating Expenses:			
3.	Production			
4.	Steam	7,845	7,845	7,845
5.	Nuclear	76,747	76,747	76,747
6.	Hydro	41,446	41,446	41,446
7.	Other	81,965	81,965	81,965
8.	Total Production O&M	208,003	208,003	208,003
9.	Transmission	91,118	91,118	91,118
10.	Distribution	532,099	532,099	532,099
11.	Customer Accounts	159,329	159,329	159,329
12.	Uncollectibles	12,254	13,284	14,479
13.	Customer Service & Information	21,007	21,007	21,007
14.	Administrative & General	647,853	644,719	643,516
15.	Franchise Requirements	51,877	56,234	61,296
16.	Revenue Credits	(164,722)	(171,246)	(182,285)
17.	Total O&M	1,558,819	1,554,547	1,548,562
18.	Escalation	103,952	154,691	203,661
19.	Depreciation	1,752,338	1,872,039	2,048,898
20.	Taxes Other Than On Income			
21.	Property Taxes	258,585	276,482	298,016
22.	Payroll Taxes & Misc	66,350	68,453	70,877
23.	Taxes Based On Income	187,730	318,667	465,434
24.	Total Taxes	512,664	663,602	834,327
25.	Total Operating Expenses	3,927,773	4,244,880	4,635,448
26.	Net Operating Revenue	1,745,539	1,904,961	2,067,997
27.	Rate Base	22,939,852	25,034,971	27,177,582
28.	Rate Of Return	7.61%	7.61%	7.61%

1 The revenue change attributable to this proceeding is \$117 million as identified in Table II-3
2 (line 18).⁵ This revenue change takes into account a \$33 million increase in Authorized Base Revenue
3 Requirement (ABRR), a \$43 million increase to account for a decline in 2018 forecast GWh sales, and a
4 \$42 million increase related to the recovery of the December 31, 2017 balances in five balancing and
5 memorandum accounts.⁶ Table II-3 also identifies the requested ABRR and CPUC-jurisdictional base-
6 related revenue changes estimated for Post-Test Years 2019 and 2020.

⁵ As stated in SCE's rebuttal testimony, SCE-25, Volume 1, page 4, footnote 2, SCE revised the 2018 Present Revenue Requirement (Line 2) to reflect the 2017 Post-Test Year Revenue Requirement filed in Advice 3514-E.

⁶ In Chapter IV of this Update testimony, SCE updates and supports the year-end 2017 balances in the RRIMA, SOBA, and the EDRPMA. The Bark Beetle CEMA increase of \$10.7 million (including FF&U) is for the period 2012 – 2014, and therefore no update is required. In addition, there has been no activity in the RSDMA since 2015, and accordingly an update is not necessary. The December 31, 2017 balances in these five accounts will be updated to reflect interest at the time of transfer.

Table II-3
2018, 2019 and 2020 Revenue Changes Resulting From the 2018 Test Year and 2019 and 2020
PTYR GRC Request - Commission Jurisdictional
(Thousands of Dollars)

	2018	2019	2020	Cumulative	SCE-9 Vol. 1 Reference
1. Proposed GRC Base Revenue Requirement	5,673,313	6,149,841	6,703,445		Update Testimony Table II-1
2. Estimated Present (Prior Year) Revenue Requirement	5,640,432	5,673,313	6,149,841		For 2018, AL 3514-E
3. GRC ABRR Change	32,881	476,528	553,604		
4. Less: GRC Revenue Growth					
5. 2017 GRC PRR	84,253	5,309,377			Table VI-27
6. 2018 GRC PRR	83,572	5,266,462			Table VI-27
7. 2018 GRC PRR	83,572	5,266,462			Table VI-27
8. 2019 GRC PRR	83,470	5,260,034			Table VI-27
9. 2019 GRC PRR	83,470		5,260,034		Table VI-27
10. 2020 GRC PRR	82,567		5,203,130		Table VI-27
11. GRC Revenue Growth	(42,915)	(6,428)	(56,904)		
12. Residential Rate OIR Implementation MA	18,854	(18,854)			Update Testimony CH IV, plus FF&U
13. SmartConnect Opt Out BA	11,457	(11,457)			Update Testimony CH IV, plus FF&U
14. 2012 - 2014 Bark Beetle CEMA	10,675	(10,675)			SCE-12, Table VI-3 + FF&U
15. Residential Service Disconnection MA	27	(27)			Table IV-16 plus FF&U
16. Energy Data Request Program MA	458	(458)			Update Testimony CH IV, plus FF&U
17. Subtotal - Balancing/Memo Account Recovery	41,471	(41,471)	-	-	
18. GRC Revenue Change (Line 3 - Line 11 + Line 17)	117,266	441,485	610,508	1,169,259	
19. Percent GRC Revenue Change	2.08%	7.78%	9.93%	19.79%	
20. Total System PRR	11,417,570	11,393,715	11,277,777		Table VI-25
21. GRC Revenue Change - 2018		117,266	117,266		Line 18 (2018)
22. GRC Revenue Change - 2019			441,485		Line 18 (2019)
23. Total System PRR with GRC Revenue Changes	11,417,570	11,510,981	11,836,528		Line 20 + Line 21 + Line 22
24. Percent Total Revenue Change	1.03%	3.84%	5.16%	10.02%	Line 18 / Line 23

1 III.

2 **ESCALATION RATE CHANGES**

3 This chapter provides SCE's update testimony regarding the calculation of escalation rates used
4 to project capital and O&M expenses (including Palo Verde) for the years 2016 through 2020. The
5 escalation rates shown for 2019 and 2020 are revised projections of the escalation rates that will be used
6 in SCE's proposed Post-Test Year ratemaking mechanism for 2019 and 2020, assuming SCE's
7 escalation rates are adopted by the Commission. All indexes are set using 2015 as a base year (i.e, the
8 2015 index = 1.0).

9 **A. Escalation Rates Based On The IHS Global Insight Power Planner Projection**

10 The updated escalation rates include changes described in our application. The updated O&M
11 labor, O&M non-labor, and capital escalation rates presented below in Table *III-4*, Table *III-5*, and
12 Table *III-6*, respectively, are based on the IHS Global Insight Power Planner projection for the third
13 quarter of 2017. Labor escalation rates also incorporate wage increases for all of SCE's employees
14 through 2016 and wage increases for SCE's represented employees based upon ratified collective
15 bargaining agreements, through 2019.⁷

⁷ Please refer to Appendix C for additional information.

Table III-4
O&M Labor Price Indexes And Escalation Rates
Based Upon Average Hourly Earnings, Collective Bargaining Agreements, and IHS Global Insight Power Planner 2017 Third Quarter Projection; 2015=1.0

		<i>Steam Generation</i>			<i>Nuclear Generation</i>			<i>Hydro Generation</i>		
<i>Line No</i>	<i>Year</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>
1	2015	1.0000	1.0000		1.0000	1.0000		1.0000	1.0000	
2	2016	1.0325	0.9686	3.25%	1.0325	0.9686	3.25%	1.0325	0.9686	3.25%
3	2017	1.0601	0.9433	2.68%	1.0601	0.9433	2.68%	1.0601	0.9433	2.68%
4	2018	1.0900	0.9174	2.82%	1.0900	0.9174	2.82%	1.0900	0.9174	2.82%
5	2019	1.1215	0.8917	2.89%	1.1215	0.8917	2.89%	1.1215	0.8917	2.89%
6	2020	1.1545	0.8662	2.94%	1.1545	0.8662	2.94%	1.1545	0.8662	2.94%

		<i>Other Generation</i>			<i>Transmission</i>			<i>Distribution</i>		
<i>Line No</i>	<i>Year</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>
7	2015	1.0000	1.0000		1.0000	1.0000		1.0000	1.0000	
8	2016	1.0325	0.9686	3.25%	1.0325	0.9686	3.25%	1.0325	0.9686	3.25%
9	2017	1.0601	0.9433	2.68%	1.0601	0.9433	2.68%	1.0601	0.9433	2.68%
10	2018	1.0900	0.9174	2.82%	1.0900	0.9174	2.82%	1.0900	0.9174	2.82%
11	2019	1.1215	0.8917	2.89%	1.1215	0.8917	2.89%	1.1215	0.8917	2.89%
12	2020	1.1545	0.8662	2.94%	1.1545	0.8662	2.94%	1.1545	0.8662	2.94%

		<i>Customer Accounts</i>			<i>CS&I</i>			<i>Sales</i>		
<i>Line No</i>	<i>Year</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>
13	2015	1.0000	1.0000		1.0000	1.0000		1.0000	1.0000	
14	2016	1.0325	0.9686	3.25%	1.0325	0.9686	3.25%	1.0325	0.9686	3.25%
15	2017	1.0601	0.9433	2.68%	1.0601	0.9433	2.68%	1.0601	0.9433	2.68%
16	2018	1.0900	0.9174	2.82%	1.0900	0.9174	2.82%	1.0900	0.9174	2.82%
17	2019	1.1215	0.8917	2.89%	1.1215	0.8917	2.89%	1.1215	0.8917	2.89%
18	2020	1.1545	0.8662	2.94%	1.1545	0.8662	2.94%	1.1545	0.8662	2.94%

		<i>A&G</i>								
<i>Line No</i>	<i>Year</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>						
19	2015	1.0000	1.0000							
20	2016	1.0325	0.9686	3.25%						
21	2017	1.0601	0.9433	2.68%						
22	2018	1.0900	0.9174	2.82%						
23	2019	1.1215	0.8917	2.89%						
24	2020	1.1545	0.8662	2.94%						

Table III-5
O&M Non-labor Price Indexes And Escalation Rates
(Based Upon IHS Global Insight Power Planner 2017 Third Quarter Projection; 2015=1.0)

		<i>Steam Generation</i>			<i>Hydro Generation</i>			<i>Other Generation</i>		
<i>Line No</i>	<i>Year</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>
1	2015	1.0000	1.0000		1.0000	1.0000		1.0000	1.0000	
2	2016	1.0023	0.9977	0.23%	0.9922	1.0078	-0.78%	1.0016	0.9984	0.16%
3	2017	1.0185	0.9819	1.61%	1.0092	0.9909	1.71%	1.0155	0.9847	1.39%
4	2018	1.0327	0.9684	1.39%	1.0240	0.9766	1.46%	1.0313	0.9696	1.56%
5	2019	1.0514	0.9511	1.82%	1.0424	0.9593	1.80%	1.0495	0.9528	1.76%
6	2020	1.0768	0.9287	2.41%	1.0713	0.9335	2.77%	1.0731	0.9318	2.25%

		<i>Transmission</i>			<i>Distribution</i>			<i>Customer Accounts</i>		
<i>Line No</i>	<i>Year</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>
7	2015	1.0000	1.0000		1.0000	1.0000		1.0000	1.0000	
8	2016	0.9951	1.0050	-0.49%	0.9917	1.0083	-0.83%	1.0114	0.9887	1.14%
9	2017	1.0009	0.9991	0.59%	1.0039	0.9961	1.23%	1.0320	0.9690	2.03%
10	2018	1.0080	0.9921	0.71%	1.0151	0.9851	1.12%	1.0483	0.9539	1.59%
11	2019	1.0184	0.9819	1.03%	1.0305	0.9704	1.51%	1.0724	0.9325	2.30%
12	2020	1.0321	0.9689	1.34%	1.0505	0.9520	1.94%	1.0988	0.9100	2.46%

		<i>A&G@H</i>			<i>CS&I</i>		
<i>Line No</i>	<i>Year</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>
13	2015	1.0000	1.0000		1.0000	1.0000	
14	2016	1.0117	0.9884	1.17%	1.0067	0.9933	0.67%
15	2017	1.0300	0.9708	1.81%	1.0231	0.9774	1.63%
16	2018	1.0497	0.9527	1.91%	1.0350	0.9662	1.17%
17	2019	1.0728	0.9321	2.20%	1.0543	0.9485	1.86%
18	2020	1.0972	0.9114	2.27%	1.0751	0.9301	1.98%

Table III-6
Capital Price Indexes And Escalation Rates
(Based Upon IHS Global Insight Power Planner 2017 Third Quarter Projection; 2015=1.0)

		Steam Generation		
Line No	Year	Inflation Index	Deflation Index	%_Change
1	2015	1.0000	1.0000	1.80%
2	2016	1.0569	0.9462	5.69%
3	2017	1.0965	0.9120	3.75%
4	2018	1.1296	0.8852	3.02%
5	2019	1.1543	0.8663	2.19%
6	2020	1.1797	0.8477	2.20%

		Hydro Generation		
Inflation Index	Deflation Index	%_Change		
1.0000	1.0000	1.73%		
1.0327	0.9684	3.27%		
1.0687	0.9357	3.49%		
1.0951	0.9132	2.47%		
1.1205	0.8925	2.32%		
1.1487	0.8705	2.52%		

		Other Generation		
Inflation Index	Deflation Index	%_Change		
1.0000	1.0000	2.98%		
1.0369	0.9644	3.69%		
1.0818	0.9244	4.33%		
1.1172	0.8951	3.27%		
1.1588	0.8629	3.73%		
1.1947	0.8370	3.10%		

		Transmission		
Line No	Year	Inflation Index	Deflation Index	%_Change
7	2015	1.0000	1.0000	1.45%
8	2016	1.0273	0.9734	2.73%
9	2017	1.0568	0.9462	2.87%
10	2018	1.0853	0.9214	2.70%
11	2019	1.1085	0.9021	2.14%
12	2020	1.1369	0.8796	2.56%

Distribution		
Inflation Index	Deflation Index	%_Change
1.0000	1.0000	2.76%
1.0106	0.9895	1.06%
1.0397	0.9618	2.88%
1.0705	0.9341	2.96%
1.1073	0.9031	3.43%
1.1424	0.8754	3.17%

Meters Installed		
Inflation Index	Deflation Index	%_Change
1.0000	0.8370	
1.0246	0.8576	2.46%
1.0512	0.8799	2.60%
1.0827	0.9062	3.00%
1.1114	0.9302	2.65%
1.1314	0.9470	1.80%

		Nuclear Palo Verde		
Line No	Year	Inflation Index	Deflation Index	%_Change
13	2015	1.0000	1.0000	2.03%
14	2016	1.0656	0.9384	6.56%
15	2017	1.1027	0.9069	3.48%
16	2018	1.1296	0.8853	2.44%
17	2019	1.1539	0.8666	2.15%
18	2020	1.1827	0.8455	2.50%

		Nuclear SONGS		
Inflation Index	Deflation Index	%_Change		
1.0000	1.0000	1.98%		
1.0667	0.9375	6.67%		
1.1097	0.9012	4.03%		
1.1415	0.8760	2.87%		
1.1681	0.8561	2.33%		
1.1969	0.8355	2.46%		

		General Plant		
Inflation Index	Deflation Index	%_Change		
1.0000	1.0000	1.03%		
1.0047	0.9953	0.47%		
1.0165	0.9838	1.17%		
1.0294	0.9715	1.27%		
1.0400	0.9615	1.04%		
1.0530	0.9497	1.25%		

Blended Capital Update Escalation

<i>Line No</i>	<i>Year</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>
19	2015	1.0000	0.8889	2.10%
20	2016	1.0144	0.9018	1.44%
21	2017	1.0407	0.9251	2.59%
22	2018	1.0675	0.9490	2.58%
23	2019	1.0958	0.9741	2.65%
24	2020	1.1249	1.0000	2.66%

B. Palo Verde Non-labor Escalation

Table III-7 presents updated non-labor escalation rates for the Palo Verde nuclear generating station. As explained in SCE's direct testimony on escalation, these non-labor escalation rates are based on a weighted average of labor and non-labor escalation rates.⁸

Table III-7
Palo Verde Escalation

<i>Line No</i>	<i>Year</i>	<i>Inflation Index</i>	<i>Deflation Index</i>	<i>%_Change</i>
1	2015	1.000	1.0000	
2	2016	1.030	0.9712	2.97%
3	2017	1.061	0.9429	3.00%
4	2018	1.080	0.9262	1.80%
5	2019	1.107	0.9030	2.58%
6	2020	1.138	0.8788	2.76%

C. Updating Escalation Rates For SCE's Post-Test Year Ratemaking Mechanism

These labor and non-labor escalation rates will be updated in late 2018 and late 2019 to provide escalation factors for the 2019 and 2020 Post-Test Year advice letters, as specified in SCE's proposed Post- Test Year ratemaking mechanism. Currently, our unions have reached agreement through 2019. If the unions reach a collective bargaining agreement for 2020 before the GRC Phase 1 proposed decision is issued, the collective bargaining agreements will be incorporated into the labor escalation calculations for represented employees in the 2020 Post-Test Year. The remaining portion of the capital, labor and non-labor escalation rates will be updated to reflect the latest available IHS Global Insight Power Planner projections available at the time of the updates

⁸ Please refer to SCE-09, Volume 1C, p. 83, lines 10-17 through p. 84, line 2.

1 IV.

2 **RECOVERY OF THE DECEMBER 31, 2017 BALANCES IN THE**
3 **RRIMA, SOBA, AND THE EDRPMA**

4 **A. Summary**

5 In addition to SCE's updated 2018 Test Year revenue requirement request, SCE also requests
6 recovery of the amounts recorded in the Residential Rate Implementation Memorandum Account
7 (RRIMA), the SmartConnect Opt-Out Balancing Account (SOBA), and the Energy Data Request
8 Program Memorandum Account (EDRPMA) as of December 31, 2017.

9 In this update testimony, SCE provides and supports the updated year-end 2017 RRIMA, SOBA
10 and EDRPMA balances based on recorded amounts through October 31, 2017, and forecast November
11 through December 2017 amounts. Actual RRIMA, SOBA and EDRPMA December 31, 2017 balances
12 will be provided in the advice letter implementing the 2018 GRC decision.

13 **B. Recovery of the Residential Rate Implementation Costs in the Residential Rate**
14 **Implementation Memorandum Account (RRIMA)**

15 In this section, SCE updates its testimony to include recorded costs and support for RRIMA
16 activity from July 2016 through October 2017, and forecast costs for November through December
17 2017.²

18 **1. Background**

19 In July 2015, the Commission issued D.15-07-001, which adopts an optional two-tier
20 residential rate structure, establishes a timeline to reform tiered residential electric rates during the years
21 2015 through 2020, and authorizes the future transition of residential customers to time-of-use (TOU)
22 rates. RRIMA was established to track the verifiable incremental costs associated with: (1) TOU pilots,
23 (2) TOU studies, including hiring of a consultant or consultants to assist in developing study parameters,
24 (3) marketing, education and outreach (ME&O) costs associated with the rate changes approved in this
25 decision, and (4) other reasonable expenditures. D.15-07-001 also directs that SCE provide the RRIMA

² Exhibit SCE-09, Volume 1, pages 32-39 provides recorded costs and support for operating expenses that SCE incurred from inception in October 2015 through June 2016.

1 costs for review in its next GRC (i.e., the 2018 GRC) and to show that the expenses are incremental,
2 verifiable, and reasonable.

3 **2. Recorded Costs and Forecast Update**

4 SCE's forecast for RRIMA costs from October 2015 through December 2017 was
5 \$25.121 million for O&M and no capital expenditures.¹⁰ ORA's review of the RRIMA from October
6 2015 through June 2016 found the account to be "appropriate, correctly stated, and in compliance with
7 applicable Commission decisions."¹¹

8 Based on actual recorded amounts from July 2016 through October 2017, an estimate of
9 November and December 2017 costs, and interest, SCE is decreasing its RRIMA forecast by \$6.480
10 million to \$18.641 million. This comprises an O&M decrease of \$7.378 million (\$25.121 - \$17.743
11 million), offset by an addition of \$0.739 million in capital-related revenue requirement, and the addition
12 of interest in the amount of \$159,000. As mentioned previously, SCE will provide the final RRIMA
13 recorded balance with actual amounts for November and December 2017 in the advice letter
14 implementing the 2018 GRC decision.

15 Table *IV-8* below summarizes the recorded revenue requirement from inception, October
16 2015, through October 2017 and provides an estimate for November through December 2017 for the
17 operational expenses and the capital-related revenue requirement.

¹⁰ Please refer to Exhibit SCE-09, Volume 1, p. 34.

¹¹ Please refer to Exhibit ORA-22, pp. 23-26.

Table IV-8
Residential Rate Implementation Memorandum Account
October 2015- December 2017
(Nominal \$000)

Line No.	Description	October 2015 - June 2016 Recorded*	July 2016 - October 2017 Recorded	Estimated November - December 2017	Revised Total
1.	Beginning Balance	-	3,679	16,148	-
2.	Adjustments	-	-	-	-
3.	Adjusted Beginning Balance	-	3,679	16,148	-
4.	Operating Expenses				
5.	- TOU Pilot				
6.	ME&O	1,859	2,839	623	5,321
7.	TOU Studies	177	607	477	1,261
8.	Other	140	1,159	587	1,886
9.	- Non TOU Pilot				
10.	ME&O	1,299	6,217	374	7,890
11.	Other	202	921	262	1,385
12.	Total Operating Expenses	3,677	11,743	2,323	17,743
13.	Capital-Related Revenue Requirement				
14.	- Depreciation	-	388	90	478
15.	- Property Taxes	-	-	-	-
16.	- Income Taxes	-	82	17	99
17.	- Return	-	133	30	163
18.	Total-Capital-Related Revenue Requirement	-	603	136	739
19.	(Over)/Under Collection	3,677	12,346	2,459	18,482
20.	Interest	2	123	34	159
21.	Ending Balance	3,679	16,148	18,641	18,641

The O&M decrease of \$7.378 million compared to the forecast included in direct testimony is primarily due to lower: (1) labor expenses, (2) ME&O costs, and (3) incentive payouts. SCE recorded lower than expected incremental labor costs in its call center and billing operations to support TOU pilot and non-TOU pilot activities. SCE's ME&O cost projections are also less than forecast, as marketing activities were revised in response to feedback from the Investor Owned Utilities and Commission directives. For example, the ALJ ruling filed on September 5, 2017, directed SCE to

1 suspend sending the semi-annual bill comparison mailers pending further assessment. Additionally,
2 incentive payouts were lower than projected, as pilot participants either opted out of the rate prior to
3 completing the pilot, or did not complete the survey required to receive the payment.

4 The RRIMA O&M expenses include \$11.743 million in recorded costs, excluding
5 interest, from July 2016 through October 2017, and \$2.323 million in estimated costs for November
6 through December 2017, associated with TOU and non-TOU pilots (i.e., all other Residential Rate
7 Reform activities that are not TOU-pilot or TOU-full-launch related). Additionally, SCE recorded
8 \$603,000 in capital-related revenue requirement for July 2016 through October 2017, and estimates
9 \$136,000 in capital-related revenue requirement for November through December 2017, associated with
10 system changes and development efforts needed to support residential rate reform activities. O&M
11 expenses are tracked in cost categories for TOU pilot and non-TOU pilot and grouped together by type
12 of activity: Marketing, Education and Outreach (ME&O); TOU Studies; and Other activities. The O&M
13 expenses for each cost category are provided in Appendix D.

14 a) O&M Expenses

15 (1) TOU Pilots

16 SCE was directed in D.15-07-001 to launch a TOU Opt-In and a TOU
17 Default Pilot. In compliance with this directive, SCE launched a TOU opt-in pilot in June 2016 and is
18 preparing to launch a TOU default pilot in March 2018.

19 This update provides the recorded costs and forecasts for the default pilot,
20 which were not available when SCE's 2018 GRC application was filed. Additionally, SCE provides an
21 update to the recorded costs and forecasts for the opt-in pilot, which is described in direct testimony.¹²
22 SCE's TOU pilot expenses include costs for planning and implementing activities to support the TOU
23 pilots.

24 (a) Marketing, Education and Outreach (ME&O)

25 SCE conducted ME&O for both the Opt-In Pilot and Default TOU
26 Pilot. The supporting details for each effort are summarized below.

¹² Please refer to Exhibit SCE-09, Volume 1, pp. 35-36.

1 (i) Opt-In Pilot

2 In June of 2016, SCE placed approximately 15,000
3 customers on a TOU rate per their request to participate in the TOU pilot. In addition to the ME&O
4 activities described in direct testimony to recruit participants, SCE also conducted ongoing educational
5 and outreach efforts for customers on the rate. These efforts included direct mail campaigns for welcome
6 kits, seasonal (summer, winter, fall, spring) newsletters, letters alerting customers that bill protection is
7 ending, and bi-monthly text message alerts with tips and peak-time reminders for those customers who
8 opted to receive those notifications. This category also includes incentive payments for customers who
9 completed the pilot and responded to a survey at the end.

10 Recorded costs for Opt-In Pilot ME&O activities from July
11 2016 through October 2017 are \$2.637 million, which include production, print, and postage for direct
12 mailers, pilot incentive payouts, and market research. SCE forecasts \$247,000 in November and
13 December 2017 for educational direct mailers, which are needed to inform participants that the pilot is
14 ending and that they are being placed back on their original rate.

15 (ii) Default Pilot

16 As part of SCE's effort to better understand how to
17 implement the mass transition of residential customers to a TOU rate in late 2020, SCE will conduct a
18 90/60/30-day communication campaign to approximately 400,000 customers as part of the TOU Default
19 Pilot. The pre-Default Pilot communications will begin in December 2017, and will conclude when
20 customers default onto the rate in March 2018. The 90-day communication campaign, which includes a
21 postcard and email, will commence in December 2017 and will advise pilot participants that they will be
22 defaulted onto a TOU rate. Customers will also be provided with a website that will show all rate
23 options available and highlight the two default rates.

24 SCE's recorded costs for the Default Pilot ME&O activities
25 from July 2016 through October 2017 are \$202,000. SCE forecasts an additional \$376,000 for the
26 developing and sending of the 90-day communication postcard in December 2017. SCE will begin to
27 incur charges for the remaining pre-notification communications in January 2018.

1 (b) TOU Studies

2 Activities within TOU Studies include costs to develop, design,
3 and implement the TOU Opt-In Pilot Evaluation Study. As described in direct testimony,¹³ the costs
4 associated with TOU studies include: consultant fees for performing overall project management of the
5 study, load and bill impact analysis of participant usage and costs, and survey research.

6 Recorded costs from July 2016 through October 2017 for the Opt-
7 In Pilot TOU Studies activities are \$607,000. This includes consultant fees, load and bill impact
8 analysis, and research for the TOU Opt-In Pilot. Additionally, SCE forecasts expenses of \$477,000 for
9 November and December 2017.

10 (c) Other

11 Other activities include costs for SCE's incremental labor charges
12 in support of the TOU pilot activities, as well as the associated employee-related expenses. Incremental
13 labor charges related to this category include Billing Operations processing of rate changes and bill
14 protection credits for Opt-In Pilot participants. In direct testimony, SCE forecast \$4 million in employee
15 expenses in addition to \$200,000 in recorded costs from October 2015 through June 2016. SCE's
16 recorded costs from July 2016 through October 2017 are \$1.159 million, and SCE forecasts expenses of
17 \$587,000 for November through December 2017.

18 (d) Opt-In Pilot

19 SCE recorded \$357,000 in the Opt-In Pilot expenses from July
20 2016 through October 2017, including incremental labor and employee-related expenses. SCE forecasts
21 an additional \$350,000 from November through December 2017 for labor expenses associated with the
22 Opt-In Pilot project management, billing operations, and employee-related expenses.

23 (e) Default Pilot

24 SCE recorded \$775,000 in the Default Pilot from July 2016
25 through October 2017. These expenses include costs for labor, employee expenses, consultant support,
26 and IT charges. As part of the Default Pilot, SCE is making IT enhancements to the existing rate
27 analysis and rate change tool to support those customers defaulting onto a time-of-use rate. Additionally,
28 non-labor expenses for consultant work on the re-design of a new SCE bill to support the

¹³ Please refer to Exhibit SCE-09, Volume 1, p. 36.

1 implementation of time-of-use rates are included. Project management support, or incremental labor
2 expenses, are included in this category as well. SCE forecasts \$237,000 from November through
3 December 2017 for labor expenses associated with the Default Pilot enhancements outlined above.

4 b) Non-TOU Pilots

5 The non-TOU pilot costs include expenses associated with Residential Rate
6 Reform activities that are not related to the TOU pilots, including the early planning for the Time-of-Use
7 Full Rollout in 2020. As stated in direct testimony, SCE was directed in D.15-07-001 to inform
8 residential customers of the various rate reform changes, including development and delivery of
9 educational materials that will help inform customers of these changes, which include Tier Collapse,
10 High Usage Charge (HUC), and both online and paper rate comparisons.¹⁴

11 This update describes the costs that were incurred from July 2016 through
12 October 2017, and forecast for November and December 2017, in order to conduct these changes. Costs
13 are provided by the following two activity types: (1) ME&O and (2) Other, which includes labor, non-
14 labor and employee expenses to support these efforts.

15 (1) Marketing, Education and Outreach (ME&O)

16 ME&O activities include non-labor expenses for preliminary planning of
17 the TOU full launch, and developing, designing, and deploying the various other, non-TOU pilot
18 communications in support of the residential rate reform decision.

19 When four tiers were collapsed into three tiers in June 2016, SCE sent a
20 direct mailer to residential customers to advise them of this change, and also updated the content on
21 sce.com to reflect the tier reduction. In January 2017, SCE completed the transition from three to two
22 tiers, and also introduced the High Usage Charge (HUC). To support the final tier collapse and the
23 introduction of the HUC, SCE sent a pre-notification mailer to approximately 750,000 customers who
24 could potentially be impacted. Since January 1, SCE has sent approximately 431,000 automated letters
25 to those customers who exceeded 400 percent of baseline. In addition, SCE sent 461,000 automated
26 letters to those customers who were between 349 and 400 percent of baseline, informing customers that
27 they breached (i.e., exceeded) or came close to breaching their allotted baseline amount. SCE also made

¹⁴ Please refer to Exhibit SCE-09, Volume 1, pp. 37-39.

1 changes to the HUC auto Pre-Breach letter and the Budget Assistant alert to include additional language
2 related to the CARE verification process.¹⁵

3 In addition, as directed in D.15-07-001, SCE is required to provide a rate
4 comparison (online and/or paper) for all residential customers advising customers of their rate options as
5 part of the TOU default. From October 2016 through July 2017, SCE conducted three test and learn
6 marketing and outreach campaigns to better understand the design, development and execution required
7 for implementing the rate comparison on a larger scale to all residential customers.

8 SCE also conducted a media campaign in July 2017. This campaign
9 consisted of radio, digital banner advertisements, and social media directed to residential customers to
10 bring awareness of the different rate options and the available tools to help them manage their energy
11 use. This campaign opened the rates-related “conversation” with customers in preparation for their
12 ultimate default to time-of-use rates in 2020.

13 Finally, SCE will be conducting a mass transition of residential customers
14 to a TOU rate in late 2020, known as “full launch.” Although SCE will fully outline the TOU
15 implementation plan in its Rate Design Window (RDW) filing on January 1, 2018, SCE has already
16 begun to incur some expenses associated with planning for the full launch. The TOU full launch ME&O
17 activities from July 2016 through October 2017 include marketing agency costs for strategy planning.

18 Recorded costs from July 2016 through October 2017 for this category
19 were \$6.217 million. This amount includes non-labor expenses for general residential rate reform
20 communications, including production, print, postage and deployment costs, as well as research and
21 message testing fees. SCE’s forecast for November and December 2017 expenses in this category is
22 \$374,000.

23 (2) Other

24 Other activities include the labor and non-labor costs for operational
25 support and employee-related expenses to support tier collapse, HUC, rate comparison, other general
26 residential rate activities, and the preliminary labor costs for the TOU full launch. These charges also
27 include Business Customer Division labor for performing rate analysis calculations for the rate
28 comparison test and learn activities, as well as labor and non-labor for general project management
29 support and any employee-related expenses.

¹⁵ See D.16-11-022.

Recorded costs from July 2016 through October 2017 for this category were \$921,000. This amount includes labor and non-labor expenses to support the non-TOU pilots and general residential rate communication changes such as tier collapse, HUC, and Rate Comparison. Recorded costs also include labor charges for the TOU full launch pre-planning activities. SCE forecasts an additional \$262,000 in November and December 2017 for labor and non-labor expenses associated with general residential rate communications and non-TOU pilot activities highlighted above.

3. Capital-Related Revenue Requirement

SCE incurred capital-related expenses of \$731,000 in 2016 and \$2.193 million in 2017 to support the residential rate reform decision D.15-07-001. This work included IT system changes to modify SCE's tier structure, including the development of the HUC, the building of new rates, online opt-out capability, and bill protection for the TOU pilots. The revenue requirement on these capital expenditures (depreciation, income taxes, and return) recorded for July 2016 through October 2017 was \$603,000 and the forecast for November and December 2017 is \$136,000.

4. Reasonableness of RRIMA Recorded O&M and Capital

As described in direct testimony and in this update testimony, the RRIMA O&M expenses include costs associated with TOU and non-TOU pilots and capital expenditures for related IT systems that were necessary and reasonable to implement the Commission's directive on residential TOU rates. The TOU pilot expenses include costs for the TOU Opt-In Pilot and Default Pilot. The non-TOU pilot expenses are comprised of costs for all other Residential Rate Reform activities that are not TOU pilot-related. As required by R.12-06-013, SCE provides quarterly reports on the progress of its residential rate reform activities and costs that are recorded in RRIMA.¹⁶

5. Proposal to Modify the RRIMA Preliminary Statement to Seek Recovery of 2018, 2019, and 2020 Year-End Costs in Annual ERRa Review Proceeding

No party objected to SCE's proposal to modify the RRIMA Preliminary Statement to seek recovery of the 2018, 2019, and 2020 RRIMA year-end costs in SCE's annual ERRa review proceeding. The ERRa proceeding will provide interested parties the opportunity to review RRIMA

¹⁶ SCE's Ninth Quarterly report on Progress of residential Rate Reform, dated November 1, 2017, is available online at:
[http://www3.sce.com/sscc/law/dis/dbattach5e.nsf/0/1EE8ED0EDBC8CE0A882581CB007F706D/\\$FILE/R1206013-SCE%209Q%20Rpt%20re%20RRR%20November%202017.pdf](http://www3.sce.com/sscc/law/dis/dbattach5e.nsf/0/1EE8ED0EDBC8CE0A882581CB007F706D/$FILE/R1206013-SCE%209Q%20Rpt%20re%20RRR%20November%202017.pdf).

1 recorded costs on a timely basis, and allow SCE to recover the approved costs annually instead of
2 waiting until the next GRC proceeding. For a complete discussion on this proposal, please see the direct
3 testimony on “Proposed RRIMA Ratemaking” in Exhibit SCE-09, Volume 1, page 39.

4 **C. Recovery of Edison SmartConnect Opt-Out Costs in the SmartConnect Opt-Out Balancing**
5 **Account (SOBA)**

6 In this section, SCE updates its testimony and forecast to include recorded costs and support for
7 SOBA activity from July 2016 through October 2017, and estimated forecast costs for November
8 through December 2017.

9 **1. Background**

10 The Edison SmartConnect Opt-Out Memorandum Account (SOMA) was established in
11 April of 2012 and then was superseded by the SmartConnect Opt-Out Balancing Account (SOBA) in
12 December 2014. Both the SOBA and SOMA were established to record revenues and corresponding
13 costs for providing residential customers the SmartConnect meter opt-out service. The SOBA and
14 SOMA’s background, recorded costs from inception in April 2012 through June 2016, and forecast costs
15 for July 2016 through December 2017 are discussed in SCE’s direct testimony at Exhibit SCE-03,
16 Volume 1, pages 25-29 and Exhibit SCE-09, Volume 1, pages 45-47. The proposal to eliminate the
17 balancing account is discussed in SCE’s testimony at Exhibit SCE-09, Volume 1, page 47.

18 **2. Recorded Costs and Forecast Update**

19 SCE’s forecast for SOBA costs from April 2012 through December 2017 was \$17.970
20 million for O&M and \$3.051 million in capital-related revenue requirement.¹⁷ Based on actual recorded
21 amounts from July 2016 through October 2017 and a forecast of November and December costs, the
22 updated O&M forecast is \$18.161 million, an increase of \$191,000, and the updated forecast for capital
23 expenditures is \$2.198 million, a decrease of \$144,000. SCE will provide the final SOBA recorded
24 balance with actual amounts for November and December 2017 in the advice letter implementing the
25 2018 GRC decision.¹⁸

¹⁷ Please refer to Exhibit SCE-03, Volume 1, p. 27.

¹⁸ The \$18.161 million in recorded/estimated O&M expenses and \$2.198 million in recorded capital expenditures, for a total of \$20.359 million, is under the \$20.463 million cap set in D.14-12-078. See D.14-12-078, p. 2.

Table IV-9 below summarizes the recorded costs from inception in December 2014 through October 2017 and provides estimated costs for November through December 2017.

Table IV-9
SmartConnect Opt-Out Balancing Account
Forecast April 2012 – December 2017
(Nominal \$000)

Line No.	Description	April 2012 - June 2016 Recorded	July 2016 - October 2017 Recorded	Estimated November - December 2017	Revised Total
1.	Revenues from Opt-Out Fees	(9,312)	(526)	(60)	(9,898)
2.	Operation & Maintenance Expense	15,765	2,129	267	18,161
3.	Capital-Related Revenue Requirement*	<u>1,737</u>	<u>1,045</u>	<u>125</u>	<u>2,907</u>
4.	(Over)/Under Collection	8,190	2,648	333	11,171
5.	Interest	<u>29</u>	<u>105</u>	<u>22</u>	<u>156</u>
6.	Ending Balance	<u>8,219</u>	<u>2,753</u>	<u>355</u>	<u>11,327</u>

*SCE's Capital-Related Revenue Requirement includes depreciation, return, and taxes. SCE's updated recorded/estimated capital expenditures from April 2012 through December 2017 is \$2.198 million.

3. Revenue from Opt-Out Fees

As shown in Table IV-9, SCE recorded \$9.838 million in revenue from Opt-Out charges from April 2012 through October 2017. The recorded revenue is derived by multiplying the volume of Opt-Out customers by the respective Opt-Out initial and monthly fees for CARE and non-CARE customers. As of October 31, 2017, SCE had 19,465 Opt-Out customers (3,816 CARE, 15,649 Non-CARE). SCE estimates collecting approximately \$60,000 in revenues from Opt-Out customers in November through December 2017. This estimate is based on the current levels of initial and monthly Opt-Out charges being collected by SCE.¹⁹

¹⁹ Please refer to WP SCE-03, Ch. I-VI, pp. 30-31 for additional details regarding Edison SmartConnect Opt-Out forecast volumes. For additional details regarding SCE's Opt-Out tariff, please refer to SCE Schedule ESC-OO (Edison SmartConnect Opt-Out).

1 **4. O&M Expense**

2 The recorded SOBA O&M expenses from inception through October 2017 are \$17.9
3 million and reflects labor and non-labor expenses for the Opt-Out program support activities as
4 described and supported in in Exhibit SCE-03, pages 28-29.

5 **5. Capital Expenditures**

6 SCE recorded a capital-related revenue requirement of \$2.9 million associated with \$2.2
7 million of capital expenditures in the SOBA through October 2017. These costs include consulting
8 expenses for designing, developing, and testing the ESC Opt-Out system infrastructure, and costs to
9 train staff on the new Opt-Out system.

10 **6. Reasonableness of SOBA Recorded O&M and Capital**

11 As described in direct testimony and in this update testimony, the SmartConnect Opt-Out
12 revenues, O&M expenses and capital expenditures included in the SOBA for providing SmartConnect
13 Opt-Out service were necessary and reasonable. The SmartConnect Opt-Out revenues, O&M expenses,
14 and capital expenditures are described in testimony²⁰ and supported with workpapers.²¹ The ongoing
15 SmartConnect Opt-Out service revenues, O&M and capital requirements have been incorporated into
16 the forecasts as a part of providing basic service.

17 **7. Elimination of the SOBA**

18 No party objected to SCE's proposal to transfer the ending SOBA under-collected
19 balance to the distribution sub-account of the Base Revenue Requirement Balancing Account (BRRBA)
20 to be collected from residential customers through distribution rate levels. If this proposal is adopted in
21 this proceeding, beginning on January 1, 2018, SCE will no longer record the revenue requirement in the
22 SOBA, and the Preliminary Statement Part Q, SOBA, will be eliminated from SCE's tariffs. SCE has
23 included the ongoing Opt-Out program O&M²² and capital expenditure²³ in its 2018 Test Year revenue
24 requirement.

²⁰ Please refer to Exhibit SCE-03, pp. 25-29 and 136.

²¹ Please refer to WP SCE-03, Ch. I-VI, pp 30-32 and 287.

²² Please refer to Exhibit SCE-03, p. 24.

²³ Please refer to Exhibit SCE-03, p. 136.

1 **D. Recovery of the Energy Data Request Program Costs in the Energy Data Request Program**
2 **Memorandum Account (EDRPMA)**

3 In this section, SCE updates the forecast EDRPMA costs from July 2016 through December
4 2017 with recorded costs from July 2016 through October 2017 and estimated costs for November and
5 December 2017 for Commission review and approval.

6 **1. Background**

7 The EDRPMA was established in late 2014 to record the incremental costs associated
8 with providing access to energy usage and usage-related data to government entities and researchers.
9 The EDRPMA's background, recorded costs from inception (December 2014 through June 2016),
10 forecast costs for July 2016 through December 2017, and proposal to eliminate the memorandum
11 account are discussed and supported in Exhibit SCE-09, Volume 1, pages 49-51.

12 **2. Recorded Costs and Forecast Update**

13 In direct testimony, SCE's forecast for EDRPMA costs from December 2014 through
14 December 2017 was \$593,000.²⁴ Now, based on actual recorded amounts from July 2016 through
15 October 2017 and an estimate of November and December 2017 costs, the updated forecast is \$453,000.
16 This is \$140,000 lower than SCE's initial forecast. In preparing this update testimony, SCE identified
17 several labor expenses that were inadvertently charged to this account. The reduced forecast reflects the
18 correction of those charges. SCE will provide the final EDRPMA recorded balance with actual amounts
19 for November and December 2017 in the advice letter implementing the 2018 GRC decision.

20 Table IV-10 below summarizes the recorded costs from inception in December 2014
21 through October 2017, and provides an estimate of costs for November through December 2017.

²⁴ Please refer to Exhibit SCE-09, Volume 1, p. 50.

Table IV-10
Operation of the EDRPMA
December 2014 – December 2017
(Nominal \$000)

Line No.	Description	December 2014 - June 2016 Recorded	July 2016 - October 2017 Recorded	Estimated November - December 2017 ^{1/}	Revised Total
1.	Operation & Maintenance Expense	303	287	(142)	447
2.	Capital-Related Revenue Requirement	-	-	-	-
3.	(Over)/Under Collection	303	287	(142)	447
4.	Interest	-	5	1	6
5.	Ending Balance	303	292	(141)	453

1/ November - December estimate includes a \$176 thousand O&M correction adjustment.

3. Reasonableness of EDRPMA Recorded O&M

As described in SCE's direct testimony, the EDRPMA activities include both labor and non-labor expenses.²⁵ For labor expenses, SCE has dedicated one full-time program manager to support the program. This program manager's responsibilities include reviewing data requests, meeting with requestors for clarification, gathering data, transferring data, and planning and attending the Energy Data Access Committee (EDAC) meetings as mandated by the Commission. Non-labor expenses include travel to attend EDAC meetings across SCE's territory, hosting of EDAC meetings once a year, and costs associated with implementing some automated information systems capabilities.

4. Proposal to Eliminate EDRPMA

No party objected to SCE's proposal to transfer the ending EDRPMA December 31, 2017 balance to the distribution sub-account of the Base Revenue Requirement Balancing Account (BRRBA) to be collected from customers through distribution rate levels. If this proposal is adopted in this proceeding, then beginning on January 1, 2018, SCE will no longer record the revenue requirement in

²⁵ Please refer to Exhibit SCE-03, pp. 49-51.

1 the EDRPMA. The Preliminary Statement N.26., EDRPMA, will be eliminated from SCE's tariffs. SCE
2 included 2018 forecast expenses for providing access to energy usage and usage-related data to local
3 government entities, researchers, and state and federal agencies in FERC Account 905.900.²⁶

²⁶ Please refer to Exhibit SCE-03, p. 198.

V.

POSTAGE EXPENSE – FERC 903.100 – US POSTAL RATE INCREASE

This chapter provides an update to SCE’s postage testimony, found in Exhibit SCE-03, pages 103 through 112. As stated in direct testimony, SCE’s 2018 postage forecast was \$15.309 million, which is a decrease of 25.3 percent compared to the 2015 Base Year O&M postage expense of \$20.486 million.

In this update, SCE is revising its 2018 postage forecast to reflect a postage rate increase that the Postal Regulatory Commission (PRC) approved on November 9, 2017, in Order No. 4215 in Docket R2018-1. This postal rate change will take effect on January 21, 2018. The United States Postal Service projects that the approved prices will raise mailing service product prices by approximately 1.9 percent, as mailing service price increases are linked to the Consumer Price Index.²⁷ SCE forecasts that this postal rate change will result in an increase of \$187,000 to its 2018 Test Year postage forecast of \$15.309 million, resulting in a total 2018 postage forecast of \$15.496 million. Table *V-II* below shows the calculation of the updated postage forecast based on the approved postage rates for January 2018.

²⁷ See Order No. 4215 in Docket No. R2018-1, *available at* <https://www.prc.gov/docs/102/102460/Order4215.pdf>.

Table V-11
Postage Rates and Total Expense by Type of Mailing
FERC Account 903.100

Line No.	Type of Mailing	Number of Mailings	2018 Postal Rate Forecast			2018 Postal Expense Forecast			
			Original Forecast (2016 Rates) ⁶	Updated Forecast (2018 Rates) ⁷	Difference	Original Forecast (2016 Rates) ⁶	Updated Forecast (2018 Rates) ⁷	Difference	
1									
2	5 Digit	37,183,083	0.373	0.375	0.002	\$13,869	\$13,944	\$74	
3	3 Digit	10,391,427	0.396	N/A	NA	\$4,115	N/A	-\$4,115	
4	AADC (Automated Area Distribution Center)	300,793	0.396	0.405	0.009	\$119	\$4,330	\$4,211	
5	Mixed AADC (Automated Area Distribution Center)	626,134	0.416	0.421	0.005	\$260	\$264	\$3	
6	Misc 1st Class	0	0.399	0.408	0.009	\$ 0	\$ 0	\$ 0	
7	Misc 1st Class Overweights	3,665	0.399	0.408	0.009	\$1	\$1	\$	
8	Full 1st Class Overweights	156,166	0.465	0.470	0.005	\$73	\$73	\$1	
9	Full 1st Class Overweights (Over 2oz)	660	0.681	0.735	0.054	\$ 4	\$ 5	\$ 0	
10	Non-Manifest 1st Class ¹	626,982	0.399	0.408	0.009	\$250	\$256	\$6	
11	Non-Manifest 1st Class Overweights	41	0.399	0.408	0.009	\$ 0	\$ 0	\$ 0	
12	Summary 1st Class ²	N/A	N/A	N/A	N/A		N/A	N/A	
13	Summary 1st Class Overweights ²	152,789	2.044	2.348	0.304	\$312	\$359	\$46	
14	Late Notices	1,351,673	0.399	0.408	0.009	\$539	\$551	\$12	
15	Misc Pieces	957,062	0.399	0.408	0.009	\$382	\$390	\$9	
16	Sub-total	51,750,475				\$19,922	\$20,170	\$247	
17	wieghted average cost		0.385	0.390	0.005				
18	Prepaid Meter Postage ³					\$12	\$12	\$	
19	Other Mailings ⁴					\$124	\$124	\$	
20	Other Postage related activities ⁵					\$90	\$90	\$	
21	Sub-total	51,750,475					\$20,148	\$20,395	\$247
22	Online Billing Productivity Adjustment	-12,569,467					-\$4,839	-\$4,899	-\$60
23	Total	39,181,008					\$15,309	\$15,496	\$187

¹ Included all Non-Manifest, Late notices & Miscellaneous pieces

² These pieces did not include late notices or Miscellaneous pieces

³ Adjusted amount in Pitney Bowes meters and bank account less roll over from previous year

⁴ Customer correspondence generated by Revenue Services and Customer Contact Center

⁵ Postage related costs associated with Intelligent Mail Barcode, Address Cleansing, EDI Charges, Timing of Bank Reconciliation, and USPS postage fee corrections/charges

⁶ Forecast years postage expense calculated using 2016 postage rates which decreased effective April 10, 2016

⁷ New forecast provided in 2018 dollars, as postage rate change is proposed for January 2018 Results of Operations model updated to reflect 2018 postage forecast in 2018\$

Note: - All historical recorded costs reflect actual postage rate increases

- N/A's indicate mailing category did not exist in recorded year and on occasion new mailing rate will overlap with old rate

- Negative amounts displayed for pre-paid meter postage indicate over budget expenses

1 VI.

2 **PENSION and PBOP – UPDATED FORECASTS PLUS ACCOUNTING CHANGE**

3 This chapter provides testimony concerning SCE’s updated expense forecasts for Pension and
4 Postretirement Benefits Other than Pensions (PBOP). Based on these updated forecasts, SCE is
5 significantly reducing its rate recovery requests for Test Year 2018 from \$97.474 million and \$36.823
6 million for Pension and PBOP, respectively, to \$57.741 million and \$3.850 million, respectively.²⁸

7 **A. Background**

8 Forecast pension and PBOP costs are based on the results of actuarial valuations of estimated
9 liabilities for future plan benefits performed by the Plan actuary, Aon Hewitt. These valuations are based
10 on January 1 member census data and actuarial assumptions which reflect the actuary’s best judgment of
11 future events likely to affect the Pension and PBOP benefits being valued. Each individual assumption
12 should be reasonable on its own merits and consistent with the other assumptions used. In addition,
13 some pension valuation assumptions are mandated by law.

14 Plan liabilities fluctuate over time due to changes in plan benefit provisions, changes in
15 prevailing interest rates, fluctuations in the member populations, and changes in other actuarial
16 assumptions made by the actuary pursuant to developing plan experience. All actuarial assumptions not
17 mandated by law must represent the actuary’s best estimate of future plan experience.

18 The actuary compares plan liabilities to the value of plan assets, which are generally measured at
19 market value, but, for pension valuation purposes only, are then subject to asset smoothing techniques.
20 Even with these smoothing techniques, strong investment performance, as in recent years, or other
21 favorable experience can significantly reduce reported, unfunded liabilities, which will reduce plan cost
22 and associated rate recovery.

23 Since the 2006 GRC decision²⁹, rate recovery for Pension and PBOP costs have been subject to
24 two-way (symmetrical) balancing account treatment. Under this mechanism, differences between
25 authorized Pension and PBOP amounts and actual costs are amortized in subsequent years. This cost

²⁸ Workpapers supporting this chapter are included in Appendix E.

²⁹ See D.06-05-016, pp. 173-74, and Conclusion of Law 26.

1 recovery mechanism protects SCE's customers and shareholders alike, who would otherwise be subject
2 to the volatility of windfalls in some years and shortfalls in others.

3 The decreases in estimated Pension and PBOP costs reflected in the updated forecasts highlight
4 the unpredictability and potential volatility of these costs, and the continuing importance of the existing
5 two-way balancing account treatment.³⁰

6 **B. Updated Pension Forecast**

7 The Pension cost forecast submitted by SCE in its application on September 1, 2016 included a
8 Test Year 2018 request of \$97.5 million, and costs for 2019 and 2020 of \$161.7 million and \$162.9
9 million, respectively.³¹ The forecast was prepared by the Plan Actuary, Aon Hewitt, based on the final
10 results of the January 1, 2015 actuarial valuation, which reflected January 1, 2015 member census data,
11 December 31, 2015 asset market value, a 7.0% assumed interest rate, and other "best estimate" actuarial
12 assumptions.

13 ORA did not contest the specific forecast amount for 2018, but did object to the higher forecast
14 amounts for 2019 and 2020. ORA instead recommended using the \$97.474 million test year amount as
15 the annual authorized contribution for all three years. In rebuttal testimony submitted on June 16, 2017,
16 SCE conceded to ORA's proposal, along with continuation of the two-way balancing account treatment.

17 SCE's updated Test Year 2018 request of \$57.7 million is based on a three-year average of the
18 updated Pension forecast costs for 2018, 2019, and 2020 of \$57.0 million, \$57.4 million, and \$58.8
19 million, respectively. The forecast is based on final results of the January 1, 2017 actuarial valuation,
20 which reflected updated assumptions including a funding interest rate of 6.5%, December 31, 2016 asset
21 value, and January 1, 2017 member census data.

22 A number of factors contributed to the reduction in forecast costs since the initial General Rate
23 Case filing in September 2016. These include: (a) excellent 2016 pension trust investment performance;
24 (b) a decline in the 2017 active member population from the 2015 census population used in the initial
25 GRC forecast (this decline is driven by SCE's ongoing Operational Excellence initiatives); and
26 (c) changes in demographic and economic actuarial assumptions made, pursuant to a study of recent
27 pension plan experience.

³⁰ Pension and PBOP actuarial valuation results prepared by the Plan Actuary, Aon Hewitt, are appended hereto.

³¹ Please refer to Exhibit SCE-06, Volume 2, p. 44.

1 **C. Updated PBOP Forecast**

2 In the GRC application, SCE's Test Year 2018 forecast was \$37.079 million for PBOP costs.
3 Forecast costs for 2019 and 2020 were \$36.361 million for 2019, and \$35.779 million, respectively, for
4 a three-year average of \$36.41 million.³² These amounts covered all forecast PBOP trust contributions
5 and tax-deductible net PBOP costs for certain retirees. Note that they exclude the cost of actuarial fees,
6 which are also recovered in rates, but which are forecast separately.

7 The Plan actuary, Aon Hewitt, prepared the forecast on a total utility basis in accordance with
8 requirements of ASC 715-60 (formerly FAS106). The forecast was based on the PBOP assets and
9 liabilities shown in December 31, 2015 corporate financial statement disclosure information, which
10 reflected a discount rate of 4.55%, active and retiree census data measured as of January 1, 2015, post-
11 retirement health claims information for 2014 and prior years, PBOP trend rates, and other "best
12 estimate" actuarial assumptions. ORA did not contest the initial forecast.

13 SCE's updated Test Year 2018 forecast of \$3.850 million is based on a three-year average of the
14 updated PBOP forecast costs for 2018, 2019, and 2020 of \$4.995 million, \$3.443 million, and \$1.861
15 million, respectively, for a three-year average of \$3.433 million, plus \$0.417 million for PBOP-related
16 actuarial fees (no change from SCE's GRC application). The forecast is based on final results of the
17 January 1, 2017 actuarial valuation, which reflected a PBOP discount rate of 4.29%, January 1, 2017
18 census data, December 31, 2016 asset value, and post-retirement health claims information for 2016 and
19 prior years. As with the initial forecast, Aon Hewitt projected these costs on a total utility basis in
20 accordance with ASC 715-60 (formerly FAS106).

21 Factors contributing to the reduction in the Test Year 2018 amount include 2016 investment
22 performance, a declining active member population, changes in demographic actuarial assumptions
23 (including mortality assumptions), a life insurance plan design change, and lower health claims
24 experience than expected in both 2015 and 2016, especially under the prescription drug Employer Group
25 Waiver Program introduced in 2013. This favorable claims experience highlights the success of SCE's
26 efforts in recent years to limit annual increases in health care claims costs.

³² Please refer to Exhibit SCE-06, Volume 2, p. 91.

1 **D. Changes in Accounting Standards for Pensions and PBOP**

2 The Financial Accounting Standard Board (“FASB”) issued authoritative guidance that will
3 change the way Pension, PBOP, and Executive Retirement Plan costs are capitalized in SCE’s financial
4 statements.³³ The FERC has allowed, and SCE will make, a one-time election to adopt the new FASB
5 guidance for regulatory filing purposes. Collectively, this election has increased the projected capitalized
6 amounts and reduced SCE’s revenue requirement in 2018, 2019, and 2020.

7 Currently, SCE typically reflects Pension and PBOP costs in capital projects as labor cost
8 overhead, such that each capital project bears its equitable share of these costs. Effective January 1,
9 2018, SCE will be required to separate Pension and PBOP costs into two components:

- 10 • Service costs: costs attributable, under FASB-required methodology, to benefits earned by
11 employees for services performed during the current year; and
- 12 • Non-service costs: costs relating to a plan’s current funded status, reflecting various aspects of
13 SCE’s Pension and PBOP financing, investing, accounting, and rate recovery policies. Both
14 components are determined by the Plan Actuary, Aon Hewitt. Effective January 1, 2018,
15 Executive Retirement Plan costs will also be separated into service and non-service costs
16 components, due to the FASB accounting standards change.

17 Under the new accounting guidance, the entire service cost, and only the service cost, will be
18 subject to capitalization. Because SCE’s Pension and PBOP plans are relatively well-funded, negative
19 non-service costs (i.e., net gains) are forecast for 2018, 2019, and 2020. These large negative non-
20 service costs act as a credit against SCE’s O&M forecast, which leads to a reduction in SCE’s revenue
21 requirement.

³³ Please refer to WP SCE-08 Vol. 03, Bk A, pp. 204-205 for a copy of FERC Instruction 4, which is the basis for this discussion. Additional guidance is provided by ASU-2017-07, *available at* http://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1176168888120&acceptedDisclaimer=true.

VII.

**TRANSPORTATION SERVICES OPERATING COSTS – FUEL TAX AND VEHICLE
LICENSE FEE INCREASES**

The Road Repair and Accountability Act of 2017, California Senate Bill 1 (CA SB1) was approved by Governor Jerry Brown and filed with the Secretary of State on April 28, 2017.³⁴ CA SB1 calls for a \$0.12 per gallon increase in motor vehicle fuel (gasoline) tax effective November 1, 2017, a \$0.20 per gallon increase in diesel excise tax effective November 1, 2017, a four percent increase in diesel sales and use tax effective November 1, 2017, and a new transportation improvement fee included in the Vehicle License Fee that varies between \$25 and \$175 per vehicle based on vehicle value effective January 1, 2018.³⁵

While this new legislation did not significantly impact SCE's 2016 and 2017 forecasts, SCE's 2018 forecast of related operating costs has increased due to the changes in fuel tax and vehicle license fees. SCE's original 2018 transportation related operating cost forecast was \$126.965 million (nominal dollars).³⁶ SCE revised its 2018 operating cost forecast to \$124.267 million to account for decreasing fuel cost forecasts.³⁷ Based upon this new legislation, SCE's current 2018 forecast of transportation-related costs is \$125.492 million, an increase of \$1.225 million.

The amount of the forecast increase attributable to the gasoline tax increase is \$282,000 and the amount attributable to the diesel excise tax increase is \$432,000, as shown in Table VII-12 below. The amount of the forecast attributable to the increase in diesel sales and use tax is \$159,062, as shown in Table VII-13 below. The amount of the forecast increase attributable to the new transportation improvement fee is \$351,945 as shown in Table VII-14 below (or \$81.00 average impact to SCE multiplied by 4,345 on-road vehicles).

³⁴ Please refer to California Senate Bill 1, *available at* http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB1

³⁵ Please refer to LAO Overview of the 2017 Transportation Funding Package, included in Appendix F.

³⁶ Please refer to SCE-07, Volume 7, p. 11.

³⁷ In SCE's rebuttal to TURN's testimony on transportation operating costs (SCE-23, Volume 1, pp. 38-41), SCE accepted TURN's proposed estimates for the per gallon price of gasoline diesel, thereby reducing the original operating cost forecast by \$2.699 million. In the same rebuttal testimony (at pp. 35-38), SCE proposed an alternative forecast for non-fuel operating costs. However, in briefs, TURN and SCE agreed to maintain SCE's original forecast for non-fuel operating costs. Please refer to TURN Opening Brief, pp. 190-191; SCE Reply Brief, p. 110.

The increased taxes and license fees are the only updated components of SCE's 2018 forecast of transportation-related operating costs. No other components of this forecast were modified (e.g., estimated fuel consumption and fleet size and composition).

Table VII-12
Fuel Tax Increase Impact on Transportation Operating Cost Forecast
Nominal Dollars

Category	Gallons Forecast	Increase per Gallon	Forecast Increase
Gasoline	2,350,000	\$0.12	\$282,000
Diesel	2,160,000	\$0.20	\$432,000
Total			\$714,000

Table VII-13
Diesel Sales and Use Tax Impact on Transportation Operating Cost Forecast³⁸
Nominal Dollars

Category	Gallons Forecast	Taxable Price per Gallon	Increase per Gallon	Forecast Increase
Diesel	2,160,000	\$1.84	\$0.07	\$159,062

Table VII-14
Vehicle License Fee Increase Impact on Transportation Operating Cost Forecast³⁹
Nominal \$000

Category	Average Registration Fee Increase Per Vehicle	Number of Impacted Vehicles	Forecast Increase
Vehicle License Fees	\$81	4345	\$351,945

³⁸ Approximately 30% of SCE's invoice rate for diesel fuel is either tax or not taxable. Therefore, 70% of SCE's forecast invoice rate is used to derive the taxable price per gallon.

³⁹ Please refer to Vehicle License Fee Increase Calculations.

VIII.

ACCOUNTING CHANGE FOR JOINT POLE ORGANIZATION REQUEST

A. Joint Pole Organization

This section of testimony updates SCE's proposed forecast for its Joint Pole Organization. The Joint Pole Organization was described in SCE-02, Volume 9, and the costs associated with the organization are a portion of GRC activity 583.125.⁴⁰ SCE had requested \$8.548 million in expenses for the Joint Pole Organization.⁴¹ After a review of the activities of the Joint Pole Organization since filing the 2018 GRC Application and Rebuttal, SCE determined that a significant amount of the work performed is related to capital expenditures, and that \$4.899 million should accordingly be charged as capital expenditures. As a result, SCE's request for expenses for the Joint Pole Organization will decline by a corresponding amount. While this topic does not fit neatly into the normal scope of issues covered in an Update hearing, TURN raised concerns about the timing of accounting changes to the extent they are implemented following adoption of O&M forecasts.⁴² While SCE does not agree with TURN's position on the issue for the reasons stated in SCE-25, Volume 3, and believes any policy conclusion adopted in this decision on this issue should apply prospectively only, in order to promote transparency SCE is proposing to reduce its O&M forecast, and increase its capital forecast, to reflect this change in capitalization that will be implemented in 2018.⁴³

1. Overview of the Joint Pole Organization

As part of its request for funding pole-related activities, SCE included the expenses associated with the Joint Pole Organization (JPO). JPO is responsible for a number of activities, including the following:

- Executes and administers all joint pole agreements where SCE shares ownership of poles with other utilities;
- Executes and administers agreements to lease pole space to other utilities;

⁴⁰ Please refer to SCE-02, Volume 9, pp. 69-71.

⁴¹ Please refer to Issue ORA-112, p. 166 of the Joint Comparison Exhibit. The Joint Comparison Exhibit is found in SCE-29.

⁴² Please refer to TURN-03, pp. 2-8.

⁴³ Please refer to SCE-25, Volume 3, pp. 36-41. Please also see SCE Opening Brief, pp. 294-96 and SCE Reply Brief, pp. 180-81.

- Generates invoices and processes payments for joint pole activities;
- Participates in the Joint Pole Committee to establish policies and resolve issues;
- Performs technical evaluation of third party requests for pole space; and
- Identifies unauthorized attachments.

In its application, SCE requested \$8.548 million for test year funding. SCE's request was based on using the last year recorded as a base, and then adding costs associated with adding staff and converting existing contract employees to SCE employees.⁴⁴ ORA proposed test year funding of \$7.442 million, based on SCE receiving only one-third of its requested increase in the test year.

2. Accounting Background

SCE provided an extensive discussion on capitalization of costs and the use of overhead accounts in our Rebuttal, and will not repeat that material here.⁴⁵ The detailed discussion serves as relevant background to this issue.

3. Study of Joint Pole Activities

After reviewing the activities of the Joint Pole Organization, SCE determined that a large portion of the work was done to support capital activities, such as pole installations or replacements. SCE performed a detailed study of each of the groups within the Joint Pole Organization to identify the activities that will continue to be treated as 100% O&M, and the activities that will record costs to an account that will be allocated 80% to capital and 20% to O&M. This results in \$4.898 million being removed from our GRC Activity 583.125 request. Since these costs will record as capital, SCE has adjusted the distribution capital expenditure request upwards by \$4.898. Please refer to Appendix G for the labor study and the activity summary.

⁴⁴ Please refer to SCE-02, Volume 9, pp. 69-71, and SCE-18, Volume 9, pp. 10-13.

⁴⁵ Please refer to SCE-25, Volume 3, pp. 36-38.

4. **SCE's Revised Proposal for JPO Test Year**

Table VIII-15
Joint Pole Organization
Portion of GRC Account 583.125
Recorded and Adjusted 2011-2015/Forecast 2016-2018
(Constant 2015 \$000)

	Recorded					Forecast		
	2011	2012	2013	2014	2015	2016	2017	2018
Labor	\$3,142	\$3,443	\$3,973	\$4,330	\$5,212	\$6,361	\$6,927	\$2,408
Non-Labor	\$200	\$831	\$1,964	\$2,220	\$1,677	\$2,260	\$1,621	\$1,241
Total	\$3,342	\$4,274	\$5,938	\$6,550	\$6,889	\$8,621	\$8,548	\$3,649
Ratio of Labor to Total	94%	81%	67%	66%	76%	74%	81%	66%
Basis of Forecast: Itemized Forecast, adjusted for costs assigned to capital account in 2018 Basis of Labor/Non-Labor Split: Itemized Forecast								

The \$4.899 million removed from the 583.125 account has been placed in a capital expenditure item in the RO model.⁴⁶

⁴⁶ The costs have been placed in the CET-PD-CR-JD-MTW WBS element. This is a WBS element for the non-balancing account pole credits. Please refer to SCE-02, Volume 9, pp. 71-73.

IX.

STREET LIGHT SALES

As discussed in section 11.9 of the SCE's Opening Brief, SCE is removing from rate base streetlight assets included in a section 851 Application or Advice Letter, subject to: (a) the Commission approving the Application or Advice Letter, and (b) the transfer of ownership and responsibility of the asset(s) entirely transitioning from SCE to the purchaser. Streetlight sales meeting these criteria include the communities of Lancaster, Huntington Beach, Rialto, and Rancho Cucamonga. As a result of these sales, SCE is removing from rate base \$24.5 million of net plant in 2017, consisting of a \$41.9 million decrease in plant-in-service, and a 17.4 million decrease in accumulated depreciation. Please refer to *Table IX-16* below.

Table IX-16

Assets Removed From Rate Base (\$000)

Community	Decision	Gross Plant	Accumulated Depreciation	Net Book Value
Lancaster	D.16-03-010	17,088	7,120	9,968
Huntington Beach	A.L. 3503-E	5,391	3,062	2,330
Rialto	A.L. 3563-E	4,754	1,939	2,815
Rancho Cucamonga	D.17-05-024	14,686	5,287	9,399
Total		41,919	17,407	24,512

As shown in Table I-1, this results in a revenue requirement reduction of \$6.923 million in 2018.

1 X.

2 **CHANGES IN TAX ACCOUNTING METHODS**

3 For financial reporting purposes, costs associated with internally developed software are
4 typically capitalized and amortized over their book lives. For income tax purposes, certain portions of
5 those costs may be deducted when incurred. The remaining costs are capitalized and amortized for tax
6 purposes under IRC Section 167(f) over a three-year period. Tax adjustments related to internally-
7 developed capitalized software costs are subject to flow-through tax treatment.⁴⁷

8 In October 2017, SCE filed its 2016 tax return, which included an automatic change of
9 accounting method. The change, effective January 1, 2016, expanded the definition of the capitalized
10 software costs which may be deducted when incurred for tax purposes. The Company had previously
11 treated contractor and consultant costs associated with computer software as capital expenditures that
12 were amortized over 36 months from the date the software was placed in service. SCE now treats all
13 eligible labor costs (both internal labor and contract labor) associated with computer software as a
14 currently deductible expense in accordance with the provisions of Internal Revenue Code Section 162
15 and as described in Section 5.01(1) of Internal Revenue Service Revenue Procedure 2000-50.

16 This accounting method change occurred between rate cycles. Therefore, on November 6, 2017
17 the Company filed Advice Filing 3610-E-A in accordance with the operation of the 2016 Tax
18 Accounting Memorandum Account (TAMA).⁴⁸ The Company will continue to file yearly updates under
19 the TAMA to reflect changes in the revenue requirement (both positive and negative) resulting from this
20 accounting method change until these changes have been reflected in the next 2021 General Rate Case.

21 To reflect this change in the 2018 General Rate Case, the following changes would need to be
22 made:

- 23 1. Change the estimate of capitalized software costs deductible when incurred;
- 24 2. Change the tax amortization schedules to reflect lower capitalized software amounts; and
- 25 3. Change pre-2018 tax basis amounts and tax amortization to reflect the incremental tax
- 26 benefits given to ratepayers through the TAMA.

⁴⁷ Please refer to SCE-09, Volume 2C, Section III.B.1.b.8, p. 26.

⁴⁸ The Commission established the TAMA in its decision on SCE's Test Year 2015 GRC. *See* D.15-11-021, p. 558, Ordering Paragraph 20.

1 SCE has not yet incorporated the revenue requirement impact of these changes into the Results
2 of Operations model, but it wanted to make the Commission aware of the accounting change. In light of
3 the date on which this update testimony is being served, SCE proposes that any recorded-to-forecast
4 differences related to deductible capitalized software should continue to be recorded in the TAMA and
5 trued up through balancing accounts through 2020, at which time the impacts will be incorporated into
6 SCE's Test Year 2021 GRC.

1 **XI.**

2 **OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE (OASDI) TAX**

3 The OASDI limitations for 2017 through 2020 have been updated to reflect the limitation
4 amounts included in the 2017 OASDI Trustees Report. The 2017 limitation increased from \$126,300 to
5 \$127,200; 2018 limitation decreased from \$133,200 to \$130,500; 2019 limitation decreased from
6 \$139,800 to \$135,600; and 2020 limitation decreased from \$146,700 to \$142,200.

XII.

ADDED FACILITIES RATES

SCE's revenue requirement recovers the costs of owning, operating, and maintaining standard facilities. Customers may request facilities in addition to, or in substitution for, the standard facilities that SCE would normally install. SCE may accommodate these requests by building such additional facilities, which are called Added Facilities. Customers are charged for the cost of these additional facilities through Added Facilities rates. In SCE-09, Volume 1, we proposed 2018 Added Facilities Rates. To account for the 2018 Cost of Capital Decision (D.) 17-07-005, SCE has updated its Added Facilities rates as summarized in the following table.

Table XII-17
Added Facilities Rate Components

Line No	Rate Components	SCE Financed			Customer Financed	
		Replacement at Additional Cost (%)	Replacement for 20 Yrs No Additional Cost (%)	Replacement (Perpetuity) No Additional Cost (%)	Replacement at Additional Cost (%)	Replacement for 20 Yrs No Additional Cost (%)
		(1)	(2)	(3)	(4)	(5)
1	Overhead: A&G,					
2	Ad Val., & Ins	2.50	2.55	2.80	2.50	2.55
3						
4	Return, Depreciation,					
5	and Income Taxes	9.92	9.92	9.92	—	—
6						
7	Replacement:	—	0.21	1.16	—	0.20
8						
9	Total	12.42	12.69	13.89	2.50	2.75
10	Average O&M	1.61	1.65	1.81	1.61	1.65
11						
12	Annual	14.04	14.33	15.69	4.12	4.40
13	Monthly	1.17	1.19	1.31	0.34	0.37
14						
15	One-Time-					
16	Payment Factor	N/A	144.94	203.71	N/A	44.49

Appendix A
Witness Qualifications

SOUTHERN CALIFORNIA EDISON COMPANY

QUALIFICATIONS AND PREPARED TESTIMONY OF CYNTHIA JACOBS

Q. Please state your name and business address for the record.

A. My name is Cynthia Jacobs, and my business address is 3 Innovation Way, Pomona, California 91768.

Q. Briefly describe your present responsibilities at the Southern California Edison Company.

A. I am currently Senior Manager of Regulatory Policy and Internal Controls in SCE's Pole Program Management Department. I manage the regulatory involvement, capital and O&M budget, policies and procedures for the Pole Program Management Department.

Q. Briefly describe your educational and professional background.

A. I earned a Bachelor of Science degree in Engineering from the University of Illinois at Urbana-Champaign and a Master's degree in Business Administration from the University of California at Los Angeles. I have been employed by Southern California Edison Company and Edison International since 1993. At Southern California Edison I have held various positions in finance, risk management and regulatory policy. I was promoted to my current position in 2013. Prior to joining Southern California Edison, I held the position of Quality Manager at TRW Technar and the position of engineer at Delco Products Division of General Motors.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to sponsor portions of Exhibit SCE-59, entitled Update Testimony, as identified in the Table of Contents thereto.

Q. Was this material prepared by you or under your supervision?

A. Yes, it was.

Q. Insofar as this material is factual in nature, do you believe it to be correct?

A. Yes, I do.

Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best judgment?

A. Yes, it does.

Q. Does this conclude your qualifications and prepared testimony?

A. Yes, it does.

Appendix B

Attachments for Chapter II

EXHIBIT SCE-59

CHAPTER II

RESULTS OF OPERATIONS

AUTHORIZED BASE REVENUE REQUIREMENT
(ABRR)
AND
REVENUE CHANGES

Table III-5, SCE-9, Volume 1
2018, 2019, and 2020 Revenue Changes Resulting From
The 2018 Test Year and 2019 & 2020 PTYR GRC Request
(thousands of dollars)

ABRR and Revenue Change Including the Impact of
Previously Approved and Forecasted ABRR Changes:

		2018	2019	2020	Cumulative	SCE-9 Vol. 1 Reference
1.	Proposed GRC Base Revenue Requirement	5,673,313	6,149,841	6,703,445		Update Testimony Table II-1
2.	Estimated Present (Prior Year) Revenue Requirement	5,640,432	5,673,313	6,149,841		For 2018, AL 3514-E
3.	GRC ABRR Change	32,881	476,528	553,604		
4.	Less: GRC Revenue Growth					
5.	2017 GRC PRR	84,253	5,309,377			Table VI-27
6.	2018 GRC PRR	83,572	5,266,462			Table VI-27
7.	2018 GRC PRR	83,572	5,266,462			Table VI-27
8.	2019 GRC PRR	83,470	5,260,034			Table VI-27
9.	2019 GRC PRR	83,470		5,260,034		Table VI-27
10.	2020 GRC PRR	82,567		5,203,130		Table VI-27
11.	GRC Revenue Growth	(42,915)	(6,428)	(56,904)		
12.	Residential Rate OIR Implementation MA	18,854	(18,854)			Update Testimony, CH IV, plus FF&U
13.	SmartConnect Opt Out BA	11,457	(11,457)			Update Testimony, CH IV, plus FF&U
14.	2012 - 2014 Bark Beetle CEMA	10,675	(10,675)			SCE-12, Table VI-3 + FF&U
15.	Residential Service Disconnection MA	27	(27)			Table IV-16 plus FF&U
16.	Energy Data Request Program MA	458	(458)			Update Testimony, CH IV, plus FF&U
17.	Subtotal - Balancing/Memo Account Recovery	41,471	(41,471)	-	-	
18.	GRC Revenue Change (Line 3 - Line 11 + Line 17)	117,266	441,485	610,508	1,169,259	
19.	Percent GRC Revenue Change	2.08%	7.78%	9.93%	19.79%	
20.	Total System PRR	11,417,570	11,393,715	11,277,777		Table VI-25
21.	GRC Revenue Change - 2018		117,266	117,266		Line 18 (2018)
22.	GRC Revenue Change - 2019			441,485		Line 18 (2019)
23.	Total System PRR with GRC Revenue Changes	11,417,570	11,510,981	11,836,528		Line 20 + Line 21 + Line 22
24.	Percent Total Revenue Change	1.03%	3.84%	5.16%	10.02%	Line 18 / Line 23

TOTAL COMPANY
SUMMARY OF EARNINGS AT
PROPOSED RATES
(EXCLUDES RATE BASE ADJUSTMENT)
2015 THROUGH 2020

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
SUMMARY OF EARNINGS
ESTIMATED REVENUE REQUIREMENTS

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>Operating Revenues</u>						
2.	Electric Revenues	6,080,010	6,236,137	6,606,307	6,769,689	7,306,534	7,926,830
3.	<u>Operating Expenses</u>						
4.	Escalation	0	32,409	69,770	110,631	164,630	216,745
5.	Generation - Steam	7,338	7,444	7,124	7,845	7,845	7,845
6.	Generation - Nuclear	79,681	76,747	76,747	76,747	76,747	76,747
7.	Generation - Hydro	43,827	45,444	42,445	41,446	41,446	41,446
8.	Generation - Other	78,825	80,993	79,346	81,965	81,965	81,965
9.	Transmission	160,731	168,302	172,982	172,453	172,453	172,453
10.	Distribution	527,573	545,035	540,807	539,618	539,618	539,618
11.	Customer Accounts	165,163	150,041	144,487	159,329	159,329	159,329
12.	Customer Service and Information	23,327	20,638	21,074	21,007	21,007	21,007
13.	Total O&M Expenses	1,086,465	1,127,053	1,154,782	1,211,040	1,265,039	1,317,154
14.	Administrative and General	860,385	838,403	824,628	691,464	688,120	686,835
15.	Total A&G Expenses	860,385	838,403	824,628	691,464	688,120	686,835
16.	Revenue Credits	214,563	203,185	209,337	215,998	224,553	239,029
17.	Other	0	0	0	0	0	0
18.	Uncollectibles	11,755	14,842	15,723	14,623	15,782	17,122
19.	Franchise Requirements	50,763	56,718	60,084	61,902	66,811	72,483
20.	Subtotal	1,794,805	1,833,830	1,845,881	1,763,031	1,811,199	1,854,566

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
SUMMARY OF EARNINGS (Continued)
ESTIMATED REVENUE REQUIREMENTS

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
21.	Depreciation - System	1,653,598	1,750,011	1,853,858	2,008,270	2,144,517	2,342,650
22.	Taxes Other Than On Income - System	336,788	351,253	373,922	391,954	414,809	442,604
23.	Taxes Based On Income - System	326,371	334,156	397,446	411,449	555,434	715,921
24.	Total Taxes - System	663,159	685,410	771,368	803,404	970,243	1,158,524
25.	Total Operating Expenses - System	4,111,562	4,269,250	4,471,107	4,574,706	4,925,959	5,355,740
26.	Net Operating Revenue - System	1,968,448	1,966,887	2,135,200	2,194,984	2,380,575	2,571,091
27.	Rate Base - System (Average)-System	22,568,645	24,897,304	27,027,850	28,846,445	31,285,482	33,789,236
28.	Rate of Return-System	8.72%	7.90%	7.90%	7.61%	7.61%	7.61%

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
TAXES - OTHER
ESTIMATED REVENUE REQUIREMENTS

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>Ad Valorem Taxes</u>						
2.	Ad Valorem Taxes	262,960	278,383	299,086	321,138	341,748	366,955
3.	Total Ad Valorem Taxes	<u>262,960</u>	<u>278,383</u>	<u>299,086</u>	<u>321,138</u>	<u>341,748</u>	<u>366,955</u>
4.	<u>Payroll Taxes</u>						
5.	Federal Insurance Contribution Act (FICA)	66,100	64,872	66,769	62,916	64,997	67,413
6.	Federal Unemployment Tax Act	365	352	347	318	318	318
7.	State Unemployment Tax Act	3,831	3,693	3,633	3,334	3,335	3,336
8.	Total Payroll Taxes	<u>70,296</u>	<u>68,917</u>	<u>70,749</u>	<u>66,568</u>	<u>68,650</u>	<u>71,067</u>
9.	<u>Misc. Taxes</u>						
10.	Federal - All Other	4,145	4,566	4,699	4,842	4,994	5,153
11.	Total Miscellaneous Taxes	<u>4,145</u>	<u>4,566</u>	<u>4,699</u>	<u>4,842</u>	<u>4,994</u>	<u>5,153</u>
12.	<u>ITC Amortization on CTC Property</u>	(613)	(613)	(612)	(594)	(583)	(571)
13.	<u>ARAM Expense on CTC Property</u>	0	0	0	0	0	0
14.	Total Taxes Other Than Income	336,788	351,253	373,922	391,954	414,809	442,604

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
INCOME TAX ADJUSTMENTS
ESTIMATED REVENUE REQUIREMENTS

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>California Income Tax Adjustments</u>						
2.	Tax Depreciation	1,447,676	1,561,462	1,598,288	1,678,443	1,733,478	1,862,613
3.	Interest On Long-Term Debt	532,620	587,576	637,857	617,718	669,947	723,563
4.	Interest On Accumulated Deferred ITC	(2,805)	(2,506)	(2,284)	(1,878)	(1,693)	(1,515)
5.	Uniform Capitalization	130,245	117,263	127,732	201,168	209,551	208,403
6.	Capitalized Software	10,319	26,126	42,287	51,477	43,706	24,864
7.	Ad Valorem Lien Date Adjustment	8,226	7,196	13,506	8,547	12,061	13,147
8.	Removal Costs	524,303	440,155	438,236	562,882	568,006	562,088
9.	Amortization of Land Rights	0	0	0	0	0	0
10.	Salvage Warehouse Expense	0	0	0	0	0	0
11.	CIAC Revenues	(186,558)	(198,876)	(219,968)	(269,318)	(288,633)	(304,702)
12.	Non Deductible Meals	(2,060)	(2,070)	(2,132)	(2,102)	(2,172)	(2,217)
13.	Excess Compensation	3,291	3,398	3,489	3,587	3,691	3,799
14.	ESOP Dividends	0	0	0	0	0	0
15.	Leased Vehicles	0	0	0	0	0	0
16.	Repair Deduction	977,704	964,473	1,025,107	1,038,414	1,056,033	1,085,928
17.	Total CCFT Adjustments	3,442,962	3,504,197	3,662,118	3,888,938	4,003,975	4,175,971

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
INCOME TAX ADJUSTMENTS
ESTIMATED REVENUE REQUIREMENTS

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>Federal Income Tax Adjustments</u>						
2.	Tax Depreciation	2,149,543	2,000,105	1,990,325	1,997,802	2,010,997	1,633,057
3.	Interest On Long-Term Debt	532,620	587,576	637,857	617,718	669,947	723,563
4.	Uniform Capitalization	130,245	117,263	127,732	201,168	209,551	208,403
5.	Capitalized Software	10,319	26,126	42,287	51,477	43,706	24,864
6.	Ad Valorem Lien Date Adjustment	8,226	7,196	13,506	8,547	12,061	13,147
7.	Repair Deduction	977,704	964,473	1,025,107	1,038,414	1,056,033	1,085,928
8.	Removal Costs	524,303	440,155	438,236	562,882	568,006	562,088
9.	Amortization of Land Rights	0	0	0	0	0	0
10.	Salvage Warehouse Expense	0	0	0	0	0	0
11.	CIAC Revenues	(185,136)	(197,454)	(218,658)	(268,278)	(287,949)	(304,363)
12.	Non Deductible Meals	(2,060)	(2,070)	(2,132)	(2,102)	(2,172)	(2,217)
13.	Leased Vehicles	0	0	0	0	0	0
14.	ESOP Dividends	0	0	0	0	0	0
15.	Preferred Dividend Deduction	0	809	809	809	809	809
16.	Section 199 Manufacturer's Deduction	0	5,278	16,587	19,217	21,015	23,038
17.	Medicare D	0	0	0	0	0	0
18.	Total FIT Adjustments	4,149,055	3,952,856	4,075,145	4,231,241	4,305,695	3,972,114

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
ESTIMATED REVENUE REQUIREMENTS

TAXES - INCOME (\$000)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>California Corporation Franchise Tax</u>						
2.	Operating Revenues	6,080,010	6,236,137	6,606,307	6,769,689	7,306,534	7,926,830
3.	Operating Expenses	1,794,805	1,833,830	1,845,881	1,763,031	1,811,199	1,854,566
4.	Taxes Other Than Income	336,788	351,253	373,922	391,954	414,809	442,604
5.	Subtotal Expenses	2,131,593	2,185,083	2,219,803	2,154,986	2,226,008	2,297,169
6.	Income Tax Adjustments	3,442,962	3,504,197	3,662,118	3,888,938	4,003,975	4,175,971
7.	California Taxable Income	505,455	546,857	724,386	725,766	1,076,551	1,453,691
8.	CCFT Tax Rate	8.8400%	8.8400%	8.8400%	8.8400%	8.8400%	8.8400%
9.	CCFT	44,682	48,342	64,036	64,158	95,167	128,506
10.	California Alternate Minimum Tax	0	0	0	0	0	0
11.	Arizona Income Tax Rate	0.0270%	0.0270%	0.0270%	0.0000%	0.0000%	0.0000%
12.	New Mexico Income Tax Rate	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
13.	Arizona Income Tax	136	148	196	0	0	0
14.	New Mexico Income Tax	0	0	0	0	0	0
15.	Total Other State State Income Taxes	136	148	196	0	0	0
16.	Total State Income Taxes	44,818	48,490	64,232	64,158	95,167	128,506

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
ESTIMATED REVENUE REQUIREMENTS

TAXES - INCOME (\$000)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>Federal Income Tax</u>						
2.	Operating Revenues	6,080,010	6,236,137	6,606,307	6,769,689	7,306,534	7,926,830
3.	Operating Expenses	1,794,805	1,833,830	1,845,881	1,763,031	1,811,199	1,854,566
4.	Taxes Other Than Income	336,788	351,253	373,922	391,954	414,809	442,604
5.	Total State Income Taxes	44,818	48,490	64,232	64,158	95,167	128,506
6.	Less: Current Year's CCFT	44,682	48,342	64,036	64,158	95,167	128,506
7.	Plus: Prior Year's CCFT	83,455	44,682	48,342	64,036	64,158	95,167
8.	Subtotal - Expenses	2,215,184	2,229,913	2,268,341	2,219,022	2,290,166	2,392,336
9.	Income Tax Adjustments (Sch M)	4,149,055	3,952,856	4,075,145	4,231,241	4,305,695	3,972,114
10.	Federal Taxable Income	(284,229)	53,369	262,822	319,426	710,673	1,562,380
11.	FIT Tax Rate	35%	35%	35%	35%	35%	35%
12.	Federal Income Tax	(99,480)	18,679	91,988	111,799	248,736	546,833
13.	Federal Alternative Income Tax	0	0	0	0	0	0
14.	Taxes Deferred-current (Plant)	408,291	296,460	272,372	282,874	268,335	121,818
15.	Taxes Deferred-current (AFUDC Debt)	0	0	0	0	0	0
16.	Taxes Deferred-current (Cap. Int.)	0	0	0	0	0	0
17.	Contributions in Aid of Construction	(20,632)	(20,980)	(22,884)	(39,053)	(48,852)	(73,686)
18.	Investment Tax Credit Amortization	(7,968)	(9,878)	(9,685)	(9,791)	(9,456)	(9,098)
19.	Accrued Vacation	1,342	1,385	1,422	1,462	1,504	1,548
20.	Total Federal Income Taxes	281,553	285,666	333,214	347,291	460,267	587,415
21.	Total Taxes-Income (State and Fed)	326,371	334,156	397,446	411,449	555,434	715,921

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
DEPRECIATION EXPENSE
ESTIMATED REVENUE REQUIREMENTS

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	Depreciation Expense	1,653,598	1,750,011	1,853,858	2,008,270	2,144,517	2,342,650

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
WEIGHTED AVERAGE RATE BASE
ESTIMATED REVENUE REQUIREMENTS

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	Fixed Capital						
2.	Plant in Service (Avg.)	38,342,620	40,832,678	43,743,307	46,537,145	49,818,535	53,123,446
3.	Capitalized Software (Avg.)	1,518,581	1,434,610	1,358,394	1,209,818	1,261,255	1,589,016
4.	Intangibles (Avg.)	196,275	211,967	222,903	226,958	236,696	238,797
5.	Property Held for Future Use (Avg.)	0	0	0	0	0	0
6.	Total Fixed Capital (Avg.)	40,057,476	42,479,255	45,324,604	47,973,921	51,316,486	54,951,259
7.	Adjustments						
8.	Customer Advance for Construction (Avg.)	(69,490)	(69,089)	(67,745)	(72,308)	(79,137)	(84,762)
9.	Total Adjustments (Avg.)	(69,490)	(69,089)	(67,745)	(72,308)	(79,137)	(84,762)
10.	Working Capital						
11.	Materials and Supplies (Avg)	190,803	196,354	208,889	226,965	242,757	250,438
12.	Mountainview Emission Credits (Avg)	6,774	6,106	5,468	4,861	4,284	3,734
13.	Working Cash (Avg.)	356,156	334,560	340,644	351,866	400,633	451,120
14.	Total Working Capital (Avg.)	553,732	537,020	555,001	583,692	647,674	705,293
15.	Total Before Deductions for Reserves (Avg)	40,541,718	42,947,186	45,811,860	48,485,305	51,885,023	55,571,790

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
WEIGHTED AVERAGE RATE BASE (Continued)
ESTIMATED REVENUE REQUIREMENTS

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
16.	<u>Deductions for Reserves</u>						
17.	Depreciation Reserve (Avg)	(12,145,461)	(12,016,424)	(12,561,022)	(13,175,659)	(13,873,335)	(14,721,079)
18.	Accum. Amort. - Capitalized Software (Avg.)	(984,700)	(883,979)	(753,411)	(666,900)	(665,848)	(801,957)
19.	Accum. Taxes Def. - Plant (Avg.)	(4,891,502)	(5,201,909)	(5,527,653)	(5,860,535)	(6,138,874)	(6,361,507)
20.	Accum. Def. Taxes for Uniform Capitalization	0	0	0	0	0	0
21.	Accum. Taxes Def. - CIAC (Avg.)	99,483	104,899	114,008	124,409	143,618	170,116
22.	Accrued Vacation (Avg)	20,236	18,873	17,469	16,027	14,544	13,018
23.	Unfunded Pension Reserve (Avg.)	(71,129)	(71,342)	(73,401)	(76,201)	(79,645)	(81,145)
24.	Total Deductions for Reserves (Avg.)	(17,973,073)	(18,049,882)	(18,784,010)	(19,638,860)	(20,599,541)	(21,782,554)
25.	Total Rate Base (Avg)	22,568,645	24,897,304	27,027,850	28,846,445	31,285,482	33,789,236

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

N-T-G MULTIPLIER

ESTIMATED REVENUE REQUIREMENTS

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	Revenues	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2.	Uncollectibles Tax Rate	0.00238	0.00238	0.00238	0.00216	0.00216	0.00216
3.	Uncollectibles Amount Applied	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4.	Subtotal	0.9976	0.9976	0.9976	0.9978	0.9978	0.9978
5.	Franchise Fees Tax Rate	0.009095	0.009095	0.009095	0.009144	0.009144	0.009144
6.	Franchise Fees Amount Applied	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7.	Subtotal	0.9885	0.9885	0.9885	0.988696	0.988696	0.988696
8.	Arizona/New Mexico/D.C. Income Tax Rates	0.000270	0.000270	0.000270	0.000000	0.000000	0.000000
9.	Other State I.T. Amount Applied	0.9885	0.9885	0.9885	0.9887	0.9887	0.9887
10.	Subtotal	0.9883	0.9883	0.9883	0.9887	0.9887	0.9887
11.	S. I. T. Rate	0.088400	0.088400	0.088400	0.088400	0.088400	0.088400
12.	S. I. T. Amount Applied	0.9885	0.9885	0.9885	0.9887	0.9887	0.9887
13.	Subtotal	0.9009	0.9009	0.9009	0.9013	0.9013	0.9013
14.	Federal Income Tax	0.35	0.35	0.35	0.35	0.35	0.35
15.	Federal Income Tax Amount Applied	0.9883	0.9883	0.9883	0.9887	0.9887	0.9887
16.	Net Operating Revenues	0.5550	0.5550	0.5550	0.5553	0.5553	0.5553
17.	Uncollectible and Franchise Fees Factor	1.011608	1.011608	1.011608	1.011433	1.011433	1.011433
18.	N-T-G MULTIPLIER	1.8019	1.8019	1.8019	1.8010	1.8010	1.8010

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
RATE OF RETURN

ESTIMATED REVENUE REQUIREMENTS

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	Cost Factor						
2.	Long-Term Debt	5.49%	5.49%	5.49%	4.98%	4.98%	4.98%
3.	Preferred Stock	5.79%	5.79%	5.79%	5.82%	5.82%	5.82%
4.	Equity	10.45%	10.45%	10.45%	10.30%	10.30%	10.30%
5.	Capitalization Ratios						
6.	Long-Term Debt	43.00%	43.00%	43.00%	43.00%	43.00%	43.00%
7.	Preferred Stock	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
8.	Equity	48.00%	48.00%	48.00%	48.00%	48.00%	48.00%
9.	Weighted Cost						
10.	Long-Term Debt	2.36%	2.36%	2.36%	2.14%	2.14%	2.14%
11.	Preferred Stock	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%
12.	Equity	5.02%	5.02%	5.02%	4.94%	4.94%	4.94%
13.	Return on Rate Base	7.90%	7.90%	7.90%	7.61%	7.61%	7.61%

SUMMARY OF ELECTRIC
RATE BASE
(EXCLUDES RATE BASE ADJUSTMENT)

Southern California Edison
Summary of Electric Rate Base - Total Company
 Nominal \$ in Thousands

Total Company Rate Base		Recorded	Forecast				
Line	Item	2015	2016	2017	2018	2019	2020
Fixed Capital							
1	Plant in Service	38,342,620	40,832,678	43,743,307	46,537,145	49,818,535	53,123,446
2	Capitalized Software	1,518,581	1,434,610	1,358,394	1,209,818	1,261,255	1,589,016
3	Other Intangibles	196,275	211,967	222,903	226,958	236,696	238,797
4	Total Fixed Capital	40,057,476	42,479,255	45,324,604	47,973,921	51,316,486	54,951,259
Adjustments							
5	Customer Advances for Construction	(69,490)	(69,089)	(67,745)	(72,308)	(79,137)	(84,762)
6	Customer Deposits	-	-	-	-	-	-
7	Total Adjustments	(69,490)	(69,089)	(67,745)	(72,308)	(79,137)	(84,762)
Working Capital							
8	Materials & Supplies	190,803	196,354	208,889	226,965	242,757	250,438
9	Mountainview Emission Credits	6,774	6,106	5,468	4,861	4,284	3,734
10	Working Cash	356,156	334,560	340,644	351,866	400,633	451,120
11	Total Working Capital	553,732	537,020	555,001	583,692	647,674	705,293
Reserves							
12	Accumulated Depreciation Reserve	(12,145,461)	(12,016,424)	(12,561,022)	(13,175,659)	(13,873,335)	(14,721,079)
13	Accumulated Amortization	(984,700)	(883,979)	(753,411)	(666,900)	(665,848)	(801,957)
14	Accum. Def. Taxes - Plant	(4,891,502)	(5,201,909)	(5,527,653)	(5,860,535)	(6,138,874)	(6,361,507)
15	Accum. Def. Taxes - Uniform Capitalization	-	-	-	-	-	-
16	Accum. Def. Taxes - CIAC	99,483	104,899	114,008	124,409	143,618	170,116
17	Accum. Def. Taxes - Vacation Accrual	20,236	18,873	17,469	16,027	14,544	13,018
18	Unfunded Pension Reserve	(71,129)	(71,342)	(73,401)	(76,201)	(79,645)	(81,145)
19	Total Deductions for Reserves	(17,973,073)	(18,049,882)	(18,784,010)	(19,638,860)	(20,599,541)	(21,782,554)
20	Rate Base	22,568,645	24,897,304	27,027,850	28,846,445	31,285,482	33,789,236
21	Depreciation and Amortization	1,653,598	1,750,011	1,853,858	2,008,270	2,144,517	2,342,650

Southern California Edison
Summary of Electric Rate Base - CPUC
 Nominal \$ in Thousands

CPUC Rate Base		Recorded	Forecast				
Line	Item	2015	2016	2017	2018	2019	2020
Fixed Capital							
1	Plant in Service	30,829,338	32,872,349	35,199,552	37,503,632	40,162,597	42,814,546
2	Capitalized Software	1,422,803	1,344,128	1,272,719	1,133,514	1,181,706	1,488,795
3	Other Intangibles	183,896	198,598	208,845	212,643	221,768	223,736
4	Total Fixed Capital	32,436,037	34,415,075	36,681,115	38,849,789	41,566,071	44,527,078
Adjustments							
5	Customer Advances for Construction	(69,490)	(69,089)	(67,745)	(72,308)	(79,137)	(84,762)
6	Customer Deposits	-	-	-	-	-	-
7	Total Adjustments	(69,490)	(69,089)	(67,745)	(72,308)	(79,137)	(84,762)
Working Capital							
8	Materials & Supplies	178,768	183,970	195,714	212,650	227,446	234,643
9	Mountainview Emission Credits	6,774	6,106	5,468	4,861	4,284	3,734
10	Working Cash	333,693	313,459	319,159	329,674	375,365	422,667
11	Total Working Capital	519,235	503,535	520,341	547,185	607,095	661,045
Reserves							
12	Accumulated Depreciation Reserve	(10,720,526)	(10,570,393)	(10,963,163)	(11,427,048)	(11,965,497)	(12,634,848)
13	Accumulated Amortization	(922,594)	(828,226)	(705,892)	(624,838)	(623,853)	(751,377)
14	Accum. Def. Taxes - Plant	(3,595,222)	(3,740,155)	(3,917,255)	(4,113,258)	(4,276,618)	(4,382,114)
15	Accum. Def. Taxes - Capitalized Interest	-	-	-	-	-	-
16	Accum. Def. Taxes - CIAC	99,483	104,899	114,008	124,409	143,618	170,116
17	Accum. Def. Taxes - Vacation Accrual	18,960	17,683	16,367	15,016	13,627	12,197
18	Unfunded Pension Reserve	(66,643)	(66,842)	(68,772)	(71,395)	(74,622)	(76,027)
19	Total Deductions for Reserves	(15,186,542)	(15,083,034)	(15,524,706)	(16,097,114)	(16,783,345)	(17,662,053)
20	Rate Base	17,699,240	19,766,486	21,609,006	23,227,552	25,310,683	27,441,307
21	Depreciation and Amortization	1,436,643	1,520,200	1,608,803	1,752,338	1,872,039	2,048,898

Southern California Edison
Summary of Electric Rate Base - FERC
Nominal \$ in Thousands

FERC Rate Base		Recorded	Forecast				
Line	Item	2015	2016	2017	2018	2019	2020
Fixed Capital							
1	Plant in Service	7,513,282	7,960,329	8,543,755	9,033,513	9,655,938	10,308,900
2	Capitalized Software	95,778	90,482	85,675	76,304	79,548	100,220
3	Other Intangibles	12,379	13,369	14,059	14,314	14,929	15,061
4	Total Fixed Capital	7,621,439	8,064,180	8,643,488	9,124,132	9,750,415	10,424,182
Adjustments							
5	Customer Advances for Construction	-	-	-	-	-	-
6	Customer Deposits	-	-	-	-	-	-
7	Total Adjustments	0	0	0	0	0	0
Working Capital							
8	Materials & Supplies	12,034.06	12,384	13,175	14,315	15,311	15,795
9	Mountainview Emission Credits	-	-	-	-	-	-
10	Working Cash	22,463	21,101	21,485	22,192	25,268	28,452
11	Total Working Capital	34,497	33,485	34,659	36,507	40,579	44,248
Reserves							
12	Accumulated Depreciation Reserve	(1,424,935)	(1,446,031)	(1,597,859)	(1,748,611)	(1,907,838)	(2,086,231)
13	Accumulated Amortization	(62,106)	(55,753)	(47,518)	(42,062)	(41,996)	(50,580)
14	Accum. Def. Taxes - Plant	(1,296,281)	(1,461,754)	(1,610,399)	(1,747,278)	(1,862,256)	(1,979,393)
15	Accum. Def. Taxes - Capitalized Interest	-	-	-	-	-	-
16	Accum. Def. Taxes - CIAC	-	-	-	-	-	-
17	Accum. Def. Taxes - Vacation Accrual	1,276	1,190	1,102	1,011	917	821
18	Unfunded Pension Reserve	(4,486)	(4,500)	(4,629)	(4,806)	(5,023)	(5,118)
19	Total Deductions for Reserves	(2,786,531)	(2,966,848)	(3,259,303)	(3,541,746)	(3,816,195)	(4,120,501)
20	Rate Base	4,869,405	5,130,817	5,418,845	5,618,893	5,974,799	6,347,929
21	Depreciation and Amortization	216,954	229,811	245,055	255,933	272,478	293,752

TOTAL COMPANY
SUMMARY OF EARNINGS AT
PRESENT RATES
2015 THROUGH 2020

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

SUMMARY OF EARNINGS

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>Operating Revenues</u>						
2.	Electric Revenues	6,080,010	6,461,352	6,716,143	6,707,448	6,706,146	6,694,617
3.	<u>Operating Expenses</u>						
4.	Escalation	0	32,409	69,770	110,631	164,630	216,745
5.	Generation - Steam	7,338	7,444	7,124	7,845	7,845	7,845
6.	Generation - Nuclear	79,681	76,747	76,747	76,747	76,747	76,747
7.	Generation - Hydro	43,827	45,444	42,445	41,446	41,446	41,446
8.	Generation - Other	78,825	80,993	79,346	81,965	81,965	81,965
9.	Transmission	160,731	168,302	172,982	172,453	172,453	172,453
10.	Distribution	527,573	545,035	540,807	539,618	539,618	539,618
11.	Customer Accounts	165,163	150,041	144,487	159,329	159,329	159,329
12.	Customer Service and Information	23,327	20,638	21,074	21,007	21,007	21,007
13.	Total O&M Expenses	1,086,465	1,127,053	1,154,782	1,211,040	1,265,039	1,317,154
14.	O&M Jurisdictional Factor	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
15.	O&M Expenses Juris.	1,086,465	1,127,053	1,154,782	1,211,040	1,265,039	1,317,154
16.	Administrative and General	860,385	838,403	824,628	691,464	688,120	686,835
17.	Total A&G Expenses	860,385	838,403	824,628	691,464	688,120	686,835
18.	Revenue Credits	214,563	203,185	209,337	215,998	224,553	239,029
19.	Other	0	0	0	0	0	0
20.	Uncollectibles	11,755	15,378	15,984	14,488	14,485	14,460
21.	Franchise Requirements	50,763	58,766	61,083	61,333	61,321	61,216
22.	Subtotal	1,794,805	1,836,414	1,847,141	1,762,328	1,804,412	1,840,637

SOUTHERN CALIFORNIA EDISON
TEST YEAR 2018 GENERAL RATE CASE
SUMMARY OF EARNINGS

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

		(Thousands of Dollars)					
Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
23.	Depreciation	1,653,598	1,750,011	1,853,858	2,008,270	2,144,517	2,342,650
24.	Taxes Other Than On Income	336,788	351,253	373,922	391,954	414,809	442,604
25.	Taxes Based On Income	325,029	430,411	436,754	379,650	295,599	198,643
26.	Total Taxes	661,817	781,665	810,676	771,605	710,408	641,246
27.	Total Operating Expenses	4,110,220	4,368,090	4,511,675	4,542,203	4,659,337	4,824,533
28.	Net Operating Revenue	1,969,790	2,093,262	2,204,468	2,165,245	2,046,809	1,870,084
29.	Rate Base - System (Average)	22,568,645	24,897,304	27,027,850	28,846,445	31,281,198	33,785,502
30.	Rate of Return	8.73%	8.41%	8.16%	7.51%	6.54%	5.54%

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

TAXES - OTHER

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>Ad Valorem Taxes</u>						
2.	Ad Valorem Taxes	262,960	278,383	299,086	321,138	341,748	366,955
3.	Total Ad Valorem Taxes	262,960	278,383	299,086	321,138	341,748	366,955
4.	<u>Payroll Taxes</u>						
5.	Federal Insurance Contribution Act (FICA)	66,100	64,872	66,769	62,916	64,997	67,413
6.	Federal Unemployment Tax Act	365	352	347	318	318	318
7.	State Unemployment Tax Act	3,831	3,693	3,633	3,334	3,335	3,336
8.	Total Payroll Taxes	70,296	68,917	70,749	66,568	68,650	71,067
9.	<u>Misc. Taxes</u>						
10.	Federal - All Other	4,145	4,566	4,699	4,842	4,994	5,153
11.	Total Miscellaneous Taxes	4,145	4,566	4,699	4,842	4,994	5,153
12.	<u>ITC Amortization on CTC Property</u>	(613)	(613)	(612)	(594)	(583)	(571)
13.	<u>ARAM Expense on CTC Property</u>	0	0	0	0	0	0
14.	Total Taxes Other Than Income	336,788	351,253	373,922	391,954	414,809	442,604

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

INCOME TAX ADJUSTMENTS

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>California Income Tax Adjustments</u>						
2.	Tax Depreciation	1,447,676	1,561,462	1,598,288	1,678,443	1,733,478	1,862,613
3.	Interest On Long-Term Debt	532,620	587,576	637,857	617,718	669,947	723,563
4.	Interest On Accumulated Deferred ITC	(2,805)	(2,506)	(2,284)	(1,878)	(1,693)	(1,515)
5.	Uniform Capitalization	130,245	117,263	127,732	201,168	209,551	208,403
6.	Capitalized Software	10,319	26,126	42,287	51,477	43,706	24,864
7.	Ad Valorem Lien Date Adjustment	8,226	7,196	13,506	8,547	12,061	13,147
8.	Percentage Repair Allowance	0	0	0	0	0	0
9.	Removal Costs	524,303	440,155	438,236	562,882	568,006	562,088
10.	Amortization of Land Rights	0	0	0	0	0	0
11.	Salvage Warehouse Expense	0	0	0	0	0	0
12.	CIAC Revenues	(186,558)	(198,876)	(219,968)	(269,318)	(288,633)	(304,702)
13.	Non Deductible Meals	(2,060)	(2,070)	(2,132)	(2,102)	(2,172)	(2,217)
14.	Excess Compensation	3,291	3,398	3,489	3,587	3,691	3,799
15.	ESOP Dividends	0	0	0	0	0	0
16.	Leased Vehicles	0	0	0	0	0	0
17.	Total CCFT Adjustments	3,442,962	3,504,197	3,662,118	3,888,938	4,003,975	4,175,971

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

INCOME TAX ADJUSTMENTS

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>Federal Income Tax Adjustments</u>						
2.	Tax Depreciation	2,149,543	2,000,105	1,990,325	1,997,802	2,010,997	1,633,057
3.	Interest On Long-Term Debt	532,620	587,576	637,857	617,718	669,947	723,563
4.	Uniform Capitalization	130,245	117,263	127,732	201,168	209,551	208,403
5.	Capitalized Software	10,319	26,126	42,287	51,477	43,706	24,864
6.	Ad Valorem Lien Date Adjustment	8,226	7,196	13,506	8,547	12,061	13,147
7.	Percentage Repair Allowance	0	0	0	0	0	0
8.	Repair Deduction	977,704	964,473	1,025,107	1,038,414	1,056,033	1,085,928
9.	Removal Costs	524,303	440,155	438,236	562,882	568,006	562,088
10.	Amortization of Land Rights	0	0	0	0	0	0
11.	Salvage Warehouse Expense	0	0	0	0	0	0
12.	CIAC Revenues	(185,136)	(197,454)	(218,658)	(268,278)	(287,949)	(304,363)
13.	Non Deductible Meals	(2,060)	(2,070)	(2,132)	(2,102)	(2,172)	(2,217)
14.	Excess Compensation	3,291	3,398	3,489	3,587	3,691	3,799
15.	Leased Vehicles	0	0	0	0	0	0
16.	ESOP Dividends	0	0	0	0	0	0
17.	Preferred Dividend Deduction	0	809	809	809	809	809
18.	Section 199 Manufacturer's Deduction	0	5,278	16,587	19,217	21,015	23,038
19.	Medicare D	0	0	0	0	0	0
20.	Total FIT Adjustments	4,149,055	3,952,856	4,075,145	4,231,241	4,305,695	3,972,114

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

TAXES - INCOME (\$000)							
Line No.	Description	Recorded 2015	Forecast 2016	Forecast 2017	Forecast 2018	Forecast 2019	Forecast 2020
1.	<u>California Corporation Franchise Tax</u>						
2.	Operating Revenues	6,080,010	6,461,352	6,716,143	6,707,448	6,706,146	6,694,617
3.	Operating Expenses	1,794,805	1,836,414	1,847,141	1,762,328	1,804,412	1,840,637
4.	Taxes Other Than Income	336,788	351,253	373,922	391,954	414,809	442,604
5.	Subtotal Expenses	2,131,593	2,187,667	2,221,063	2,154,282	2,219,221	2,283,240
6.	Income Tax Adjustments	3,442,962	3,504,197	3,662,118	3,888,938	4,003,975	4,175,971
7.	California Taxable Income	505,455	769,487	832,962	664,228	482,949	235,406
8.	CCFT Tax Rate	8.8400%	8.8400%	8.8400%	8.8400%	8.8400%	8.8400%
9.	CCFT	44,682	68,023	73,634	58,718	42,693	20,810
10.	California Alternate Minimum Tax	0	0	0	0	0	0
11.	Arizona Income Tax Rate	0.0270%	0.0270%	0.0270%	0.0000%	0.0000%	0.0000%
12.	New Mexico Income Tax Rate	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
13.	Arizona Income Tax	136	208	225	0	0	0
14.	New Mexico Income Tax	0	0	0	0	0	0
15.	Total Other State State Income Taxes	136	208	225	0	0	0
16.	Total State Income Taxes	44,818	68,231	73,859	58,718	42,693	20,810

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

TAXES - INCOME (\$000)							
Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	Federal Income Tax						
2.	Operating Revenues	6,080,010	6,461,352	6,716,143	6,707,448	6,706,146	6,694,617
3.	Operating Expenses	1,794,805	1,836,414	1,847,141	1,762,328	1,804,412	1,840,637
4.	Taxes Other Than Income	336,788	351,253	373,922	391,954	414,809	442,604
5.	Taxes Other Than Income	336,788	351,253	373,922	391,954	414,809	442,604
6.	Total State Income Taxes	44,818	68,231	73,859	58,718	42,693	20,810
7.	Less: Current Year's CCFT	44,682	68,023	73,634	58,718	42,693	20,810
8.	Plus: Prior Year's CCFT	83,455	44,682	68,023	73,634	58,718	42,693
9.	Subtotal - Expenses	2,215,184	2,232,557	2,289,311	2,227,916	2,277,939	2,325,933
10.	Income Tax Adjustments (Sch M)	4,149,055	3,952,856	4,075,145	4,231,241	4,305,695	3,972,114
11.	Federal Taxable Income	(284,229)	275,939	351,687	248,291	122,512	396,569
12.	FIT Tax Rate	35%	35%	35%	35%	35%	35%
13.	Federal Income Tax	(99,480)	96,578	123,091	86,902	42,879	138,799
14.	Federal Alternative Income Tax	0	0	0	0	0	0
15.	Taxes Deferred-current (Plant)	408,291	296,460	272,372	282,874	268,335	121,818
16.	Taxes Deferred-current (AFUDC Debt)	0	0	0	0	0	0
17.	Taxes Deferred-current (Cap. Int.)	0	0	0	0	0	0
18.	Contributions in Aid of Construction	(20,632)	(20,980)	(22,884)	(39,053)	(48,852)	(73,686)
19.	Investment Tax Credit Amortization	(7,968)	(9,878)	(9,685)	(9,791)	(9,456)	(9,098)
20.	Total Federal Income Taxes	280,211	362,180	362,895	320,932	252,906	177,833
21.	Total Taxes-Income (State and Fed)	325,029	430,411	436,754	379,650	295,599	198,643

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

DEPRECIATION EXPENSE

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	Depreciation Expense	1,653,598	1,750,011	1,853,858	2,008,270	2,144,517	2,342,650

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

WEIGHTED AVERAGE RATE BASE

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	<u>Fixed Capital</u>						
2.	Plant in Service (Avg.)	38,342,620	40,832,678	43,743,307	46,537,145	49,818,535	53,123,446
3.	Capitalized Software (Avg.)	1,518,581	1,434,610	1,358,394	1,209,818	1,261,255	1,589,016
4.	Intangibles (Avg.)	196,275	211,967	222,903	226,958	236,696	238,797
5.	Property Held for Future Use (Avg.)	0	0	0	0	0	0
6.	Total Fixed Capital (Avg.)	40,057,476	42,479,255	45,324,604	47,973,921	51,316,486	54,951,259
7.	<u>Adjustments</u>						
8.	Customer Advance for Construction (Avg.)	(69,490)	(69,089)	(67,745)	(72,308)	(79,137)	(84,762)
9.	Total Adjustments (Avg.)	(69,490)	(69,089)	(67,745)	(72,308)	(79,137)	(84,762)
10.	<u>Working Capital</u>						
11.	Materials and Supplies (Avg)	190,803	196,354	208,889	226,965	242,757	250,438
12.	Mountainview Emission Credits (Avg)	6,774	6,106	5,468	4,861		
13.	Working Cash (Avg.)	356,156	334,560	340,644	351,866	400,633	451,120
14.	Total Working Capital (Avg.)	553,732	537,020	555,001	583,692	643,390	701,558
15.	Total Before Deductions for Reserves (Avg)	40,541,718	42,947,186	45,811,860	48,485,305	51,880,739	55,568,056

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

WEIGHTED AVERAGE RATE BASE

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

(Thousands of Dollars)

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
16.	<u>Deductions for Reserves</u>						
17.	Depreciation Reserve (Avg)	(12,145,461)	(12,016,424)	(12,561,022)	(13,175,659)	(13,873,335)	(14,721,079)
18.	Accum. Amort. - Capitalized Software (Avg.)	(984,700)	(883,979)	(753,411)	(666,900)	(665,848)	(801,957)
19.	Taxes Def. - Plant (Avg.)	(4,891,502)	(5,201,909)	(5,527,653)	(5,860,535)	(6,138,874)	(6,361,507)
20.	Capitalized Interest (Avg)	0	0	0	0	0	0
21.	Taxes Def. - CIAC (Avg.)	99,483	104,899	114,008	124,409	143,618	170,116
22.	Accrued Vacation (Avg)	20,236	18,873	17,469	16,027	14,544	13,018
23.	Unfunded Pension Reserve (Avg.)	(71,129)	(71,342)	(73,401)	(76,201)	(79,645)	(81,145)
24.	Total Deductions for Reserves (Avg.)	(17,973,073)	(18,049,882)	(18,784,010)	(19,638,860)	(20,599,541)	(21,782,554)
25.	Total Rate Base (Avg)	22,568,645	24,897,304	27,027,850	28,846,445	31,281,198	33,785,502

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

N-T-G MULTIPLIER

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	Revenues	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2.	Uncollectibles Tax Rate	0.00238	0.00238	0.00238	0.00216	0.00216	0.00216
3.	Uncollectibles Amount Applied	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4.	Uncollectibles Juris.	0.0024	0.0024	0.0024	0.0022	0.0022	0.0022
5.	Subtotal	0.9976	0.9976	0.9976	0.9978	0.9978	0.9978
6.	Franchise Fees Tax Rate	0.009095	0.009095	0.009095	0.009144	0.009144	0.009144
7.	Franchise Fees Amount Applied	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
8.	Franchise Fees Juris.	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091
9.	Subtotal	0.9885	0.9885	0.9885	0.9887	0.9887	0.9887
10.	Arizona/New Mexico/D.C. Income Tax Rates	0.00027	0.00027	0.00027	0	0	0
11.	Other State I.T. Amount Applied	0.9885	0.9885	0.9885	0.9887	0.9887	0.9887
12.	Other State I.T. Juris.	0.0003	0.0003	0.0003	0.0000	0.0000	0.0000
13.	Subtotal	0.9883	0.9883	0.9883	0.9887	0.9887	0.9887
14.	S. I. T. Rate	0.0884	0.0884	0.0884	0.0884	0.0884	0.0884
15.	S. I. T. Amount Applied	0.9885	0.9885	0.9885	0.9887	0.9887	0.9887
16.	S. I. T. Juris.	0.0874	0.0874	0.0874	0.0874	0.0874	0.0874
17.	Subtotal	0.9009	0.9009	0.9009	0.9013	0.9013	0.9013
18.	Federal Income Tax	0.35	0.35	0.35	0.35	0.35	0.35
19.	Federal Income Tax Amount Applied	0.9883	0.9883	0.9883	0.9887	0.9887	0.9887
20.	Federal Income Tax Juris.	0.3459	0.3459	0.3459	0.3460	0.3460	0.3460
21.	Net Operating Revenues	0.5550	0.5550	0.5550	0.5553	0.5553	0.5553
22.	Uncollectible and Franchise Fees Factor	1.011608	1.011608	1.011608	1.011433	1.011433	1.011433
23.	N-T-G MULTIPLIER	1.8019	1.8019	1.8019	1.8010	1.8010	1.8010

SOUTHERN CALIFORNIA EDISON

TEST YEAR 2018 GENERAL RATE CASE

RATE OF RETURN

ESTIMATED REVENUE REQUIREMENTS AT AUTHORIZED BASE REVENUE REQUIREMENT

Line No.	Description	Recorded	Forecast	Forecast	Forecast	Forecast	Forecast
		2015	2016	2017	2018	2019	2020
1.	Cost Factor						
2.	Long-Term Debt	5.49%	5.49%	5.49%	4.98%	4.98%	4.98%
3.	Preferred Stock	5.79%	5.79%	5.79%	5.82%	5.82%	5.82%
4.	Equity	10.45%	10.45%	10.45%	10.30%	10.30%	10.30%
5.	Capitalization Ratios						
6.	Long-Term Debt	43.00%	43.00%	43.00%	43.00%	43.00%	43.00%
7.	Preferred Stock	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
8.	Equity	48.00%	48.00%	48.00%	48.00%	48.00%	48.00%
9.	Weighted Cost						
10.	Long-Term Debt	2.36%	2.36%	2.36%	2.14%	2.14%	2.14%
11.	Preferred Stock	0.52%	0.52%	0.52%	0.52%	0.52%	0.52%
12.	Equity	5.02%	5.02%	5.02%	4.94%	4.94%	4.94%
13.	Return on Rate Base	7.90%	7.90%	7.90%	7.61%	7.61%	7.61%

CPUC
JURISDICTIONALIZATION &
FUNCTIONALIZATION
2018 THROUGH 2020

Southern California Edison
Results of Operations - CPUC and FERC
\$ in Thousands

Line No.	Item	Total	Estimated 2018		% for 2018		
			FERC	CPUC	FERC	CPUC	Total
1.	Total Operating Revenues	6,736,606	1,063,293	5,673,313	15.78%	84.22%	100.00%
2.	Operating Expenses:						
3.	Production						
4.	Steam	7,845	-	7,845	0.00%	100.00%	100.00%
5.	Nuclear	76,747	-	76,747	0.00%	100.00%	100.00%
6.	Hydro	41,446	-	41,446	0.00%	100.00%	100.00%
7.	Other	81,965	-	81,965	0.00%	100.00%	100.00%
8.	Total Production O&M	208,003	-	208,003	0.00%	100.00%	100.00%
9.	Transmission	172,453	81,335	91,118	47.16%	52.84%	100.00%
10.	Distribution	539,618	7,519	532,099	1.39%	98.61%	100.00%
11.	Customer Accounts	159,329	-	159,329	0.00%	100.00%	100.00%
12.	Uncollectibles	14,551	2,297	12,254	15.78%	84.22%	100.00%
13.	Customer Service & Information	21,007	-	21,007	0.00%	100.00%	100.00%
14.	Administrative & General	691,464	43,611	647,853	6.31%	93.69%	100.00%
15.	Franchise Requirements	61,600	9,723	51,877	15.78%	84.22%	100.00%
16.	Revenue Credits	(215,998)	(51,276)	(164,722)	23.74%	76.26%	100.00%
17.	Subtotal	1,652,026	93,208	1,558,819	5.64%	94.36%	100.00%
18.	Escalation	110,631	6,679	103,952	6.04%	93.96%	100.00%
19.	Depreciation	2,008,270	255,933	1,752,338	12.74%	87.26%	100.00%
20.	Taxes Other Than On Income						
21.	Taxes Other Than On Income - Property	321,138	62,553	258,585	19.48%	80.52%	100.00%
22.	Taxes Other Than On Income - Payroll	70,816	4,466	66,350	6.31%	93.69%	100.00%
23.	Taxes Based On Income	400,632	212,902	187,730	53.14%	46.86%	100.00%
24.	Total Taxes	792,586	279,922	512,664	35.32%	64.68%	100.00%
25.	Total Operating Expenses	4,563,514	635,741	3,927,773	13.93%	86.07%	100.00%
26.	Net Operating Revenue	2,173,092	427,553	1,745,539	19.67%	80.33%	100.00%
27.	Rate Base	28,558,745	5,618,893	22,939,852	19.67%	80.33%	100.00%
28.	Rate Of Return	7.61%	7.61%	7.61%			

Southern California Edison
Results of Operations - CPUC and FERC
\$ in Thousands

Line No.	Item	Estimated 2019			% for 2019		Total
		Total	FERC	CPUC	FERC	CPUC	
1.	Total Operating Revenues	7,274,829	1,124,989	6,149,841	15.46%	84.54%	100.00%
2.	Operating Expenses:						
3.	Production						
4.	Steam	7,845	-	7,845	0.00%	100.00%	100.00%
5.	Nuclear	76,747	-	76,747	0.00%	100.00%	100.00%
6.	Hydro	41,446	-	41,446	0.00%	100.00%	100.00%
7.	Other	81,965	-	81,965	0.00%	100.00%	100.00%
8.	Total Production O&M	208,003	-	208,003	0.00%	100.00%	100.00%
9.	Transmission	172,453	81,335	91,118	47.16%	52.84%	100.00%
10.	Distribution	539,618	7,519	532,099	1.39%	98.61%	100.00%
11.	Customer Accounts	159,329	-	159,329	0.00%	100.00%	100.00%
12.	Uncollectibles	15,714	2,430	13,284	15.46%	84.54%	100.00%
13.	Customer Service & Information	21,007	-	21,007	0.00%	100.00%	100.00%
14.	Administrative & General	688,120	43,400	644,719	6.31%	93.69%	100.00%
15.	Franchise Requirements	66,521	10,287	56,234	15.46%	84.54%	100.00%
16.	Revenue Credits	(224,553)	(53,307)	(171,246)	23.74%	76.26%	100.00%
17.	Subtotal	1,646,211	91,663	1,554,547	5.57%	94.43%	100.00%
18.	Escalation	164,630	9,938	154,691	6.04%	93.96%	100.00%
19.	Depreciation	2,144,517	272,478	1,872,039	12.71%	87.29%	100.00%
20.	Taxes Other Than On Income						
21.	Taxes Other Than On Income - Property	341,748	65,266	276,482	19.10%	80.90%	100.00%
22.	Taxes Other Than On Income - Payroll	73,061	4,608	68,453	6.31%	93.69%	100.00%
23.	Taxes Based On Income	545,067	226,400	318,667	41.54%	58.46%	100.00%
24.	Total Taxes	959,876	296,274	663,602	30.87%	69.13%	100.00%
25.	Total Operating Expenses	4,915,234	670,354	4,244,880	13.64%	86.36%	100.00%
26.	Net Operating Revenue	2,359,595	454,634	1,904,961	19.27%	80.73%	100.00%
27.	Rate Base	31,009,769	5,974,799	25,034,971	19.27%	80.73%	100.00%
28.	Rate Of Return	7.61%	7.61%	7.61%			

Southern California Edison
Results of Operations - CPUC and FERC
\$ in Thousands

Line	Estimated 2020				% for 2020		
No.	Item	Total	FERC	CPUC	FERC	CPUC	Total
1.	Total Operating Revenues	7,896,504	1,193,060	6,703,445	15.11%	84.89%	100.00%
2.	Operating Expenses:						
3.	Production						
4.	Steam	7,845	-	7,845	0.00%	100.00%	100.00%
5.	Nuclear	76,747	-	76,747	0.00%	100.00%	100.00%
6.	Hydro	41,446	-	41,446	0.00%	100.00%	100.00%
7.	Other	81,965	-	81,965	0.00%	100.00%	100.00%
8.	Total Production O&M	208,003	-	208,003	0.00%	100.00%	100.00%
9.	Transmission	172,453	81,335	91,118	47.16%	52.84%	100.00%
10.	Distribution	539,618	7,519	532,099	1.39%	98.61%	100.00%
11.	Customer Accounts	159,329	-	159,329	0.00%	100.00%	100.00%
12.	Uncollectibles	17,056	2,577	14,479	15.11%	84.89%	100.00%
13.	Customer Service & Information	21,007	-	21,007	0.00%	100.00%	100.00%
14.	Administrative & General	686,835	43,319	643,516	6.31%	93.69%	100.00%
15.	Franchise Requirements	72,206	10,909	61,296	15.11%	84.89%	100.00%
16.	Revenue Credits	(239,029)	(56,744)	(182,285)	23.74%	76.26%	100.00%
17.	Subtotal	1,637,478	88,915	1,548,562	5.43%	94.57%	100.00%
18.	Escalation	216,745	13,085	203,661	6.04%	93.96%	100.00%
19.	Depreciation	2,342,650	293,752	2,048,898	12.54%	87.46%	100.00%
20.	Taxes Other Than On Income						
21.	Taxes Other Than On Income - Property	366,955	68,939	298,016	18.79%	81.21%	100.00%
22.	Taxes Other Than On Income - Payroll	75,649	4,771	70,877	6.31%	93.69%	100.00%
23.	Taxes Based On Income	706,005	240,571	465,434	34.08%	65.92%	100.00%
24.	Total Taxes	1,148,608	314,282	834,327	27.36%	72.64%	100.00%
25.	Total Operating Expenses	5,345,481	710,034	4,635,448	13.28%	86.72%	100.00%
26.	Net Operating Revenue	2,551,023	483,026	2,067,997	18.93%	81.07%	100.00%
27.	Rate Base	33,525,511	6,347,929	27,177,582	18.93%	81.07%	100.00%
28.	Rate Of Return	7.61%	7.61%	7.61%			

Southern California Edison
2018 Results of Operations

\$ in Thousands

2018 Results of Operations					
Line No.	Item	CPUC	Generation	Peakers	Distribution
1.	Total Operating Revenues	5,673,313	688,321	57,183	4,927,808
2.	Operating Expenses:				
3.	Production				
4.	Steam	7,845	7,845	—	—
5.	Nuclear	76,747	76,747	—	—
6.	Hydro	41,446	41,446	—	—
7.	Other	81,965	74,514	7,451	—
8.	Total Production O&M	208,003	200,552	7,451	—
9.	Transmission	91,118	—	—	91,118
10.	Distribution	532,099	—	—	532,099
11.	Customer Accounts	159,329	—	—	159,329
12.	Uncollectibles	12,254	1,487	124	10,644
13.	Customer Service & Information	21,007	1,597	—	19,410
14.	Administrative & General	647,853	83,915	4,452	559,487
15.	Franchise Requirements	51,877	6,294	523	45,060
16.	Revenue Credits	(164,722)	(1,836)	—	(162,886)
17.	Total O&M	1,558,819	292,008	12,549	1,254,261
18.	Escalation	103,952	20,496	425	83,032
19.	Depreciation	1,752,338	181,863	14,531	1,555,944
20.	Taxes Other Than On Income				
21.	Property Taxes	258,585	21,408	3,535	233,642
22.	Payroll Taxes & Misc	66,350	8,999	51	57,300
23.	Taxes Based On Income	187,730	11,362	7,790	168,578
24.	Total Taxes	512,664	41,769	11,376	459,519
25.	Total Operating Expenses	3,927,773	536,136	38,882	3,352,756
26.	Net Operating Revenue	1,745,539	152,185	18,302	1,575,052
27.	Rate Base	22,939,852	2,000,013	240,520	20,699,319
28.	Rate Of Return	7.61%	7.61%	7.61%	7.61%

Southern California Edison
2019 Results of Operations

\$ in Thousands

2019 Results of Operations					
Line No.	Item	CPUC	Generation	Peakers	Distribution
1.	Total Operating Revenues	6,149,841	716,988	56,686	5,376,167
2.	Operating Expenses:				
3.	Production				
4.	Steam	7,845	7,845	—	—
5.	Nuclear	76,747	76,747	—	—
6.	Hydro	41,446	41,446	—	—
7.	Other	81,965	74,514	7,451	—
8.	Total Production O&M	208,003	200,552	7,451	—
9.	Transmission	91,118	—	—	91,118
10.	Distribution	532,099	—	—	532,099
11.	Customer Accounts	159,329	—	—	159,329
12.	Uncollectibles	13,284	1,549	122	11,613
13.	Customer Service & Information	21,007	1,597	—	19,410
14.	Administrative & General	644,719	83,335	4,604	556,780
15.	Franchise Requirements	56,234	6,556	518	49,160
16.	Revenue Credits	(171,246)	(1,908)	—	(169,337)
17.	Total O&M	1,554,547	291,680	12,696	1,250,171
18.	Escalation	154,691	29,721	604	124,366
19.	Depreciation	1,872,039	188,625	14,804	1,668,609
20.	Taxes Other Than On Income				
21.	Property Taxes	276,482	21,239	3,467	251,776
22.	Payroll Taxes & Misc	68,453	9,285	52	59,116
23.	Taxes Based On Income	318,667	21,898	7,504	289,265
24.	Total Taxes	663,602	52,421	11,023	600,157
25.	Total Operating Expenses	4,244,880	562,448	39,127	3,643,304
26.	Net Operating Revenue	1,904,961	154,540	17,559	1,732,863
27.	Rate Base	25,034,971	2,030,965	230,759	22,773,246
28.	Rate Of Return	7.61%	7.61%	7.61%	7.61%

Southern California Edison
2020 Results of Operations

\$ in Thousands

2020 Results of Operations					
Line No.	Item	CPUC	Generation	Peakers	Distribution
1.	Total Operating Revenues	6,703,445	753,841	56,891	5,892,713
2.	Operating Expenses:				
3.	Production				
4.	Steam	7,845	7,845	—	—
5.	Nuclear	76,747	76,747	—	—
6.	Hydro	41,446	41,446	—	—
7.	Other	81,965	74,514	7,451	—
8.	Total Production O&M	208,003	200,552	7,451	—
9.	Transmission	91,118	—	—	91,118
10.	Distribution	532,099	—	—	532,099
11.	Customer Accounts	159,329	—	—	159,329
12.	Uncollectibles	14,479	1,628	123	12,728
13.	Customer Service & Information	21,007	1,597	—	19,410
14.	Administrative & General	643,516	83,036	4,739	555,741
15.	Franchise Requirements	61,296	6,893	520	53,883
16.	Revenue Credits	(182,285)	(2,032)	—	(180,253)
17.	Total O&M	1,548,562	291,675	12,833	1,244,055
18.	Escalation	203,661	38,861	810	163,989
19.	Depreciation	2,048,898	203,059	15,456	1,830,383
20.	Taxes Other Than On Income				
21.	Property Taxes	298,016	21,440	3,386	273,190
22.	Payroll Taxes & Misc	70,877	9,613	54	61,210
23.	Taxes Based On Income	465,434	32,110	7,489	425,835
24.	Total Taxes	834,327	63,163	10,929	760,234
25.	Total Operating Expenses	4,635,448	596,757	40,029	3,998,662
26.	Net Operating Revenue	2,067,997	157,082	16,862	1,894,052
27.	Rate Base	27,177,582	2,064,394	221,596	24,891,593
28.	Rate Of Return	7.61%	7.61%	7.61%	7.61%

STREET LIGHT SALES

Southern California Edison
2018 GRC
Street Lights Sales
\$ in Thousands

	Lancaster	Huntington Beach	Rialto	Rancho Cucamonga	Total
Street Lights Net Book Value					
Plant Balance	17,088	5,391	4,754	14,686	41,919
Accumulated Reserve	7,120	3,062	1,939	5,287	17,407
Net Book Value	9,968	2,330	2,815	9,399	24,512
Distribution Lines Plant Balance					
Plant Balance	19,304,303	19,287,215	19,281,823	19,277,070	
Less: Street Lights Plant Balances	(17,088)	(5,391)	(4,754)	(14,686)	
Distribution Lines Plant Balance (Excluding Street Lights)	19,287,215	19,281,823	19,277,070	19,262,384	
Distribution Lines Reserve Balance					
Reserve Balance	6,532,796	6,525,676	6,522,615	6,520,676	
Less: Street Lights Reserve Balances	(7,120)	(3,062)	(1,939)	(5,287)	
Distribution Lines Reserve Balance (After Adjustments)	6,525,676	6,522,615	6,520,676	6,515,389	
Distribution Lines Net Book Value					
Plant Balance	19,287,215	19,281,823	19,277,070	19,262,384	
Reserve Balance	6,525,676	6,522,615	6,520,676	6,515,389	
Net Book Value (After Adjustments)	12,761,538	12,759,209	12,756,393	12,746,995	

Appendix C

Attachments for Chapter III

COST ESCALATION
LABOR AND NONLABOR O&M ESCALATION

SOUTHERN CALIFORNIA EDISON COMPANY
IHS GLOBAL INSIGHT LABOR ESCALATION INDEXES ANNUAL PERCENT CHANGES AND ESCALATION FACTOR TO
2015\$

		Steam Generation	
Line No	Year	Inflation Index	%_Change
1	2015	1.0000	
2	2016	1.0325	3.25%
3	2017	1.0601	2.68%
4	2018	1.0900	2.82%
5	2019	1.1215	2.89%
6	2020	1.1545	2.94%

		Nuclear Generation	
Line No	Year	Inflation Index	%_Change
1	2015	1.0000	
2	2016	1.0325	3.25%
3	2017	1.0601	2.68%
4	2018	1.0900	2.82%
5	2019	1.1215	2.89%
6	2020	1.1545	2.94%

		Hydro Generation	
Line No	Year	Inflation Index	%_Change
1	2015	1.0000	
2	2016	1.0325	3.25%
3	2017	1.0601	2.68%
4	2018	1.0900	2.82%
5	2019	1.1215	2.89%
6	2020	1.1545	2.94%

		Other Generation	
Line No	Year	Inflation Index	%_Change
7	2015	1.0000	
8	2016	1.0325	3.25%
9	2017	1.0601	2.68%
10	2018	1.0900	2.82%
11	2019	1.1215	2.89%
12	2020	1.1545	2.94%

		Transmission	
Line No	Year	Inflation Index	%_Change
1	2015	1.0000	
2	2016	1.0325	3.25%
3	2017	1.0601	2.68%
4	2018	1.0900	2.82%
5	2019	1.1215	2.89%
6	2020	1.1545	2.94%

		Distribution	
Line No	Year	Inflation Index	%_Change
1	2015	1.0000	
2	2016	1.0325	3.25%
3	2017	1.0601	2.68%
4	2018	1.0900	2.82%
5	2019	1.1215	2.89%
6	2020	1.1545	2.94%

		Customer Accounts	
Line No	Year	Inflation Index	%_Change
13	2015	1.0000	
14	2016	1.0325	3.25%
15	2017	1.0601	2.68%
16	2018	1.0900	2.82%
17	2019	1.1215	2.89%
18	2020	1.1545	2.94%

		CS&I	
Line No	Year	Inflation Index	%_Change
1	2015	1.0000	
2	2016	1.0325	3.25%
3	2017	1.0601	2.68%
4	2018	1.0900	2.82%
5	2019	1.1215	2.89%
6	2020	1.1545	2.94%

		Sales	
Line No	Year	Inflation Index	%_Change
1	2015	1.0000	
2	2016	1.0325	3.25%
3	2017	1.0601	2.68%
4	2018	1.0900	2.82%
5	2019	1.1215	2.89%
6	2020	1.1545	2.94%

		A&G	
Line No	Year	Inflation Index	%_Change
19	2015	1.0000	
20	2016	1.0325	3.25%
21	2017	1.0601	2.68%
22	2018	1.0900	2.82%
23	2019	1.1215	2.89%
24	2020	1.1545	2.94%

SOUTHERN CALIFORNIA EDISON COMPANY
IHS GLOBAL INSIGHT LABOR ESCALATION INDEXES ANNUAL PERCENT CHANGES AND ESCALATION FACTOR TO
2015\$

	<i>Base Year</i>		<i>Base Year</i>		<i>Base Year</i>	
	<i>1989</i>		<i>1989</i>		<i>1989</i>	
	<i>Employment Cost Index, Wages and Sal, Private, Management, Business, Financial (2005:4=100)</i>		<i>Employment Cost Index, Wages and Sal, Private, Professional and Related (2005:4=100)</i>		<i>Utility Price and Wage Indicators, AHE, Transmission and Distribution Workers, (\$/hr.)</i>	
	<i>O_ECIPWMBFNS</i>	<i>% Change</i>	<i>O_ECIPWPARNs</i>	<i>% Change</i>	<i>O_CEU4422110008</i>	<i>% Change</i>
<i>2015</i>	124.875	2.483	124.375	2.009	35.357	3.284
<i>2016</i>	128.000	2.503	126.750	1.910	37.109	4.957
<i>2017</i>	131.192	2.494	129.541	2.202	38.596	4.007
<i>2018</i>	134.786	2.740	132.963	2.641	39.441	2.189
<i>2019</i>	138.546	2.790	136.684	2.799	40.659	3.087
<i>2020</i>	142.639	2.954	140.467	2.767	41.901	3.055



SOUTHERN CALIFORNIA EDISON COMPANY
COLLECTIVE BARGAINING AGREEMENTS

	Count	Percent	2018	2019	2020
UWUA	92	2.31%	2.75%	2.75%	n/a
IBEW	3,888	97.69%	3.00%	3.00%	n/a
TOTAL	3,980				

Represented Wage		2018	2019	2020
% CHANGE		2.99%	2.99%	n/a

SOUTHERN CALIFORNIA EDISON COMPANY
IHS GLOBAL INSIGHT NONLABOR ESCALATION INDEXES ANNUAL PERCENT CHANGES AND ESCALATION FACTOR
TO 2015\$

	Steam Generation	
Year	Inflation Index	%_Change
2015	1.0000	
2016	1.0023	0.23%
2017	1.0185	1.61%
2018	1.0327	1.39%
2019	1.0514	1.82%
2020	1.0768	2.41%

	Hydro Generation	
Year	Inflation Index	%_Change
2015	1.0000	
2016	0.9922	-0.78%
2017	1.0092	1.71%
2018	1.0240	1.46%
2019	1.0424	1.80%
2020	1.0713	2.77%

	Other Generation	
Year	Inflation Index	%_Change
2015	1.0000	
2016	1.0016	0.16%
2017	1.0155	1.39%
2018	1.0313	1.56%
2019	1.0495	1.76%
2020	1.0731	2.25%

	Transmission	
Year	Inflation Index	%_Change
2015	1.0000	
2016	0.9951	-0.49%
2017	1.0009	0.59%
2018	1.0080	0.71%
2019	1.0184	1.03%
2020	1.0321	1.34%

	Distribution	
Year	Inflation Index	%_Change
2015	1.0000	
2016	0.9917	-0.83%
2017	1.0039	1.23%
2018	1.0151	1.12%
2019	1.0305	1.51%
2020	1.0505	1.94%

	Customer Accounts	
Year	Inflation Index	%_Change
2015	1.0000	
2016	1.0114	1.14%
2017	1.0320	2.03%
2018	1.0483	1.59%
2019	1.0724	2.30%
2020	1.0988	2.46%

	A&G@H	
Year	Inflation Index	%_Change
2015	1.0000	
2016	1.0117	1.17%
2017	1.0300	1.81%
2018	1.0497	1.91%
2019	1.0728	2.20%
2020	1.0972	2.27%

	CS&I	
Year	Inflation Index	%_Change
2015	1.0000	
2016	1.0067	0.67%
2017	1.0231	1.63%
2018	1.0350	1.17%
2019	1.0543	1.86%
2020	1.0751	1.98%



SOUTHERN CALIFORNIA EDISON COMPANY
IHS GLOBAL INSIGHT OPERATIONS AND MAINTENANCE VARIABLES

SCE Variable Name	Global Insight Variable Name	Global Insight Description	Type
Steam Generation	JEFOMMS	Total Steam Production O&M Cost Index (MS)	Total Operation and Maintenance
Hydro Generation	JEHOMMS	Total Hydro Production O&M Cost Index (MS)	Total Operation and Maintenance
Other Generation	JEOMMS	Total Other Production O&M Cost Index (MS)	Total Operation and Maintenance
Transmission	JETOMMS	Total Elec. Trans. O&M Index (MS)	Total Operation and Maintenance
Distribution	JEDOMMS	Total Elec. Distr. O&M Cost Index (MS)	Total Operation and Maintenance
Customer Accounts	JECAOMS	Elec. Customer Accounts Operation Cost Index (MS)	Operation
CS&I	JECSIOMS	Elec. Customer Services and Info. Operation Cost Index (MS)	Operation
Sales	JESALOMS	Elec. Sales Expenses Operation Cost Index (MS)	Operation
A&G	JEADGOMMS	Total Elec Admin. And General O&M Cost Index (MS)	Total Operation and Maintenance
A&G@H	JEADGOMMS@H	Total Elec. Admin. And General O&M Cost Index Without Healthcare Expenses (MS)	Total Operation and Maintenance



COMPOSITE WAGE ESCALATION

SOUTHERN CALIFORNIA EDISON COMPANY
EMPLOYEE WAGE SHARE

Function	Total Wages 2015	Percent share
Clerical Total	\$ 177,613,095	13.39%
Manager/Supervisor Total	\$ 299,704,041	22.59%
Physical/Technical Total	\$ 428,183,426	32.28%
Professional/Technical	\$ 420,983,534	31.74%
Total	\$ 1,326,484,096	100.00%

SOUTHERN CALIFORNIA EDISON COMPANY
EMPLOYEE WAGE SHARE

Line No.	Employee Category	IHS Global Insight Variable	IHS Global Insight Variable Description	Share of Total Wages
1	Physical Workers	CEU4422110008	Utility Price and Wage Indicators, AHE, Transmission and Distribution Workers	32.280%
2	Clerical Workers	CEU4422110008	Utility Price and Wage Indicators, AHE, Transmission and Distribution Workers	13.390%
3	Managers and Administrators	ECIPWMBFNS	Employment Cost Index, Managers and Administrators	22.594%
4	Professional and Technical Workers	ECIPWPSTNS	US, Wages and Sal, Private, Professional, Scientific, Technical,	31.737%
5	Total			100.000%

SOUTHERN CALIFORNIA EDISON COMPANY
LABOR ESCALATION CALCULATION

Employee Category	Physical/ Technical	Clerical	Managers & Administrators	Professional & Technical Workers	All Employees	Inflation Index
Weight	32.3%	13.4%	22.6%	31.7%	100.0%	
2015	1.51%	1.51%	1.51%	1.51%	1.51%	1.000
2016	3.25%	3.25%	3.25%	3.25%	3.25%	1.032
2017	2.68%	2.68%	2.68%	2.68%	2.68%	1.060
2018	2.99%	2.99%	2.74%	2.64%	2.82%	1.090
2019	2.99%	2.99%	2.79%	2.80%	2.89%	1.122
2020	3.05%	3.05%	2.95%	2.77%	2.94%	1.154

= indicates collective bargaining agreement (UWUA and newly ratified IBEW)
 = indicates authorized Post-Test Year attrition



PALO VERDE

SOUTHERN CALIFORNIA EDISON COMPANY
IHS GLOBAL INSIGHT LABOR AND NONLABOR INDEXES AND PALO VERDE ESCALATION

5-year Average

Palo Verde Labor % of Direct Costs 57.43%

<i>labor</i>		2015	2016	2017	2018	2019	2020
Nuclear Generation	%_Change		4.96%	4.01%	2.19%	3.09%	3.05%
	Inflation Index	1.000	1.050	1.092	1.116	1.150	1.185
	Deflation Index	1.000	0.953	0.916	0.896	0.870	0.844

<i>nonlabor</i>		2015	2016	2017	2018	2019	2020
Nuclear Generation	%_Change		0.29%	1.64%	1.26%	1.89%	2.36%
	Inflation Index	1.000	1.003	1.019	1.032	1.052	1.076
	Deflation Index	1.000	0.997	0.981	0.969	0.951	0.929

<i>Palo Verde Blended O&M</i>		2015	2016	2017	2018	2019	2020
Palo Verde Blended O&M	%_Change		2.97%	3.00%	1.80%	2.58%	2.76%
	Inflation Index	1.000	1.030	1.061	1.080	1.107	1.138
	Deflation Index	1.000	0.971	0.943	0.926	0.903	0.879



SOUTHERN CALIFORNIA EDISON COMPANY
IHS GLOBAL INSIGHT LABOR INDEXES AND PALO VERDE ESCALATION

Mnemonic	Long Label					
CEU4422110008.A.FOP2	United States Average Hourly Earnings, Electric Power Generation Transmission and Distribution Source: Bureau of Labor Statistics (BLS) Units: \$/Hr. Historic Data Edge: 2014					
	2015	2016	2017	2018	2019	2020
Index	35.36	37.11	38.60	39.44	40.66	41.90
% Change		4.96%	4.01%	2.19%	3.09%	3.05%



CAPITAL ESCALATION

SOUTHERN CALIFORNIA EDISON COMPANY
IHS GLOBAL INSIGHT CAPITAL ESCALATION INDEXES

		Steam Generation	
Line No	Year	Inflation Index	%_Change
1	2015	1.0000	
2	2016	1.0569	5.69%
3	2017	1.0965	3.75%
4	2018	1.1296	3.02%
5	2019	1.1543	2.19%
6	2020	1.1797	2.20%

		Hydro Generation	
Line No	Year	Inflation Index	%_Change
		1.0000	
		1.0327	3.27%
		1.0687	3.49%
		1.0951	2.47%
		1.1205	2.32%
		1.1487	2.52%

		Other Generation	
Line No	Year	Inflation Index	%_Change
		1.0000	
		1.0369	3.69%
		1.0818	4.33%
		1.1172	3.27%
		1.1588	3.73%
		1.1947	3.10%

		Transmission	
Line No	Year	Inflation Index	%_Change
7	2015	1.0000	
8	2016	1.0273	2.73%
9	2017	1.0568	2.87%
10	2018	1.0853	2.70%
11	2019	1.1085	2.14%
12	2020	1.1369	2.56%

		Distribution	
Line No	Year	Inflation Index	%_Change
		1.0000	
		1.0106	1.06%
		1.0397	2.88%
		1.0705	2.96%
		1.1073	3.43%
		1.1424	3.17%

		Meters Installed	
Line No	Year	Inflation Index	%_Change
		1.0000	
		1.0246	2.46%
		1.0512	2.60%
		1.0827	3.00%
		1.1114	2.65%
		1.1314	1.80%

		Nuclear Palo Verde	
Line No	Year	Inflation Index	%_Change
13	2015	1.0000	
14	2016	1.0656	6.56%
15	2017	1.1027	3.48%
16	2018	1.1296	2.44%
17	2019	1.1539	2.15%
18	2020	1.1827	2.50%

		Nuclear SONGS	
Line No	Year	Inflation Index	%_Change
		1.0000	
		1.0667	6.67%
		1.1097	4.03%
		1.1415	2.87%
		1.1681	2.33%
		1.1969	2.46%

		General Plant	
Line No	Year	Inflation Index	%_Change
		1.0000	
		1.0047	0.47%
		1.0165	1.17%
		1.0294	1.27%
		1.0400	1.04%
		1.0530	1.25%

Blended Capital Update Escalation

Line No	Year	Inflation Index	%_Change
13	2015	1.0000	
14	2016	1.0144	1.44%
15	2017	1.0407	2.59%
16	2018	1.0675	2.58%
17	2019	1.0958	2.65%
18	2020	1.1249	2.66%



SOUTHERN CALIFORNIA EDISON COMPANY
BLENDED CAPITAL CALCULATION

Blended Capital Update Escalation

Line No	Year	Inflation Index	%_Change
1	2015	1.0000	
2	2016	1.0144	1.44%
3	2017	1.0407	2.59%
4	2018	1.0675	2.58%
5	2019	1.0958	2.65%
6	2020	1.1249	2.66%

Line No		Steam	Nuclear SONGS	Nuclear Palo Verde	Hydro	Other	Transmission	Distribution	General Plant	Blended Capital
	Blend Rate	0.000%	0.000%	0.821%	1.100%	0.245%	24.876%	54.811%	18.148%	100.000%
7	2016	0.000%	0.000%	0.054%	0.036%	0.009%	0.679%	0.580%	0.085%	1.443%
8	2017	0.000%	0.000%	0.029%	0.038%	0.011%	0.715%	1.581%	0.213%	2.586%
9	2018	0.000%	0.000%	0.020%	0.027%	0.008%	0.671%	1.625%	0.231%	2.581%
10	2019	0.000%	0.000%	0.018%	0.026%	0.009%	0.532%	1.880%	0.188%	2.652%
11	2020	0.000%	0.000%	0.020%	0.028%	0.008%	0.636%	1.737%	0.226%	2.655%

SOUTHERN CALIFORNIA EDISON COMPANY
IHS GLOBAL INSIGHT CAPITAL ESCALATION INDEXES

Line No.	GI Variable	Weight	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	JPGDP	2.9%	103.32	105.22	106.92	108.84	110.00	111.45	113.52	115.95	118.44	121.10
2			2.06%	1.84%	1.61%	1.80%	1.07%	1.32%	1.85%	2.14%	2.15%	2.25%
3	JPIFNREEMISCB	47.8%	103.33	105.52	106.24	107.15	108.08	108.33	109.34	110.37	111.72	113.87
4			1.83%	2.12%	0.68%	0.86%	0.87%	0.23%	0.93%	0.94%	1.22%	1.92%
5	JPIFNRESXF	15.0%	98.75	101.44	103.95	107.43	109.59	111.41	114.18	117.06	120.49	124.34
6			1.95%	2.72%	2.47%	3.35%	2.01%	1.67%	2.48%	2.52%	2.93%	3.20%
7	WPI11	5.0%	1.33	1.34	1.35	1.36	1.37	1.37	1.38	1.39	1.40	1.41
8			1.25%	1.10%	0.70%	0.81%	0.51%	-0.07%	0.93%	0.75%	0.44%	0.91%
9	WPI12	28.7%	1.56	1.61	1.61	1.63	1.65	1.65	1.67	1.68	1.70	1.71
10			2.11%	2.65%	0.35%	1.30%	0.92%	0.24%	1.08%	0.94%	0.64%	0.66%
11	WPI14	0.6%	1.63	1.66	1.70	1.72	1.74	1.77	1.77	1.79	1.83	1.85
12			1.67%	2.22%	1.16%	1.37%	1.39%	0.45%	1.17%	1.82%	1.33%	1.23%
General Plant Index 2015=100			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
13	Index		94.64	96.81	97.66	98.98	100.00	100.47	101.65	102.94	104.00	105.30
14	Percent Change		1.90%	2.30%	0.88%	1.36%	1.03%	0.47%	1.17%	1.27%	1.04%	1.25%



SOUTHERN CALIFORNIA EDISON COMPANY
IHS GLOBAL INSIGHT INDEXES AND GENERAL PLANT WEIGHTS

Line No.	FERC Acct	2013-2015	Percent	GI Variable
1	Account 389	16,680	0.00%	JPGDP
2	Account 390	126,688,074	14.99%	JPIFNRESXF
3	Account 391	242,880,243	28.74%	WPI12
4	Account 392	1,739,339	0.21%	WPI14
5	Account 393	5,001,166	0.59%	WPI14
6	Account 394	(2,603,713)	-0.31%	WPI14
7	Account 394	972,325	0.12%	WPI14
8	Account 395	24,358,211	2.88%	JPGDP
9	Account 396	42,473,091	5.03%	WPI11
10	Account 397	35,690	0.00%	JPIFNREEMISCB
11	Account 398	386,806,021	45.76%	JPIFNREEMISCB
12	Account 399	16,846,088	1.99%	JPIFNREEMISCB
	Grand Total	845,213,217	100.00%	

SOUTHERN CALIFORNIA EDISON COMPANY
IHS GLOBAL INSIGHT VARIABLES GENERAL PLANT CALCULATION

Line No.	Global Insight Variable	Global Insight Variable Description
1	JPGDP	Chained price index--gross domestic product, 2005=100, BEA
2	JPIFNREEMISCB	Base for Chained price index--miscellaneous equipment, 2005=100, IHS Global Insight
3	JPIFNRESXF	Chained price index--nonresidential construction of nonfarm buildings, 2005=100, BEA
4	WPI11	Producer price index--machinery & equipment, 1982=1.0, BLS
5	WPI12	Producer price index--furniture & household durables, 1982=1.0, BLS
6	WPI14	Producer price index--transportation equipment, 1982=1.0, BLS
7		Total

Appendix D

Attachments for Chapter IV

Residential Rate Implementation Memorandum Account
July 2016 - December 2017
(Nominal \$000s)

Line No.	TOU Pilot	July 2016 - October 2017 Recorded	Estimated November - December 2017
1	ME&O	2,839	623
2	Opt-in Pilot	2,637	247
3	Default Pilot	202	376
4	TOU Studies	607	477
5	TOU studies	607	477
6	Other	1,159	587
7	Opt-in Pilot	357	350
8	Default Pilot	775	237
9	Adjustment	27	0
10	Subtotal - TOU Pilot	4,605	1687
11	Non-TOU Pilot	July 2016 - October 2017 Recorded	Estimated November - December 2017
12	ME&O	6,217	374
13	ME&O	6,217	374
14	Other	921	262
15	Other	921	262
16	Subtotal - Non-TOU Pilot	7,138	636
17	O&M TOTAL	11,743	2,323

Appendix E

Attachments for Chapter VI



General Rate Case Report

Southern California Edison Company Retirement Plan

Projected Actuarial Valuation Results

Plan Years 2018 Through 2020

Projected Actuarial Valuation Results

This report presents actual actuarial valuation results for the 2017 Plan Year and projected actuarial valuation results for the Plan Years 2018 through 2020 for the Southern California Edison Company Retirement Plan. All results shown for 2018 through 2020 are estimates based on the results of the 2017 actuarial valuation and December 31, 2016 Plan assets. Actual valuation results for the projection period can be expected to differ from these estimates, potentially significantly.

This report includes development of estimated Funding Policy Contributions and Rate Recovery Allowances, as well as Minimum Required Contributions and Maximum Tax Deductible Amounts under Internal Revenue Code (IRC) Sections 430 & 404 for the projection period. Determinations for purposes other than this may be significantly different from the results in this report. Thus, the use of this report for purposes other than those expressed here may not be appropriate.

The report also includes data summary tables, summaries of actuarial methods and assumptions and principal Plan provisions.

This report has been prepared using generally accepted actuarial practices and methods. The actuarial assumptions reflected in the 2017 actuarial valuation, upon which the projections were based, are individually reasonable and reasonable in aggregate. The Minimum Required Contributions and Maximum Tax Deductible Amounts shown have been calculated in accordance with the applicable sections of the Internal Revenue Code, Treasury Regulations, the Pension Protection Act of 2006, the Moving Ahead for Progress in the Twenty-First Century Act of 2012 (MAP-21), the Highway and Transportation Funding Act of 2014 (HATFA), and the Bipartisan Budget Act of 2015 (BBA-2015).

We have relied on personnel information as of January 1, 2017 and plan design and asset information as of December 31, 2016, all supplied by Southern California Edison Company. While we cannot verify the accuracy of all the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it has produced appropriate results. We have relied on actual and expected contributions as summarized within this report. Additionally, we have relied on elections to waive funding balances by Southern California Edison Company as of the date this report is issued and future elections as indicated in this report.

The actuaries signing this report meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Aon's relationship with the plan and plan sponsor is strictly professional. There are no aspects of the relationship, which may impair or appear to impair the objectivity of our work.

We are available to answer any questions concerning this report.

Respectfully submitted,



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November, 2017

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Introduction

This report presents projections of 2018 through 2020 Funding Policy Contributions, Rate Recovery Allowances, Minimum Required Contributions, and Maximum Tax Deductible Amounts for the Southern California Edison Company Retirement Plan. The projections are based on January 1, 2017 actuarial valuation results and December 31, 2016 Plan assets.

The projections for the years 2018 through 2020 presented in this report are only estimates. Except as noted elsewhere in this report, they assume no future plan amendments, changes in actuarial assumptions, actuarial liability experience gains or losses, or any other potential subsequent events. Actual Funding Policy Contributions, Rate Recovery Allowances, Minimum Required Contributions, and Maximum Tax Deductible Amounts for the projection period can be expected to differ from these estimates, potentially significantly. As subsequent events become known, or as additional actuarial valuation results become available, we would be pleased to update these projections.

Summary of Results

Highlights of the estimated actuarial valuation results presented in this report are shown below. Detailed results are displayed in Tables 1 through 6.

Highlights

Year	2018	2019	2020
Funding Policy Contribution	\$57,001,000	\$57,393,000	\$58,829,000
Rate Recovery Allowance	\$57,001,000	\$57,393,000	\$58,829,000
Average Rate Recovery Allowance for 2018 through 2020			\$57,741,000

Plan Amendments

The Appendix provides a detailed summary of the principal Plan provisions for the January 1, 2017 actuarial valuation. The Plan has been amended to be closed to new entrants after December 31, 2017. We are not aware of any other significant plan amendments since the 2016 actuarial valuation report was issued.

Actuarial Methods and Assumptions

The projected 2018 through 2020 Plan Funding Policy Contributions and Rate Recovery Allowances developed in this report are estimates of the amounts necessary to provide benefits to Plan participants assuming continued funding of the Plan in a systematic manner. These estimates are based upon the Plan's funding policy, which reflects an actuarial method selected to allocate the total cost of the Plan to various years, and upon actuarial assumptions regarding the return on investments, salary increases, employee termination rates, retirement rates, mortality rates, and other factors.

The actuarial cost method used to determine projected 2018 through 2020 actuarial liabilities and normal costs for Funding Policy Contribution and Rate Recovery Allowance purposes is the Frozen Initial Liability method, with additional amortization bases established only for ad hoc cost of living adjustments for

retired participants. The actuarial value of assets is determined using a Four Year Moving Average Method adjusted in the aggregate to a range of 80% to 120% of the fair market value.

This report also provides preliminary estimates of projected 2018 to 2020 Minimum Required Contributions and Maximum Tax Deductible Amounts. These reflect the Unit Credit actuarial cost method and other required actuarial methodology under the Pension Protection Act of 2006 (PPA), the Moving Ahead for Progress in the Twenty-First Century Act of 2012 (MAP-21), the Highway and Transportation Funding Act of 2014 (HATFA), and the Bipartisan Budget Act of 2015 (BBA-2015). The actuarial value of assets for this purpose is determined using a Two Year Averaging Method adjusted in the aggregate to a range of 90% to 110% of fair market value, as permitted by the PPA.

Actuarial valuation results for Minimum Required Contribution and Maximum Tax Deductible Amount purposes reflect the statutory prescribed mortality assumptions, as well as use of 24-month average (three-segment) corporate bond interest rates, each adjusted as needed to fall within a 25-year average interest rate corridor under MAP-21, HATFA, and BBA-2015. For averaging purposes, no increases or decreases were assumed for spot segment rates after January 2017.

HATFA extended the period during which the narrowest range around the 25-year average segment rates applies for purposes of determining the segment rates for minimum funding purposes. BBA-2015 further revised and extended this narrowest range, which now applies throughout the projection period.

The Appendix gives detailed descriptions of the actuarial methods used to develop the 2017 Funding Policy Contribution, Rate Recovery Allowance, Minimum Required Contribution, and Maximum Tax Deductible Amount, and also provides a summary of actuarial assumptions.

The following are the key actuarial assumptions reflected in the January 1, 2017 actuarial valuation for Funding Policy Contribution and Rate Recovery Allowance purposes, and any adjustments to these assumptions that have been made for projection purposes. (The actuarial assumptions reflected in the January 1, 2017 actuarial valuation results for Minimum Required Contribution and Maximum Tax Deductible Amount purposes are generally the same, unless different assumptions are required by statute.)

Actuarial Liability Interest Rate

The valuation interest rate reflected in January 1, 2017 actuarial valuation results for Funding Policy Contribution and Rate Recovery Allowance purposes was 6.50%. This rate was selected in accordance with the American Academy of Actuaries' guidelines for selection of economic actuarial assumptions, based upon the Plan's investment policy. These guidelines were applied to the actual long term historical rates of real investment returns of the asset classes specified in the investment policy.

Mortality Rates

The January 1, 2017 actuarial valuation results for Funding Policy Contribution and Rate Recovery Allowance purposes reflected the RP-2014 mortality table incorporating blue and white collar adjustments, with MP-2016 fully generational projection.

Salary Increase Rates

The salary increase assumption varies by age. It reflects anticipated inflation, productivity, merit, and seniority increases, consistent with current trends and future expectations. The average salary increase is approximately 4.00% per year.

Rates of Employment Termination and Retirement

These rates of in-service decrements have been established based on actual Plan experience and future expectations. The assumptions are subject to annual review as part of the actuarial valuation process to ensure that they continue to reflect ongoing emerging experience.

Expense Load

For Funding Policy Contribution and Rate Recovery Allowance purposes, Liabilities were loaded for anticipated administrative expenses during the plan year. This assumption reflects actual and anticipated future experience.

Form of Benefit Payment

For retirement, 80% of retirees elect lump sums. Of those assumed to elect an annuity, 75% elect the 50% joint and survivor annuity and 25% elect the single life annuity. All other benefits are assumed to be paid as a lump sum.

Determination of Lump Sum Payments

The 2017 actuarial valuation for Funding Policy Contribution and Rate Recovery Allowance purposes assumed that all future lump sum payments will be determined on the basis of a 5.25% effective average corporate bond (three-segment) interest rate and the (unisex) RP-2014 mortality table with MP-2016 fully generational projection.

Interest Credits on Cash Balance Accounts

Cash balance accounts are assumed to be credited with interest at a future rate that varies by year. The assumed crediting rate starts at 4.18% in 2017, the actual crediting rate for the forthcoming plan year, and phases to 5.75% by 2022.

A detailed description of these methods and a summary of the assumptions reflected in the 2017 actuarial valuation are provided in the Appendix.

Funding Policy Contributions

Since 1982, Southern California Edison Company's funding policy has been to contribute the annual Normal Cost plus amounts required to amortize certain book reserves, which are maintained for funding policy contribution purposes, and other liabilities due to ad hoc cost of living adjustments.

The contribution determined on this basis is then adjusted so as not to exceed the maximum tax deductible amount or, if necessary, to meet legally required minimum funding requirements.

Funding Policy Normal Cost

The Funding Policy Normal Cost is determined under the Frozen Initial Liability actuarial cost method. Under this method, the present value of future normal costs is the difference between:

1. The present value of all benefits earned and to be earned under the Plan, and
2. The sum of total funding policy assets on hand (including Company book reserves) and any remaining Unfunded Frozen Initial Liability for ad hoc cost of living adjustments.

The present value of future funding policy normal costs is then divided by the present value of anticipated future covered payrolls. The result is a Funding Policy Normal Cost percentage, which is applied to the current covered payroll. The projected Funding Policy Normal Cost percentages and Funding Policy Normal Costs based on the projected covered payrolls are shown in Table 1.

Internal Revenue Code Requirements

IRC Section 404 provides restrictions on the Maximum Tax Deductible Amount. IRC section 430 specifies the calculation of the Minimum Required Contribution. Projected amounts for the years 2017 through 2020 are developed in Table 2. Both the Minimum Required Contributions and Maximum Tax Deductible Amounts reflect the provisions of the Pension Protection Act of 2006, MAP-21, HATFA, and BBA-2015.

Rate Recovery Allowances

The Rate Recovery Allowance is based on the same actuarial methods and assumptions as the Funding Policy Contribution and reflects the same Funding Policy Normal Cost. However, the Rate Recovery Allowance differs in that interest only is reflected relative to the reserves.

Similar to the Funding Policy Contribution, the Rate Recovery Allowance is adjusted so as not to exceed the Maximum Tax Deductible Amount or, if necessary, to meet legally required Minimum Funding requirements. A development of projected Rate Recovery Allowances is shown in Table 4.

Projection Methodology

Projected actuarial valuation results reflect Plan Liabilities and Normal Costs based on the January 1, 2017 actuarial valuation. Assumed new entrants are sufficient to maintain a level population through December 31, 2017. The active participant count declines thereafter, as no new employees are included in the Plan on or after January 1, 2018.

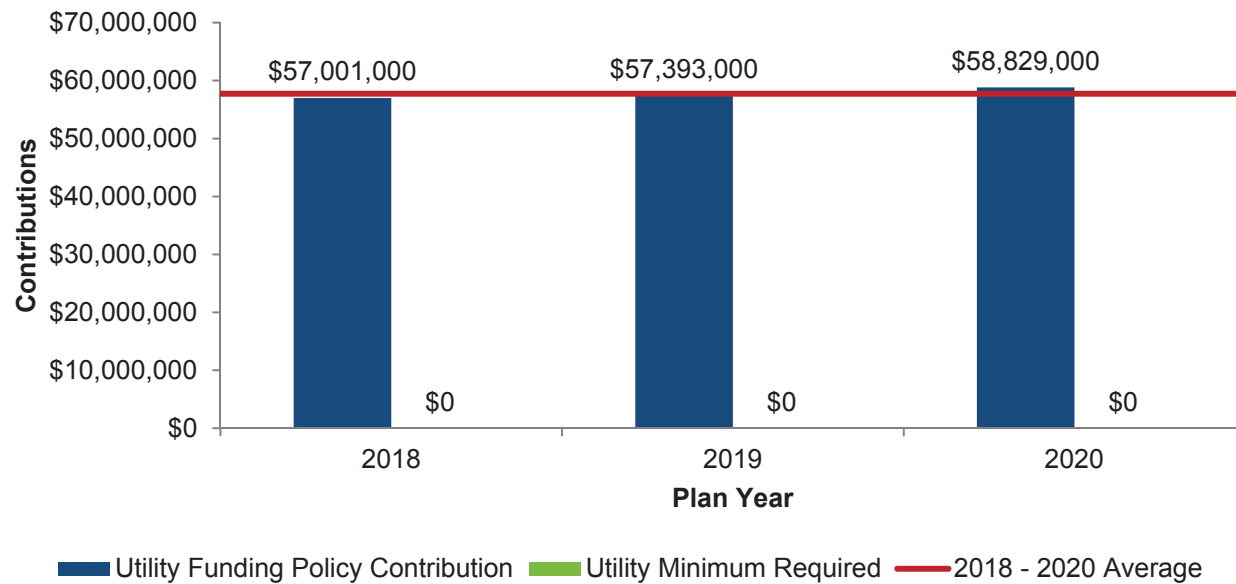
Projected Funding Target Liabilities are expected liabilities determined using standard actuarial projection methodologies based on the January 1, 2017 actuarial valuation results and adjusted for expected changes in required discount rates. No other changes in actuarial assumptions are anticipated during the projection period. No future plan amendments are assumed, except for projected annual increases in the IRC section 401(a)(17) compensation limitation. No experience gains or losses, or other potential subsequent events are anticipated during the projection period.

Projected actuarial values of assets are based on the December 31, 2016 Plan asset values supplied by Southern California Edison Company.

Exhibits

Summary of Projected Contributions

SCE Utility Contribution 2018-2020 Projection



Year	2018	2019	2020
Total Plan Contribution	\$ 63,300,000	\$ 63,500,000	\$ 64,811,000
SONGS after June 7, 2013	\$ 1,550,000	\$ 1,550,000	\$ 1,600,000
Non-Utility Contribution	\$ 3,200,000	\$ 3,000,000	\$ 2,800,000
Utility Rate Recovery Allowance	\$ 57,001,000	\$ 57,393,000	\$ 58,829,000
2018 – 2020 Average			\$ 57,741,000

Exhibit 1–Projected Funding Policy Contribution

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Funding Policy Normal Cost				
1. Total Present Value of Benefits at 1/1	\$ 3,665,006,000	\$ 3,603,019,000	\$ 3,520,218,000	\$ 3,431,420,000
2. Actuarial Value of Plan Assets	(3,183,076,000)	(3,185,821,000)	(3,129,337,000)	(3,041,402,000)
3. Book Reserves = (B8)	<u>(17,703,000)</u>	<u>(16,241,000)</u>	<u>(14,691,000)</u>	<u>(13,134,000)</u>
4. Present Value of Future Normal Cost	\$ 464,227,000	\$ 400,957,000	\$ 376,190,000	\$ 376,884,000
5. Present Value of Future Covered Payrolls	\$11,235,540,000	\$11,500,908,389	\$10,867,732,731	\$10,264,817,361
6. Normal Cost Percentage at 1/1	4.13%	3.49%	3.46%	3.67%
7. Total Covered Payroll	\$ 1,280,012,000	\$ 1,300,263,589	\$ 1,233,009,147	\$ 1,171,523,928
8. Expenses included in Normal Cost	\$ 6,000,000	\$ 13,000,000	\$ 16,000,000	\$ 17,000,000
9. Funding Policy Normal Cost = (6) x (7) + (8)				
a. Assuming Payment at 1/1	\$ 58,865,000	\$ 58,379,000	\$ 58,662,000	\$ 59,995,000
b. Assuming Payment at 12/31	\$ 62,691,000	\$ 62,174,000	\$ 62,475,000	\$ 63,895,000
c. Assuming Quarterly Payments	\$ 61,199,000	\$ 60,695,000	\$ 60,988,000	\$ 62,375,000
B. Amortization of Book Reserves				
1. Total Book Reserves Preceding 1/1	\$ 18,986,000	\$ 17,703,000	\$ 16,241,000	\$ 14,691,000
2. Interest on Book Reserves	1,329,000	1,151,000	1,056,000	955,000
3. Payments to Retired Participants	-	-	-	-
4. Amortization Payments	(2,612,000)	(2,613,000)	(2,605,000)	(2,512,000)
5. Reserves Adjustment	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
6. Total Book Reserves 1/1	\$ 17,703,000	\$ 16,241,000	\$ 14,691,000	\$ 13,134,000
7. Portion Attributable to Non-Qualified Plan	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
8. Book Reserves 1/1 Attributable to Qualified Plan	\$ 17,703,000	\$ 16,241,000	\$ 14,691,000	\$ 13,134,000
9. Amortization Amount	\$ 2,613,000	\$ 2,605,000	\$ 2,512,000	\$ 2,436,000

Exhibit 1–Projected Funding Policy Contribution (continued)

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
C. Funding Policy Contribution				
1. Funding Policy Normal Cost = (A9)				
a. Assuming Payment at 12/31	\$ 62,691,000	\$ 62,174,000	\$ 62,475,000	\$ 63,895,000
b. Assuming Quarterly Payments	\$ 61,199,000	\$ 60,695,000	\$ 60,988,000	\$ 62,375,000
2. Amortization of Book Reserves = (B9)	\$ 2,613,000	\$ 2,605,000	\$ 2,512,000	\$ 2,436,000
3. Amortization of Frozen Initial Liability				
a. Assuming Payment at 12/31	\$ -	\$ -	\$ -	\$ -
b. Assuming Quarterly Payments	\$ -	\$ -	\$ -	\$ -
4. Funding Policy Contribution before Adjustment for Minimum Contribution but not less than Minimum Required Contribution and not more than Maximum Tax Deductible Contribution = (1) + (2) or Minimum Required Contribution if larger				
a. Assuming Payment at 12/31	\$ 65,304,000	\$ 64,779,000	\$ 64,987,000	\$ 66,331,000
b. Assuming Quarterly Payments	\$ 63,812,000	\$ 63,300,000	\$ 63,500,000	\$ 64,811,000
5. Funding Policy Contribution after Adjustment for Minimum Contribution				
a. Assuming Payments at 12/31	N/A	N/A	N/A	N/A
b. Assuming Quarterly/Actual Payments	\$ 63,812,000	\$ 63,300,000	\$ 63,500,000	\$ 64,811,000

Exhibit 2–Projected IRS Minimum and Maximum Contributions

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Funding Shortfall/(Surplus)				
1. Funding Target Liability at 1/1	\$ 2,937,497,619	\$ 2,962,618,214	\$ 2,961,682,249	\$ 2,943,778,890
2. Actuarial Value of Assets	(3,294,171,692)	(3,150,801,050)	(3,091,569,055)	(3,006,780,546)
3. Prefunding Balance	<u>213,380,018</u>	<u>287,772,216</u>	<u>233,036,052</u>	<u>172,822,602</u>
4. Funding Shortfall/(Excess)	\$ (143,294,055)	\$ 99,589,380	\$ 103,149,246	\$ 109,820,946
B. Shortfall Amortization Payment				
1. 7 years remaining	\$ -	\$ 16,256,243	\$ 2,435,700	\$ 3,361,076
2. 6 years remaining	-	-	16,256,243	2,435,700
3. 5 years remaining	-	-	-	16,256,243
4. 4 years remaining	-	-	-	-
5. 3 years remaining	-	-	-	-
6. 2 years remaining	-	-	-	-
7. 1 years remaining	-	-	-	-
8. Total	<u>\$ -</u>	<u>\$ 16,256,243</u>	<u>\$ 18,691,943</u>	<u>\$ 22,053,019</u>

Exhibit 2–Projected IRS Minimum and Maximum Contributions (continued)

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
C. Minimum Required Contribution				
1. Target Normal Cost at 1/1	\$ 101,800,429	\$ 110,943,076	\$ 111,373,422	\$ 108,879,932
2. Credit for Excess Assets	(101,800,429)	-	-	-
3. Adjusted Target Normal Cost	\$ -	\$ 110,943,076	\$ 111,373,422	\$ 108,879,932
4. Shortfall Amortization Payment = (B8)	-	16,256,243	18,691,943	22,053,019
5. Preliminary Minimum Required Contribution (MRC)	-	127,199,319	130,065,365	130,932,951
6. Credit Balances Applied to MRC	-	(68,959,022)	(112,987,473)	(130,932,951)
7. Following Year Contribution Attributed to Current Year	(57,183,009)	(58,240,297)	(59,304,056)	-
8. Minimum Required Contribution at 1/1 (Not less than \$0)	\$ -	\$ -	\$ -	\$ -
9. a. Minimum Required Contribution	\$ -	\$ -	\$ -	\$ -
b. Assuming Quarterly/Actual Payments	\$ -	\$ -	\$ -	\$ -
D. Maximum Tax-Deductible Amount				
1. Funding Target at 1/1	\$ 3,453,850,768	\$ 3,458,868,730	\$ 3,411,341,529	\$ 3,364,673,973
2. Funding Target Normal Cost	123,844,383	132,469,788	130,561,354	126,097,552
3. Cushion Amount	1,842,519,672	1,836,501,325	1,802,530,579	1,770,506,306
4. Actuarial Value of Assets	(3,294,171,692)	(3,150,801,050)	(3,091,569,055)	(3,006,780,546)
5. Preliminary Maximum Deductible Amount	\$ 2,126,043,131	\$ 2,277,038,793	\$ 2,252,864,407	\$ 2,254,497,285
6. Minimum Required Contribution	\$ -	\$ -	\$ -	\$ -
7. Maximum Tax-Deductible Contribution	\$ 2,126,043,131	\$ 2,277,038,793	\$ 2,252,864,407	\$ 2,254,497,285

Exhibit 3–Funding Balances

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Carryover Balance				
1. Carryover Balance at 1/1	\$ -	\$ -	\$ -	\$ -
2. Amount Used to Offset Funding Requirement	-	-	-	-
3. Adjustment for Investment Earnings to 12/31	-	-	-	-
4. Elected Reduction in 12/31 Balance	-	-	-	-
5. Carryover Balance at 12/31	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
B. Prefunding Balance				
1. Prefunding Balance at 1/1	\$ 213,380,018	\$ 287,772,216	\$ 233,036,052	\$ 172,822,602
2. Amount Waived	-	-	-	-
3. Amount Used to Offset Funding Requirement	-	(68,959,022)	(112,987,473)	(130,932,951)
4. Adjustment for Investment Earnings to 12/31*	13,869,701	14,222,858	7,803,158	2,722,827
5. Excess Contributions = (C4) + (C5)	57,183,009	-	42,226,164	-
6. Interest on Excess Contributions = (C6)	3,339,488	-	2,744,701	-
7. Prefunding Balance at 12/31	<u>\$ 287,772,216</u>	<u>\$ 233,036,052</u>	<u>\$ 172,822,602</u>	<u>\$ 44,612,478</u>
C. Excess Contributions				
1. Contributions Discounted to Beginning of Year	\$ 57,183,009	\$ 58,240,297	\$ 59,304,056	\$ -
2. Preliminary Minimum Required Contribution (MRC)	\$ -	\$ 127,199,319	\$ 130,065,365	\$ 130,932,951
3. Credit Balances Applied to MRC	\$ -	\$ 68,959,022	\$ 112,987,473	\$ 130,932,951
4. Excess Above MRC	\$ 57,183,009	\$ -	\$ -	\$ -
5. Excess Due to Use of Credit Balances	\$ -	\$ -	\$ 42,226,164	\$ -
6. Interest on Excess	\$ 3,339,488	\$ -	\$ 2,744,701	\$ -

*Assumed investment earnings equal to 6.50%

Exhibit 4–Projected Rate Recovery Allowances

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Funding Policy Normal Cost				
1. Assuming Payment at 12/31	\$ 62,691,000	\$ 62,174,000	\$ 62,475,000	\$ 63,895,000
2. Assuming Quarterly Payments	\$ 61,199,000	\$ 60,695,000	\$ 60,988,000	\$ 62,375,000
B. Interest Accrual at 6.50% per annum on Book Reserves	\$ 1,151,000	\$ 1,056,000	\$ 955,000	\$ 854,000
C. Rate Recovery Allowance Before Adjustment for Non-Utility Company = (A2) + (B), but not less than Minimum Required Contribution	\$ 62,350,000	\$ 61,751,000	\$ 61,943,000	\$ 63,229,000
D. Non-Utility Normal Cost or Minimum Required Contribution Whatever Is Applicable				
1. Assuming Payment at 12/31	N/A	N/A	N/A	N/A
2. Assuming Quarterly Payments	\$ 3,399,000	\$ 3,200,000	\$ 3,000,000	\$ 2,800,000
E. SONGS Post 7/6/13 Funding Policy or Funding Target Normal Cost Whatever Is Applicable	\$ 1,579,000	\$ 1,550,000	\$ 1,550,000	\$ 1,600,000
F. Utility Rate Recovery Allowance				
1. Assuming Payment at 12/31 = (C) - (D1) - (E)	N/A	N/A	N/A	N/A
2. Assuming Quarterly/Actual Payments = (C) - (D2) - (E)	\$ 57,372,000	\$ 57,001,000	\$ 57,393,000	\$ 58,829,000
Average Rate Recovery Allowance 2018-2020			\$ 57,741,000	

Exhibit 5–Funding Policy Actuarial Value of Assets for Funding Policy Contributions

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Actuarial Value of Trust Fund Assets at Preceding 1/1				
1. Actuarial Value of Assets at Preceding 1/1	\$ 3,116,002,000	\$ 3,183,076,000	\$ 3,185,821,000	\$ 3,129,337,000
2. Contributions Receivable at Preceding 1/1	-	-	-	-
3. Net Actuarial Value of Assets = (1) - (2)	\$ 3,116,002,000	\$ 3,183,076,000	\$ 3,185,821,000	\$ 3,129,337,000
B. Increases/Decreases during Preceding Year				
1. Contributions	\$ 81,417,000	\$ 63,812,000	\$ 63,000,000	\$ 64,000,000
2. Assumed Investment Income	213,415,788	201,269,926	199,779,914	195,154,978
3. Benefit Payments	(237,043,203)	(237,043,203)	(287,567,721)	(317,905,456)
4. Total (1) + (2) - (3)	\$ 57,789,585	\$ 28,038,723	\$ (24,787,807)	\$ (58,750,478)
C. Unadjusted Actuarial Value of Assets at 1/1 = (A) + (B)	\$ 3,173,792,000	\$ 3,211,115,000	\$ 3,161,033,000	\$ 3,070,587,000
D. Market Value of Assets at 1/1				
1. Trust Fund Value	\$ 3,210,926,277	\$ 3,109,937,680	\$ 3,034,247,261	\$ 2,953,848,383
2. Contributions Receivable	-	-	-	-
3. Total (1) + (2)	\$ 3,210,926,277	\$ 3,109,937,680	\$ 3,034,247,261	\$ 2,953,848,383
E. Actuarial Value of Assets at 1/1				
1. Unadjusted Actuarial Value	\$ 3,173,792,000	\$ 3,211,115,000	\$ 3,161,033,000	\$ 3,070,587,000
2. Adjustment Related to Market Value = 0.25 x [(D1) - (C)]	9,284,000	(25,294,000)	(31,696,000)	(29,185,000)
3. Contributions Receivable at 1/1	-	-	-	-
4. Actuarial Value of Assets = (1) + (2) + (3)	\$ 3,183,076,000	\$ 3,185,821,000	\$ 3,129,337,000	\$ 3,041,402,000
F. Adjusted Actuarial Value of Assets	\$ 3,183,076,000	\$ 3,185,821,000	\$ 3,129,337,000	\$ 3,041,402,000
(E4) but within 80%/120% of (D3)				

Exhibit 6–Actuarial Value of Assets for Minimum Funding Purposes

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Market value of assets, January 1:				
1. Trust fund value	\$ 3,210,931,001	\$ 3,109,942,711	\$ 3,034,252,619	\$ 2,953,854,090
2. Contribution Receivable	<u>62,055,028</u>	<u>60,522,496</u>	<u>61,554,169</u>	<u>62,584,134</u>
3. Total = (1) + (2)	\$ 3,272,986,029	\$ 3,170,465,207	\$ 3,095,806,788	\$ 3,016,438,224
B Prior year gains/(losses)				
1. Initial asset gain/(loss) for year-2	\$ (179,704,136)	\$ 58,073,574	\$ 459,449	\$ 6,126,874
2. Weight	0.3333	0.3333	0.3333	0.3333
3. Unrecognized amount	\$ (59,901,379)	\$ 19,357,858	\$ 153,150	\$ 2,042,291
4. Initial asset gain/(loss) for year-1	\$ 58,073,574	\$ 459,449	\$ 6,126,874	\$ 11,423,080
5. Weight	0.6667	0.6667	0.6667	0.6667
6. Unrecognized amount	\$ 38,715,716	\$ 306,299	\$ 4,084,583	\$ 7,615,387
7. Total Amount unrecognized	\$ (21,185,663)	\$ 19,664,157	\$ 4,237,733	\$ 9,657,678
8. Preliminary Actuarial Value of Plan assets = (A3) - (B7)	\$ 3,294,171,692	\$ 3,150,801,050	\$ 3,091,569,055	\$ 3,006,780,546
C. Market Value of Trust Fund Assets at 1/1/t				
1. Lower Bound = 0.90 x (A3)	\$ 2,945,687,427	\$ 2,853,418,687	\$ 2,786,226,110	\$ 2,714,794,402
2. Upper Bound = 1.10 x (A3)	\$ 3,600,284,631	\$ 3,487,511,727	\$ 3,405,387,466	\$ 3,318,082,046
3. Actuarial Value of Assets at 1/1/t =Greater of (B8) and (C1), No greater than (C2)	\$ 3,294,171,692	\$ 3,150,801,050	\$ 3,091,569,055	\$ 3,006,780,546

Appendix A

Actuarial Assumptions and Methods

For Minimum Funding Valuation

Actuarial Liability Interest Rates

Minimum Funding

Based on segment rates with a no-month lookback (as of January 2017), each adjusted as needed to fall within the 25-year average interest rate corridor under MAP-21, HATFA, and BBA-2015.

1st Segment Rate

4.16%.

2nd Segment Rate

5.72%.

3rd Segment Rate

6.48%.

Maximum Deductible

Based on segment rates with a no-month lookback (as of January 2017), without regard to the interest rate stabilization.

1st segment rate

1.57%.

2nd segment rate

3.77%.

3rd segment rate

4.73%.

Cash Balance Interest Crediting Rate

Actual rate for the forthcoming plan year phasing to 5.75% in 2022.

Salary Increases

See Table 1.

Optional Payment Form Election Percentage

Retirement

80% lump sum.

Of those assumed to elect an annuity:
75% elect the 50% Joint and Survivor
25% elect the Single Life Annuity

All Other Benefits

100% lump sum.

Optional Payment Form Conversion Interest Rate

Same as funding interest rates.

Optional Payment Form Conversion Mortality

Current IRC section 417(e) table.

Retirement Age

Active Participants

See Table 2.

Terminated Vested Participants

See Table 3.

Disabled Participants

Earlier of age 65 and date of disability plus 2 years.

Actuarial Assumptions and Methods

For Minimum Funding Valuation (continued)

Mortality Rates

Healthy and Disabled	2017 Static Mortality Table for Annuitants and Non-Annuitants per IRC section 1.430(h)(3)-1(e).
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Withdrawal Rates

Non-Union	See Table 4.
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Union	See Table 5.
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Disability Rates	See Table 6.
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Decrement Timing	Middle of year, except 100% retirement assumption which is beginning of year.
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Surviving Spouse Benefit	It is assumed that 80% of males and 80% of females have an eligible spouse, and that males are three years older than their spouses.
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Benefit and Compensation Limits	Projected benefits and compensation are limited by the current IRC section 415 maximum benefit of \$215,000 and the IRC section 401(a)(17) compensation limit of \$270,000.
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Valuation of Plan Assets	Smoothed fair market value of assets over the current and prior two years, adjusted for contributions, benefit payments, administrative expenses, and expected earnings. The average value of assets calculated in this manner is further limited to not less than 90% nor more than 110% of fair market value.
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Expected Return on Assets

2015 Plan Year	7.00%, limited to 6.81%.
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2016 Plan Year	7.00%, limited to 6.65%.
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2017 Plan Year	6.50%, limited to 6.48%
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Trust Expenses Included in Target Normal Cost	Average administrative expenses over the prior two years (excluding PBGC premiums), plus estimated PBGC premiums for the current plan year, rounded to the nearest \$500,000.
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Actuarial Method	Standard Unit Credit Cost Method.
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Actuarial Assumptions and Methods

For Funding Policy Valuation

Actuarial Liability Interest Rate	6.50%.
Expected Return on Assets	6.50%.
Optional Payment Form Conversion Interest Rate	5.25%.
Optional Payment Form Conversion Mortality Rates	RP-2014 employees and healthy annuitants unisex mortality table. Fully generational projection from 2006 using Scale MP-2016.
Benefit and Compensation Limits	The IRC section 415 benefit limit and the IRC section 401(a)(17) compensation limit have been projected at 3.00% per year.
Mortality Rates	
Non-Union	RP-2014 employees and healthy annuitants mortality table with white collar adjustment. Fully generational projection from 2006 using Scale MP-2016.
Union	RP-2014 employees and healthy annuitants mortality table with blue collar adjustment. Fully generational projection from 2006 using Scale MP-2016.
Actuarial Cost Method	Frozen Initial Liability.
Value of Plan Assets	Based on prior year final Value of Plan Assets, rolled forward with cashflow items and expected return at the Actuarial Liability Interest Rate. The adjusted Value of Plan Assets recognizes 25% of the difference between expected Value of Plan Assets and the fair market value of assets which excludes receivables. The final Value of Plan Assets is further limited to not less than 80% and not more than 120% of fair market value.
All Other Assumptions	Same as Minimum Funding assumptions.

Actuarial Assumptions and Methods

Table 1

Salary Increases

Age	Rate
25-29	7.00%
30-34	5.50%
35-39	4.00%
40-44	3.50%
45-49	3.00%
50-54	2.50%
55-59	2.00%
60+	2.00%

Actuarial Assumptions and Methods

Table 2

Active Retirement Rates

Age	Rate
55	10.0%
56	10.0%
57	10.0%
58	15.0%
59	15.0%
60	15.0%
61	20.0%
62	20.0%
63	20.0%
64	20.0%
65	30.0%
66	30.0%
67	30.0%
68	30.0%
69	30.0%
70+	100.0%

Actuarial Assumptions and Methods

Table 3

Terminated Vested Retirement Rates

Age	Rate
55	10.0%
56	10.0%
57	10.0%
58	10.0%
59	10.0%
60	10.0%
61	10.0%
62	15.0%
63	15.0%
64	30.0%
65+	100.0%

Actuarial Assumptions and Methods

Table 4

Active Non-Union Withdrawal Rates

Age	Years of Service			
	0	1	2	3+
20	15.0%	15.0%	14.0%	13.0%
21	15.0%	15.0%	14.0%	12.5%
22	15.0%	15.0%	14.0%	12.0%
23	15.0%	15.0%	14.0%	11.5%
24	15.0%	15.0%	14.0%	11.0%
25	15.0%	15.0%	14.0%	10.5%
26	15.0%	15.0%	14.0%	10.0%
27	15.0%	15.0%	14.0%	9.5%
28	15.0%	15.0%	14.0%	9.0%
29	15.0%	15.0%	14.0%	8.5%
30	15.0%	15.0%	14.0%	7.7%
31	15.0%	15.0%	14.0%	7.4%
32	15.0%	15.0%	14.0%	7.1%
33	15.0%	15.0%	14.0%	6.8%
34	15.0%	15.0%	14.0%	6.5%
35	15.0%	15.0%	14.0%	6.2%
36	15.0%	15.0%	14.0%	5.9%
37	15.0%	15.0%	14.0%	5.6%
38	15.0%	15.0%	14.0%	5.3%
39	15.0%	15.0%	14.0%	5.0%
40	15.0%	15.0%	14.0%	4.8%
41	15.0%	15.0%	14.0%	4.6%
42	15.0%	15.0%	14.0%	4.4%
43	15.0%	15.0%	14.0%	4.2%
44	15.0%	15.0%	14.0%	4.0%
45	15.0%	15.0%	14.0%	3.8%
46	15.0%	15.0%	14.0%	3.6%
47	15.0%	15.0%	14.0%	3.4%
48	15.0%	15.0%	14.0%	3.2%
49	15.0%	15.0%	14.0%	3.0%
50	15.0%	15.0%	14.0%	3.0%
51	15.0%	15.0%	14.0%	3.0%
52	15.0%	15.0%	14.0%	3.0%
53	15.0%	15.0%	14.0%	3.0%
54	15.0%	15.0%	14.0%	3.0%
55+	0.0%	0.0%	0.0%	0.0%

Actuarial Assumptions and Methods

Table 5

Active Union Withdrawal Rates

Age	Years of Service			
	0	1	2	3+
20-24	10.0%	6.0%	4.5%	4.5%
25-29	10.0%	6.0%	4.5%	3.0%
30-34	10.0%	6.0%	4.5%	3.0%
35-39	10.0%	6.0%	4.5%	2.5%
40-44	10.0%	6.0%	4.5%	2.0%
45-49	10.0%	6.0%	4.5%	2.0%
50-54	10.0%	6.0%	4.5%	2.0%
55+	0.0%	0.0%	0.0%	0.0%

Actuarial Assumptions and Methods

Table 6

Active Disability Incidence Rates

Age	Male	Female	Age	Male	Female
20	0.03%	0.03%	45	0.16%	0.24%
21	0.03%	0.03%	46	0.18%	0.27%
22	0.03%	0.03%	47	0.21%	0.30%
23	0.03%	0.03%	48	0.25%	0.33%
24	0.03%	0.03%	49	0.28%	0.36%
25	0.03%	0.03%	50	0.33%	0.40%
26	0.03%	0.03%	51	0.39%	0.44%
27	0.03%	0.03%	52	0.46%	0.49%
28	0.03%	0.04%	53	0.53%	0.54%
29	0.03%	0.04%	54	0.61%	0.59%
30	0.03%	0.04%	55	0.69%	0.64%
31	0.03%	0.05%	56	0.77%	0.69%
32	0.03%	0.05%	57	0.86%	0.74%
33	0.03%	0.06%	58	0.95%	0.80%
34	0.03%	0.06%	59	1.05%	0.85%
35	0.04%	0.07%	60	1.15%	0.90%
36	0.04%	0.08%	61	1.26%	0.96%
37	0.05%	0.09%	62	1.38%	1.01%
38	0.06%	0.10%	63	1.51%	1.05%
39	0.07%	0.12%	64	1.64%	1.09%
40	0.08%	0.13%	65+	0.00%	0.00%
41	0.09%	0.15%			
42	0.10%	0.17%			
43	0.12%	0.19%			
44	0.14%	0.22%			

Summary of Plan Provisions

Effective Date of Plan	July 1, 1958.
Employees Eligible for Participation	Regular full-time, part-time and temporary benefit eligible employees hired prior to January 1, 2018 participate immediately. After April 1, 1999, new hires must be employees of Southern California Edison Company, Edison International, Edison Capital or Edison Material Supply LLC in order to participate in the plan.
Definitions	
Base Monthly Pay	Base pay excluding overtime, bonuses, commissions, and any kinds of special pay.
Normal Retirement Age	Age 65.
Early Retirement Age	Age 55 and five years of service.
Hours of Service	Effective April 1, 1999 for non-union employees and December 31, 1999 for union employees, 190 hours of service are credited for any calendar month in which at least one hour is worked.
Credited Service	A plan year during which a participant has completed at least 2,000 hours of service. A partial year of service is credited for 1,000 to 2,000 hours of service.
Vesting Service	A plan year during which a participant has at least 1,000 hours of service.
Cash Balance Benefits	
Effective Date	April 1, 1999 for non-union employees (non-represented employees and employees represented by Teamsters), and December 31, 1999 for union employees (employees represented by IBEW Local 47, UWUA and SOFA).
Application	All benefit eligible employees. (As of the effective dates, employees who were not eligible for grandfathered benefits ceased to accrue benefits under the plan provisions previously in effect.)

Summary of Plan Provisions

Cash Balance Benefits (continued)

Initial Account Balance

Actuarial value of accrued benefit payable at age 65 (reflecting a discount rate of 5.25% and the 1983 GAM mortality table, blended 50%/50% for males/females) plus, for non-union employees, the current value of accumulated unused sick leave benefits (reflecting an increased payout percentage of 45%).

Pay Credits

Application

Added to account balance at the end of each month for which the participant receives additional cash balance service.

Amount

A percentage of base pay for the month determined in accordance with the following schedule:

Age and Service Points	Percentage
Less than 40	3.0%
40-49	4.0%
50-59	5.0%
60-64	6.0%
65-69	7.0%
70-74	8.0%
75 or over	9.0%

Transition Credits

Application

Added to account balance at the end of each month beginning April 1, 1999, or December 31, 1999, and continued for as many months as the employee had months of credited service on April 1, 1999, or December 31, 1999, to a maximum of 96 months.

Amount

A percentage of base pay for the month determined in accordance with the following schedule:

Age and Service Points	Percentage
Less than 35	3.0%
35-44	4.0%
45-54	5.0%
55 and over	6.0%

Summary of Plan Provisions

Interest Credits

Application	Added to the cash balance account at the end of each month. All interest rates are applied to the account balance as of the first day of each month.
Amount Through January 2008	Based on the average 30 year Treasury bond interest rate during the month of August of the preceding calendar year, divided by 12.
Amount Beginning February 2008	Based on the third segment lump sum interest rate in effect for the calendar year (average August rates from the preceding year divided by 12), reflecting minimum funding five year phase-out of 30-year Treasury bond interest rates.

Supplemental Credits

Application	Added to account balance at the end of each month for which pay credits are added.
Amount	\$150 per month.

Death Benefits

Minimum death benefit equal to the member's vested cash balance account is payable to designated beneficiary.

Benefits for Employees of Certain Non-Regulated Companies

Application	Eligible non-union employees of Edison Mission Energy (including Edison Operations) and Edison Enterprises (and related subsidiaries).
Benefits	Initial balances, transition credits, and interest credits are the same as for all other eligible employees of participating companies. No pay credits or supplemental credits are provided. Employees eligible for grandfathered benefits receive ongoing accruals, offset by the benefits provided by applicable profit sharing plan account balances. New hires do not participate in the Retirement Plan.
Homer City Subsidiary	<p>Non-union employees received initial balances based on all (pre and post-acquisition) accumulated sick leave and plan benefits accrued since acquisition (March 18, 1999).</p> <p>Transition credits were based on total service (pre and post-acquisition). No pay credits or supplemental credits are provided. Eligibility for grandfathered benefits is the same as for other employees (reflecting total service) but benefit accruals reflect only post March 18, 1999 service.</p>

Summary of Plan Provisions

Benefits for Employees of Certain Non-Regulated Companies (continued)

Midwest Power Generation
Subsidiary

Non-union employees received initial balances equal to 1% of final average pay for each year of pre-acquisition (December 15, 1999) service. Transition credits were based on total pre acquisition service. No pay credits or supplemental credits are provided. Eligibility for grandfathered benefits is the same as for other employees (reflecting total pre acquisition service) but benefit accruals reflect only post acquisition service.

Pension Benefits at Normal Retirement (“Grandfathered” Formula)

Basic Pension Benefit

For each year of credited service, a scheduled amount equal to 2% of base monthly pay less \$3 (applicable to employees earning over \$250 per month).

Supplemental Pension Benefit

A percentage of average base monthly pay during the highest-paid 36 consecutive months of service—offset by a percentage (no more than 40%) of the primary Social Security benefit payable at the later of age 62 or retirement age. The percentage of average monthly earnings is 1¼% per year up to 30 years of service (52.5% maximum at 30 years), plus 1% for each year over 30 years. The percentage of primary Social Security benefit offset is 1⅓% per year up to 30 years.

For participants in service as of September 1, 1978, the benefit will not be less than would have been payable under the prior formula, which is a percentage of average base monthly pay during the highest-paid 60 consecutive months of service—offset by a percentage (no more than 45%) of the primary Social Security benefit. The percentage of average monthly pay is 3% per year for the first five years, 2% for each of the next 10 years, 1% for each of the next 15 years (50% maximum at 30 years), and ½% for each additional year thereafter. The offset percentage is 1½% per year up to 30 years.

Normal Form of Payment

Married participants: 50% joint and survivor annuity (unreduced).

Single participants: Single life annuity.

Application

Effective April 1, 1999 for non-union employees and December 31, 1999 for union employees, ongoing application of these provisions is limited to employees with at least 60 age and service points, or who had attained age 50 as of those dates.

Summary of Plan Provisions

Pension Benefits at Early Retirement ("Grandfathered" Formula) (continued)

Pension Benefit

A monthly benefit equal to the accrued benefit calculated as of the early retirement date under the "grandfathered" benefit formula, with the following reduction:

- No reduction if payments begin after age 61
- 1/4% for each full month payments begin before age 61, but after age 60
- 1/3% for each full month payments begin before age 60

Deferred Vested Benefits ("Grandfathered" Formula)

Deferred Vested Pension Benefit

Greater of the current basic pension or a prorata portion of the projected supplemental pension (based on current average basic monthly pay). The benefit is payable as a life annuity for single participants and as a reduced 50% joint and survivor annuity for married participants.

Unused Sick Leave Benefits

Eligibility

The following groups of employees are eligible if they retire on or after their early retirement age: All union employees and grandfathered non-union employees, as well as non-grandfathered non-union employees who were Non-highly compensated employees (NHCEs) in 2005 and incurred a separation from service between January 1, 2005 and December 31, 2007.

Benefit

For each 22 days of unused sick leave, one-month payment equal to 20% of base monthly earnings during the highest-paid 36 consecutive months of service. If the number of payments would exceed 24, the monthly amount is increased so that all benefits are paid within 24 months. Eligible non-union employees receive the benefit, provided the value of their unused sick leave and regular "grandfathered" retirement benefits (for non-grandfathered employees, based on "frozen" pay and service in 1999) exceeds their cash balance accounts. Grandfathered union employees (except UWUA (including SOFA) employees) were credited with an additional 80 hours of unused sick leave at January 1, 2010.

Vesting Provisions

Accrued benefits vest at the rate of 20% per year of service, with full vesting after five years; provided, however, that cash balance participants credited with at least one hour of service on or after February 1, 2008 are 20% vested after one year, 40% vested after two years, and 100% vested after three years of service. Benefits may commence immediately upon employment termination.

Summary of Plan Provisions

Disability Benefits

Disability Benefit

A disabled participant continues to accrue service while disabled for up to two years. The disability benefit is calculated based on the participant's base monthly pay as of date of disability.

Ad Hoc Adjustments

Benefits payable to plan retirees were increased on an ad hoc basis in 1967, 1971, 1974, 1976, 1979, 1982, 1985, 1989, 1995, and 2006.

Special Terminated Vested Benefits ("Grandfathered" Formula)

Eligibility

For Benefit A—All non-union grandfathered employees, and non-union non-grandfathered employees who were NHCEs in 2005 and who terminated employment before age 55, but with 68 age and service points (age plus years of service).

Eligibility

For Benefit B—non-union employees terminating employment between ages 50 and 55 with 20 years of service and who also attain age 50 and complete 20 years of service by December 31, 2001.

Benefit A

Immediate benefit commencement with accrued benefit reduced by 23% plus 1/6% each month of age below age 55. (For non-grandfathered employees, the benefit to which the reduction factor is applied is based on "frozen" pay and service in 1999.)

Benefit B

Calculated as if the employee were eligible for early retirement. Payments may begin at any time after age 55. Benefit accruals for purposes of this benefit ceased as of December 31, 1996.

Increased Retirement Benefits Pursuant to 1996 Plan Amendments

Eligibility

Non-union, non-executive employees attaining age 47 and completing five years of vesting service by June 30, 1996. Union employees meeting these requirements by September 30, 1996.

Benefit

Eight years are added to age and/or service at June 30, 1996/September 30, 1996 to produce the largest early retirement benefit under supplemental pension formula A. Retirement benefit can never be less than this amount.

Form of Payment

Retirement benefit calculated pursuant to the amendment can be paid as an annuity, immediate lump sum, or 80% annuity/20% lump sum.

Appendix B

Exhibit 7–Projected Funding Policy Contribution for Non-Regulated Companies

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Funding Policy Normal Cost				
1. Total Present Value of Benefits at 1/1	\$ 72,953,000	\$ 70,693,000	\$ 69,987,000	\$ 68,354,000
2. Actuarial Value of Plan Assets	(44,386,000)	(43,838,000)	(44,734,000)	(44,599,000)
3. Book Reserves	-	-	-	-
4. Present Value of Future Normal Cost	\$ 28,567,000	\$ 26,855,000	\$ 25,253,000	\$ 23,755,000
5. Present Value of Future Covered Payrolls	N/A	N/A	N/A	N/A
6. Normal Cost Percentage at 1/1	N/A	N/A	N/A	N/A
7. Total Covered Payroll	N/A	N/A	N/A	N/A
8. Expenses included in Normal Cost	N/A	N/A	N/A	N/A
9. Funding Policy Normal Cost				
a. Assuming Payment at 1/1	\$ 3,269,000	\$ 3,100,000	\$ 2,900,000	\$ 2,700,000
b. Assuming Payment at 12/31	\$ 3,482,000	\$ 3,300,000	\$ 3,100,000	\$ 2,900,000
c. Assuming Quarterly Payments	\$ 3,399,000	\$ 3,200,000	\$ 3,000,000	\$ 2,800,000
10. Funding Policy/Minimum Required Contribution, Assuming Quarterly Payments	\$ 3,399,000	\$ 3,200,000	\$ 3,000,000	\$ 2,800,000

Exhibit 8–Projected Funding Policy Actuarial Value of Assets for Non-Regulated Companies

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Actuarial Value of Trust Fund Assets at Preceding 1/1				
1. Actuarial Value of Assets at Preceding 1/1	\$ 44,050,000	\$ 44,386,000	\$ 43,838,000	\$ 44,734,000
2. Contributions Receivable at Preceding 1/1	-	-	-	-
3. Net Actuarial Value of Assets = (1) - (2)	\$ 44,050,000	\$ 44,386,000	\$ 43,838,000	\$ 44,734,000
B. Increases/Decreases during Preceding Year				
1. Contributions	\$ 4,038,000	\$ 3,399,000	\$ 3,195,000	\$ 3,005,000
2. Assumed Investment Income	3,004,000	2,775,045	2,786,361	2,810,688
3. Benefit Payments	(6,785,000)	(6,785,000)	(5,136,822)	(5,990,287)
4. Total (1) + (2) - (3)	\$ 257,000	\$ (610,955)	\$ 844,539	\$ (174,599)
C. Unadjusted Actuarial Value of Assets at 1/1 = (A) + (B)	\$ 44,307,000	\$ 43,775,000	\$ 44,683,000	\$ 44,559,000
D. Market Value of Assets at 1/1				
1. Trust Fund Value	\$ 44,624,000	\$ 44,029,000	\$ 44,885,000	\$ 44,721,000
2. Contributions Receivable	-	-	-	-
3. Total (1) + (2)	\$ 44,624,000	\$ 44,029,000	\$ 44,885,000	\$ 44,721,000
E. Actuarial Value of Assets at 1/1				
1. Unadjusted Actuarial Value	\$ 44,307,000	\$ 43,775,000	\$ 44,683,000	\$ 44,559,000
2. Adjustment Related to Market Value = 0.25 x [(D1) - (C)]	79,000	63,000	51,000	40,000
3. Contributions Receivable at 1/1	-	-	-	-
4. Actuarial Value of Assets = (1) + (2) + (3)	\$ 44,386,000	\$ 43,838,000	\$ 44,734,000	\$ 44,599,000
F. Adjusted Actuarial Value of Assets (E4), but within 80%/120% of (D3)	\$ 44,386,000	\$ 43,838,000	\$ 44,734,000	\$ 44,599,000

Exhibit 9–Projected IRS Minimum Contributions for Non-Regulated Companies

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Funding Shortfall/(Surplus)				
1. Funding Target Liability at 1/1	\$ 67,476,000	\$ 69,827,823	\$ 70,950,035	\$ 71,196,031
2. Actuarial Value of Assets	(48,536,000)	(47,065,000)	(47,916,000)	(47,575,000)
3. Prefunding Balance	4,204,000	8,097,195	8,390,734	8,148,325
4. Funding Shortfall/(Excess)	\$ 23,144,000	\$ 30,860,018	\$ 31,424,769	\$ 31,769,356
B. Shortfall Amortization Payment				
1. 7 years remaining	\$ -	\$ 2,393,851	\$ 269,970	\$ 459,882
2. 6 years remaining	-	-	2,393,851	269,970
3. 5 years remaining	-	-	-	2,393,851
4. 4 years remaining	-	-	-	-
5. 3 years remaining	-	-	-	-
6. 2 years remaining	-	-	-	-
7. 1 years remaining	-	-	-	-
8. Total	\$ -	\$ 2,393,851	\$ 2,663,821	\$ 3,123,704
C. Minimum Required Contribution				
1. Target Normal Cost at 1/1	\$ 962,000	\$ 1,019,720	\$ 1,080,903	\$ 1,145,757
2. Credit for Excess Assets	(962,000)	-	-	-
3. Adjusted Target Normal Cost	\$ -	\$ 1,019,720	\$ 1,080,903	\$ 1,145,757
4. Shortfall Amortization Payment = (B8)	-	2,393,851	2,663,821	3,123,704
5. Preliminary Minimum Required Contribution (MRC)	-	3,413,571	3,744,725	4,269,461
6. Prefunding Credit Balance Applied to MRC	-	(3,413,571)	(3,744,725)	(4,269,461)
7. Following Year Contribution Attributed to Current Year	(3,399,000)	(3,195,000)	(3,005,000)	-
8. Minimum Required Contribution at 1/1 (Not less than \$0)	\$ -	\$ -	\$ -	\$ -

Exhibit 10–Projected Actuarial Value of Assets for Non-Regulated Companies

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Market value of assets, January 1:				
1. Trust fund value	\$ 44,624,000	\$ 44,029,000	\$ 44,885,000	\$ 44,721,000
2. Contribution Receivable	3,307,000	3,109,000	2,924,000	2,750,000
3. Total = (1) + (2)	\$ 47,931,000	\$ 47,138,000	\$ 47,809,000	\$ 47,471,000
B Prior year gains/(losses)				
1. Initial asset gain/(loss) for year-2	\$ (2,680,000)	\$ 432,000	\$ (108,000)	\$ (106,000)
2. Weight	0.3333	0.3333	0.3333	0.3333
3. Unrecognized amount	\$ (893,000)	\$ 144,000	\$ (36,000)	\$ (35,000)
4. Initial asset gain/(loss) for year-1	\$ 432,000	\$ (108,000)	\$ (106,000)	\$ (104,000)
5. Weight	0.6667	0.6667	0.6667	0.6667
6. Unrecognized amount	\$ 288,000	\$ (72,000)	\$ (71,000)	\$ (69,000)
7. Total Amount unrecognized	\$ (605,000)	\$ 72,000	\$ (107,000)	\$ (104,000)
8. Preliminary Actuarial Value of Plan assets = (A3) - (B7)	\$ 48,536,000	\$ 47,066,000	\$ 47,916,000	\$ 47,575,000
C. Market Value of Trust Fund Assets at 1/1/t				
1. Lower Bound = 0.90 x (A3)	\$ 43,137,900	\$ 42,424,200	\$ 43,028,100	\$ 42,723,900
2. Upper Bound = 1.10 x (A3)	\$ 52,724,100	\$ 51,851,800	\$ 52,589,900	\$ 52,218,100
3. Actuarial Value of Assets at 1/1/t =Greater of (B8) and (C1), No greater than (C2)	\$ 48,536,000	\$ 47,066,000	\$ 47,916,000	\$ 47,575,000

**SOUTHERN CALIFORNIA EDISON
POSTRETIREMENT HEALTH & LIFE BENEFITS
PROJECTED ACCOUNTING VALUATION RESULTS
FOR PLAN YEARS 2017 THROUGH 2020**

**Exhibit 1
Determination of Net Periodic Postretirement Benefit Cost (ASC 715-60)
(in \$ thousands)**

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Service Cost (EOY)				
1. Before Adjustment	\$ 30,858	\$ 32,401	\$ 31,606	\$ 30,831
2. SONGS Adjustment	(\$ 795)	(\$ 835)	(\$ 814)	(\$ 794)
3. Total = (1) + (2)	\$ 30,063	\$ 31,566	\$ 30,792	\$ 30,037
B. Interest Cost				
1. APBO	\$ 87,038	\$ 88,188	\$ 89,296	\$ 90,285
2. Expected Benefit Payments	<u>1,893</u>	<u>\$ 1,970</u>	<u>2,033</u>	<u>2,099</u>
3. Total = (1) - (2)	\$ 85,145	\$ 86,218	\$ 87,263	\$ 88,186
C. Expected Return on Assets *				
1. Market Value of Assets	\$ 111,605	\$ 113,605	\$ 115,516	\$ 117,360
2. Expected Benefit Payments	1,945	\$ 2,047	2,135	2,229
3. Expected Contributions	<u>0</u>	<u>\$ 0</u>	<u>0</u>	<u>0</u>
4. Total = (1) - (2) + (3)	\$ 109,660	\$ 111,558	\$ 113,381	\$ 115,131
D. Net Amortization Amounts				
1. Transition (Asset)/Obligation	\$ 0	\$ 0	\$ 0	\$ 0
2. Prior Service Cost	(2,465)	(\$ 1,231)	(1,231)	(1,231)
3. Net (Gain)/Loss	<u>0</u>	<u>\$ 0</u>	<u>0</u>	<u>0</u>
4. Total = (1) + (2) + (3)	(\$ 2,465)	(\$ 1,231)	(\$ 1,231)	(\$ 1,231)
E. Special Termination Charge	\$ 0	\$ 0	\$ 0	\$ 0
F. Net Periodic Postretirement Benefit Cost				
= (A) + (B3) - (C4) + (D4) + (E)	\$ 3,083	\$ 4,995	\$ 3,443	\$ 1,861

* Interest rate for return on assets for Union trust, 1992 VEBA trust and 1999 VEBA trust is 4.75%, and for other funding vehicles is 6.5%.

**SOUTHERN CALIFORNIA EDISON
POSTRETIREMENT HEALTH & LIFE BENEFITS
PROJECTED ACCOUNTING VALUATION RESULTS
FOR PLAN YEARS 2017 THROUGH 2020**

**Exhibit 2
Development and Reconciliation of (Accrued)/Prepaid Benefit Cost (ASC 715-60)
(in \$ thousands)**

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Funded Status as of 1/1				
1. APBO	\$2,028,878	\$2,055,673	\$2,081,494	\$2,104,557
2. Market Value of Assets	<u>2,109,742</u>	<u>2,142,882</u>	<u>2,173,923</u>	<u>2,203,326</u>
3. Funded Status = (2) - (1)	\$ 80,864	\$ 87,209	\$ 92,429	\$ 98,769
4. Unrecognized Transition (Asset)/Obligation	0	0	0	0
5. Unrecognized Prior Service Cost	(13,795)	(11,330)	(10,099)	(8,868)
6. Unrecognized Net (Gain)/Loss	<u>(198,158)</u>	<u>(198,158)</u>	<u>(198,158)</u>	<u>(198,158)</u>
7. (Accrued)/Prepaid Benefit Cost = (3) + (4) + (5) + (6)	(\$ 131,089)	(\$ 122,279)	(\$ 115,828)	(\$ 108,257)
B. Reconciliation of Funded Status				
1. (Accrued)/Prepaid Benefit Cost at 1/1/t-1	(\$ 131,089)	(\$ 131,089)	(\$ 122,279)	(\$ 115,828)
2. NPPBC for t-1	19,132	3,878	5,830	4,257
3. Contributions for t-1	20,888	12,688	12,281	11,828
4. Adjustments for t-1	<u>(1,756)</u>	<u>0</u>	<u>0</u>	<u>0</u>
5. (Accrued)/Prepaid Benefit Cost at 1/1/t = (1)-(2)+(3)+(4)	(\$ 131,089)	(\$ 122,279)	(\$ 115,828)	(\$ 108,257)

**SOUTHERN CALIFORNIA EDISON
POSTRETIREMENT HEALTH & LIFE BENEFITS
PROJECTED ACCOUNTING VALUATION RESULTS
FOR PLAN YEARS 2017 THROUGH 2020**

**Exhibit 3
Development of Projected Market Value of Assets as of Year End
(in \$ thousands)**

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
A. Assets at 1/1	\$2,109,742	\$2,142,882	\$2,173,923	\$2,203,326
B. Additions				
1. Contributions	\$ 12,688	\$ 12,281	\$ 11,828	\$ 11,282
2. Investment Income	<u>109,660</u>	<u>111,558</u>	<u>113,381</u>	<u>115,131</u>
3. Total Additions= (1) + (2)	\$ 122,348	\$ 123,839	\$ 125,209	\$ 126,413
C. Benefit Payments	\$ 89,208	\$ 92,798	\$ 95,806	\$ 98,910
D. Assets at 12/31 = (A) + (B3) - (C)	\$2,142,882	\$2,173,923	\$2,203,326	\$2,230,829

**SOUTHERN CALIFORNIA EDISON
POSTRETIREMENT HEALTH & LIFE BENEFITS
PROJECTED ACCOUNTING VALUATION RESULTS
FOR PLAN YEARS 2017 THROUGH 2020**

**Exhibit 4
Bases for Unrecognized Prior Service Cost
(in \$ thousands)**

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
1. Unrecognized Prior Service Cost at preceding 1/1	(\$ 9,494)	(\$ 13,795)	(\$ 11,330)	(\$ 10,099)
2. Plan Amendment	(6,840)	0	0	0
3. Prior Service Cost Amortization Amount	(2,539)	(2,465)	(1,231)	(1,231)
4. Unrecognized Prior Service Cost at 1/1 = (1) + (2) - (3)	(\$ 13,795)	(\$ 11,330)	(\$ 10,099)	(\$ 8,868)

**SOUTHERN CALIFORNIA EDISON
POSTRETIREMENT HEALTH & LIFE BENEFITS
PROJECTED ACCOUNTING VALUATION RESULTS
FOR PLAN YEARS 2017 THROUGH 2020**

**Exhibit 5
Projected Annual Postretirement Health and Life Claims
(in \$ thousands)**

<u>Year</u>	<u>Postretirement Health</u>		<u>Life Insurance</u>	<u>Total</u>
	<u>Represented Employees</u>	<u>Management Employees</u>		
2017	30,063	57,395	1,750	89,208
2018	31,249	59,791	1,758	92,798
2019	32,209	61,832	1,765	95,806
2020	33,066	64,072	1,772	98,910

Southern California Edison
2018 GRC
Impact of Accounting Change on Capitalization

\$ in Thousands

Summary of Capitalization Impacts		
	\$	Change
Original Forecast Before Accounting Change	70,700	—
Updated Forecast Before Accounting Change	37,416	(33,283)
Updated Forecast After Accounting Change	71,842	34,426
Net Change in Capitalization		1,143

Detail of Capitalization Impact	Original Forecast Before Split			Updated Forecast Before Split			Updated Forecast After Split		
	Service	Non-Service	Total	Service	Non-Service	Total	Service	Non-Service	Total
Executive Benefits	21,060	—	21,060	21,060	—	21,060	5,265	15,795	21,060
Capitalization %	45.5%	—		45.5%	—		45.5%	—	
Capitalization \$	9,582	—	9,582	9,582	—	9,582	2,396	—	2,396
PBOP	36,850	—	36,850	3,433	—	3,433	31,063	(27,630)	3,433
Capitalization %	45.5%	—		45.5%	—		45.5%	—	
Capitalization \$	16,767	—	16,767	1,562	—	1,562	14,134	—	14,134
Pensions	97,474	—	97,474	57,741	—	57,741	121,567	(63,826)	57,741
Capitalization %	45.5%	—		45.5%	—		45.5%	—	
Capitalization \$	44,351	—	44,351	26,272	—	26,272	55,313	—	55,313
Total Capitalization \$	70,700	—	70,700	37,416	—	37,416	71,842	—	71,842

Appendix F

Attachments for Chapter VII

Overview of the 2017 Transportation Funding Package

MAC TAYLOR • LEGISLATIVE ANALYST • JUNE 2017

Summary

In April 2017, the Legislature enacted Chapter 5 (SB 1, Beall), also known as the Road Repair and Accountability Act. The administration estimates this legislation will increase state revenues for California's transportation system by an average of \$5.2 billion annually over the next decade. In this report, we (1) provide a brief background on the state's transportation system, (2) describe the major features of the transportation funding package contained in the legislation, and (3) discuss issues for the Legislature to consider moving forward. (Though California's transportation system also is supported by federal and local funds, this report focuses only on state funding given the purview of SB 1.)

CALIFORNIA'S TRANSPORTATION SYSTEM

The state's transportation system helps to move people and goods around and through the state. State funding primarily supports three segments:

- **State Highways.** The state's highway system includes about 50,000 lane-miles of pavement, 13,000 bridges, and 205,000 culverts (pipes that allow naturally occurring water to flow beneath a roadway). The California Department of Transportation (Caltrans) is responsible for maintaining and rehabilitating the highway system.
- **Local Streets and Roads.** The state has over 300,000 paved lane-miles of local streets and roads, including nearly 12,000 bridges. California's 58 counties and 482 cities own

and maintain these streets and roads. They also operate and maintain other aspects of their local street and road systems, such as traffic signals and storm drains.

- **Transit Operations.** There are 200 transit agencies in California that primarily operate bus, light rail, and subway systems. These transit systems are generally owned and operated by local governments, such as local transit authorities.

As we discuss below, SB 1 increases state funding for these transportation segments from various state transportation taxes and fees, including gasoline excise taxes, diesel excise and sales taxes, and vehicle taxes and fees.

MAJOR FEATURES OF THE 2017 TRANSPORTATION FUNDING PACKAGE

This section consists of three parts. First, we describe the funding package's revenues. Second, we describe its spending provisions. Lastly, we discuss accountability and other measures contained in the legislation.

INCREASES STATE TRANSPORTATION REVENUES

Figure 1 shows the tax and fee rate increases established by SB 1. The legislation increases both gasoline and diesel taxes, while also creating new vehicle taxes and fees to fund transportation. Figure 2 shows the share of revenues from each tax and fee increase. (Because the tax and fee rate increases are phased in over the next several years, the associated revenue increases cited here and throughout the remainder of this report reflect the administration's estimated annual average increase over the next decade.) As shown, the gasoline excise tax increases and the new Transportation

Improvement Fee are the two largest revenue sources. Altogether, the administration projects ongoing revenues to increase by \$5.2 billion annually. Currently, state funding for transportation from these and other revenue sources (such as truck weight fees and cap and trade auction revenues) total about \$7.5 billion annually. Below, we provide more detail on each revenue increase.

State Fuel Taxes

Gasoline Taxes (\$2.5 Billion). The state currently has two excise taxes on each gallon of gasoline: a base tax and a variable "swap" tax. (We note that there is also a federal excise tax of 18.4 cents per gallon.)

- **Base Excise Tax (\$2.2 Billion).** This tax is set in state law at 18 cents per gallon. Starting November 1, 2017, the transportation funding package adds a

12 cent per gallon base excise tax—bringing total base excise taxes to 30 cents per gallon. It also adjusts the rates for inflation starting in 2020. These changes are expected to raise \$2.2 billion annually.

- **Swap Excise Tax (\$300 Million).** Currently, this tax is set annually by the Board of Equalization (BOE), which considers both gasoline price and quantity sold in an effort to mimic a sales tax on gasoline (which the swap tax replaced in 2010). The

Figure 1
Tax and Fee Rate Increases

	Current Rates	New Rates ^a	Effective Date
Fuel taxes^b			
Gasoline			
Base excise	18 cents	30 cents	November 1, 2017
Swap excise ^c	9.8 cents	17.3 cents	July 1, 2019
Diesel			
Excise ^c	16 cents	36 cents	November 1, 2017
Swap sales	1.75 percent	5.75 percent	November 1, 2017
Vehicle taxes and fees^d			
Transportation Improvement Fee	—	\$25 to \$175	January 1, 2018
ZEV registration fee	—	\$100	July 1, 2020

^a Adjusted for inflation starting July 1, 2020 for the gasoline and diesel excise taxes, January 1, 2020 for the Transportation Improvement Fee, and January 1, 2021 for the ZEV registration fee. The diesel sales taxes are not adjusted for inflation.

^b Excise taxes are per gallon.

^c Current rate set annually by the state Board of Equalization. The funding package converts the variable rate to a fixed rate.

^d Per vehicle per year.

ZEV = zero-emission vehicle.

current swap rate is 9.8 cents per gallon but will increase to 11.7 cents on July 1, 2017. Starting July 1, 2019, the funding package eliminates the swap tax and replaces it with a fixed excise tax of 17.3 cents per gallon—the rate in effect when the swap was created in 2010. It also adjusts the rate for inflation starting in 2020. These changes are expected to raise \$300 million annually. (This estimate reflects the administration's assumption that the swap tax increases to 16.9 cents just prior to the funding package fixing the rate at 17.3 cents.)

Diesel Taxes (\$1.1 Billion). The state currently collects revenue from excise and sales taxes on diesel fuel. (We note that there is also a federal excise tax of 24.4 cents per gallon.)

- **Excise Tax (\$700 Million).** Currently, this tax has a variable rate set annually by BOE. The board adjusts the rate to ensure the combined revenues from this tax and a diesel sales tax enacted in the 2010 tax swap (discussed below) are neutral compared to diesel excise tax revenues prior to the swap. The current rate is 16 cents per gallon. Starting November 1, 2017, SB 1 increases this tax by 20 cents per gallon to 36 cents per gallon and makes the rate fixed. It also adjusts the rate for inflation starting in 2020. These changes are expected to raise \$700 million annually. (This estimate reflects an assumption by the administration that the rate would have decreased to 14 cents starting July 1, 2018.)

- **Swap Sales Tax (\$350 Million).** The state also has a sales tax specific to diesel (enacted as part of the gasoline tax swap) set at 1.75 percent. The funding package increases this rate to 5.75 percent. This is expected to increase associated revenues by \$350 million annually. (In addition, state and local sales taxes on tangible goods that together average 8.5 percent statewide also apply to diesel, with revenue from a rate of 4.75 percent funding transportation. Senate Bill 1 makes no changes to this tax.)

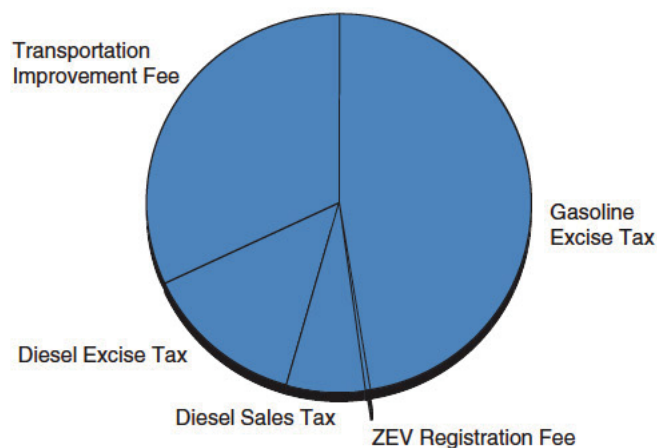
Vehicle Taxes and Fees

Transportation Improvement Fee (\$1.7 Billion). The funding package creates a new vehicle charge—called a Transportation Improvement Fee—specifically to fund transportation. Vehicle owners are to pay the fee annually at the same time they pay their vehicle registration fee. Figure 3 (see next page) shows the rate schedule for the new fee. The fee is expected to generate \$1.7 billion annually.

Figure 2

Transportation Revenue Increases

Total: \$5.2 Billion^a



^a Reflects average annual increase over the next ten years.
ZEV = zero-emission vehicle.

Figure 3**Transportation Improvement Fee Schedule**

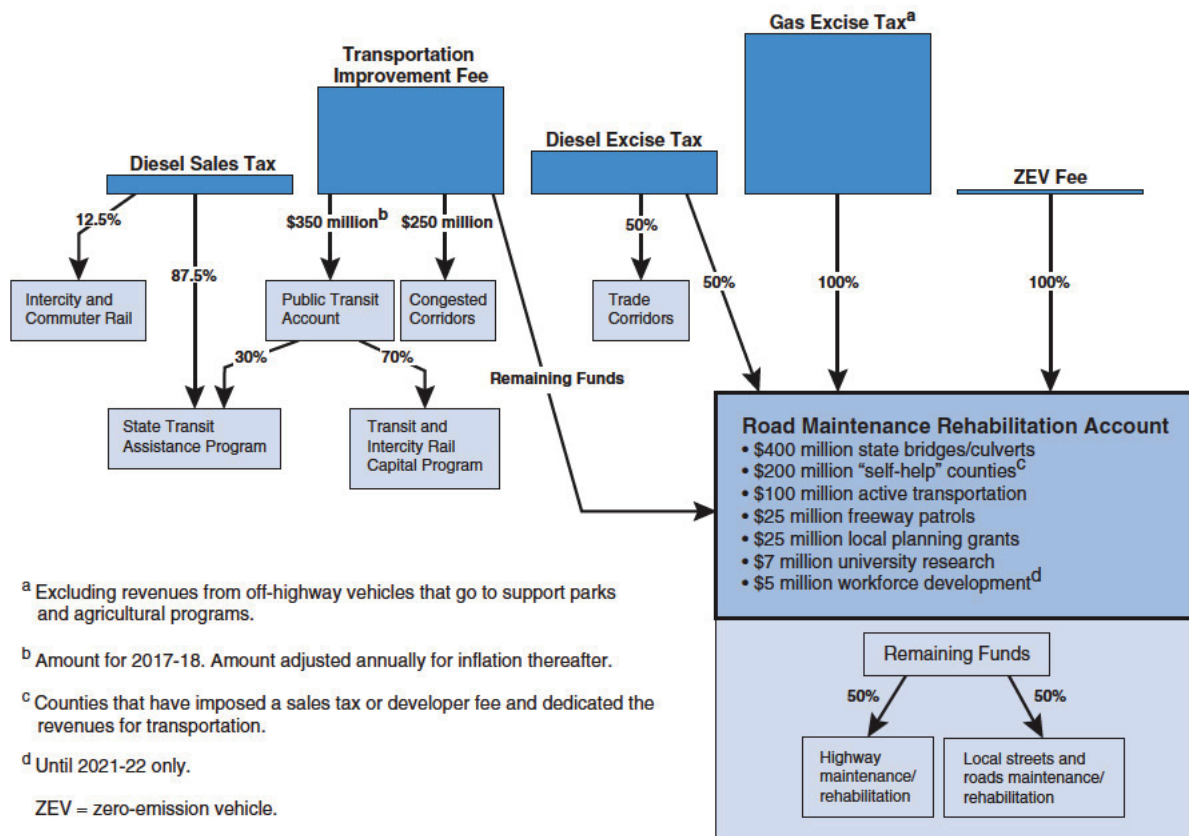
Value of Vehicle ^a	Annual Fee
\$0 to \$4,999	\$25
\$5,000 to \$24,999	50
\$25,000 to \$34,999	100
\$35,000 to \$59,999	150
\$60,000 and higher	175

^a Based on depreciated value of vehicle. Values not adjusted for inflation in the future.

Zero-Emission Vehicle Registration Fee (\$19 Million). Senate Bill 1 creates a new \$100 registration fee for zero-emission vehicles only. Called a Road Improvement Fee, it is expected to generate \$19 million annually. (The reason for this fee is because drivers of zero-emission vehicles do not pay fuel taxes like other drivers.)

INCREASES STATE TRANSPORTATION SPENDING

As shown in Figure 4, SB 1 creates a series of formulas to distribute the revenues from the new taxes and fees to different transportation programs and purposes. In most cases, the formulas split the revenues based on percentages, but in some cases the legislation sets aside fixed dollar amounts for certain programs. (Revenues from the inflation adjustments imposed by SB1 on existing taxes are distributed according to existing statutory formulas.) Figure 5 shows how much ends up being spent by each type of program. As shown, the largest spending increases are for state highways and local streets and roads. Below, we describe the specific transportation programs that receive the new revenues. (Additionally, as we discuss in the box on page 6, a proposed constitutional

Figure 4**Formulas for Distributing New Transportation Revenues**

amendment would add to existing restrictions on the use of transportation revenues.)

State Highway Programs

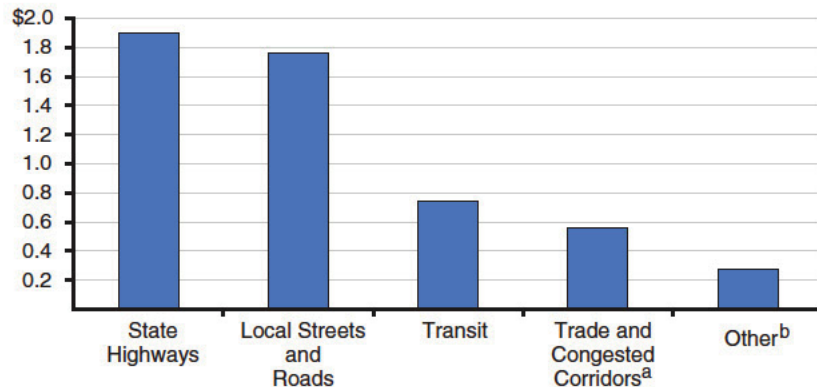
The funding package includes \$1.9 billion annually specifically for state highways. This includes funding for:

- Maintenance and Rehabilitation (\$1.8 Billion).***
 Caltrans' Highway Maintenance Program performs minor maintenance (such as roadside landscaping) and major maintenance (such as laying a thin overlay of pavement) on highways that are in good or fair condition, while its State Highway Operations and Protection Program (SHOPP) delivers capital projects to rehabilitate or reconstruct highways when they reach the end of their useful life. The administration estimates that the funding package will increase ongoing revenues for highway maintenance and rehabilitation by \$1.8 billion annually, including \$400 million specifically for bridges and culverts. The funding package does not designate revenues between the two programs, leaving it up to the annual budget act. (Additionally, the legislation makes a \$225 million loan repayment from the General Fund to the SHOPP.)
- Capacity Expansion (\$33 Million).***
 The State Transportation Improvement Program (STIP) is the state's program for improving transportation systems, generally by increasing their capacity.

Figure 5

Transportation Spending Increases

(In Billions)



^a Programs can involve a combination of state highway, local street and road, and transit projects.

^b Includes active transportation program (for pedestrian walkways and bicycle paths), local transportation planning grants, freeway service patrols, university transportation research, workforce development programs, agricultural and parks programs, and administration.

The administration estimates the funding package will increase revenues for state STIP projects by \$33 million annually. (As discussed further below, STIP also funds local road improvements.)

Local Streets and Roads Programs

The funding package includes about \$1.8 billion annually specifically for local streets and roads. This includes funding for:

- Maintenance and Rehabilitation (\$1.7 Billion).*** The funding package increases revenues for local road maintenance and rehabilitation by \$1.5 billion annually, and it distributes this funding to local jurisdictions according to existing statutory formulas based on factors such as population and number of registered vehicles. The package also sets aside an additional \$200 million annually for road maintenance and rehabilitation for counties that have enacted developer fees or voter-approved taxes dedicated specifically to transportation.

The California Transportation Commission (CTC) is to determine how to allocate the funds. (Additionally, the legislation makes a \$225 million loan repayment from the General Fund to the local streets and roads program.)

- **Capacity Expansion (\$100 Million).** The administration estimates the local share of the funding package’s revenues for STIP will total about \$100 million annually. (These funds primarily support streets and roads but in some cases could be used for transit projects as well.)

Transit Programs

The funding package includes about \$750 million annually for three transit programs:

- **State Transit Assistance Program (\$430 Million).** This program distributes funding to transit operators based on a formula. The funds can be used for either operational support or to fund capital projects based on local priorities. The administration estimates the funding package will increase state revenues for this program by about \$430 million annually.

Proposed Constitutional Amendment Related to Funding Package

Currently, the State Constitution places restrictions on the use and borrowing of certain state transportation revenues. A companion measure to the transportation funding package, Chapter 30 of 2017 (ACA 5, Frazier), proposes to amend the State Constitution to place similar restrictions on transportation revenues not covered by existing constitutional provisions. Additionally, the measure adds to existing exemptions on certain transportation spending from counting toward a constitutional spending limit. The measure will go before the voters in June 2018. Below, we summarize its provisions.

Spending Restrictions. ACA 5 requires that revenues from the Transportation Improvement Fee established in the transportation funding package only be spent on specified transportation purposes. These purposes are researching, planning, constructing, improving, maintaining, and operating public streets and highways and transit systems. ACA 5 also prohibits the state from using Transportation Improvement Fee revenues to pay for debt service on state transportation general obligation bonds authorized on or before November 8, 2016. Additionally, ACA 5 requires that revenues from the diesel sales swap tax be restricted to transportation planning and mass transportation purposes. (Currently, such revenues could be used for any general purpose.)

Borrowing Restrictions. ACA 5 restricts the Legislature from borrowing Transportation Improvement Fee and diesel sales swap tax revenues, except in limited circumstances when the General Fund is exhausted.

Spending Limit Exemptions. The State Constitution currently includes spending limits—technically, appropriations limits—on the state and most local governments, known as “Gann limits.” The Constitution exempts certain appropriations from these limits, including appropriations from a portion of gas excise tax revenues and appropriations for capital outlay (including transportation capital outlay). ACA 5 adds to these exemptions by excluding all appropriations from revenues raised by the transportation funding package.

- ***Transit and Intercity Rail Capital Program (\$270 Million)***. This is a competitive grant program that awards funding to transit and rail capital projects, including intercity, commuter, and urban rail projects, as well as projects for bus and ferry transit systems. The program requires projects to meet certain criteria, such as reducing greenhouse gas emissions. The administration estimates the funding package will increase state revenues for this program by about \$270 million annually. (Additionally, the legislation makes a \$256 million loan repayment from the General Fund to this program, with up to \$20 million of this repayment amount available for local and regional agencies to plan for climate changes.)
- ***Commuter Rail and Intercity Rail (\$44 Million)***. Senate Bill 1 creates a new stream of revenues for commuter and intercity rail operations and capital improvements. The legislation splits funding equally between commuter rail and intercity rail. The California Transportation Agency is to develop guidelines to allocate funding among eligible rail agencies. The administration expects the funding package to provide \$44 million annually for both commuter and intercity rail combined.

Trade and Congested Corridor Programs

The funding package includes a total of about \$560 million annually for two new programs to improve trade corridors and congested corridors. These programs, which can support state highways, local streets and roads, or transit, include:

- ***Trade Corridor Enhancements Program (\$310 Million)***. Under this program, Caltrans and local agencies can apply for funds for corridor-based freight

projects. (Proposition 1B of 2006 created a similar program.) The administration estimates this program will receive about \$310 million annually.

- ***Solutions for Congested Corridors Program (\$250 Million)***. This is another new program created by SB 1. Under the program, Caltrans and local agencies can apply to the CTC to fund projects that address transportation, environmental, and community access improvements within highly congested travel corridors. The legislation sets aside \$250 million annually for the program.

Other Programs

The funding package includes about \$270 million annually for various other programs, including:

- ***Active Transportation Program (\$100 Million)***. This program funds bicycling and pedestrian improvement projects. Funds in the program are allocated through competitive grants with half of the funds distributed to projects selected by the state, 40 percent distributed to projects selected by large urban regions, and 10 percent for projects selected by rural and small urban regions. The funding package increases funding for this program by \$100 million annually.
- ***Freeway Service Patrols (\$25 Million)***. Caltrans, the California Highway Patrol, and local agencies jointly operate freeway service patrols that remove disabled vehicles from state freeways in order to mitigate traffic congestion. Senate Bill 1 increases funding for this program by \$25 million annually.

- **Local and Regional Planning (\$25 Million).** The funding package provides \$25 million annually for a new program of local planning grants. These grants are to encourage local and regional planning that further state goals.
- **University Transportation Research (\$7 Million).** Four University of California campuses currently have transportation research centers. The funding package provides \$5 million altogether annually for these centers. Additionally, the legislation appropriates \$2 million annually to the California State University to conduct similar research activity.
- **Workforce Development (\$5 Million).** The funding package appropriates \$5 million annually from 2017-18 through 2021-22 to the California Workforce Development Board to assist local agencies in promoting pre-apprenticeship training programs. These training programs are to focus on delivering certain projects funded by SB 1.
- **Parks and Agricultural Programs (\$108 Million).** The funding package sets aside the increased base gasoline excise tax revenues from off-highway vehicles and boats for the California Department of Parks and Recreation for general purposes. The administration expects these revenues to total \$82 million annually. In addition, the legislation sets aside the increased base gasoline excise tax revenues from agricultural vehicles—estimated at \$26 million annually—for the California Department of Food and Agriculture.

INCLUDES ACCOUNTABILITY AND OTHER PROVISIONS

The transportation funding package includes several other provisions beyond raising and

spending new revenues. Most of these provisions concern oversight of the new funding as well as certain aspects of Caltrans' operations. Below, we summarize each provision.

Sets Preliminary Performance Outcomes for Caltrans. Senate Bill 1 states legislative intent for Caltrans to achieve five outcomes by the end of 2027. Caltrans is to report annually to the CTC on its progress in meeting the outcomes. The commission is to evaluate Caltrans's progress toward the outcomes and include any findings in its annual report to the Legislature. The five outcomes are:

- At least 98 percent of state highway pavement in good or fair condition.
- At least 90 percent level of service for maintenance of potholes, spalls, and cracks.
- At least 90 percent of culverts in good or fair condition.
- At least 90 percent of transportation management system units in good condition.
- At least an additional 500 bridges fixed.

Expects Caltrans to Operate More Efficiently. Senate Bill 1 requires Caltrans to implement unspecified efficiency measures with the goal of generating at least \$100 million annually in savings to redirect toward maintaining and rehabilitating state highways. Caltrans is to report on these savings to the CTC.

Creates New Independent Office of Audits and Investigations for Caltrans. This new office is responsible for ensuring Caltrans and its contractors (including local agencies) spend funding efficiently, economically, and in compliance with state and federal requirements. The office is to report its findings annually to the

Governor and the Legislature. The Governor is to appoint an Inspector General to oversee the office, subject to Senate confirmation, for a six-year term.

Modifies Approval Process for Caltrans' Biannual Proposal of Rehabilitation Projects.

Currently, the CTC reviews and approves Caltrans' proposed plan for rehabilitation projects every other year. The funding package alters the current approval process in a few ways, such as by requiring (1) CTC to allocate funds for capital outlay support for each project phase and (2) Caltrans to receive the commission's approval for changes to a programmed project or increases in capital or support costs (above a certain threshold).

Establishes Requirements for Local Governments to Receive Funding. To be eligible to receive SB 1 funding for streets and roads maintenance and rehabilitation, the legislation requires cities and counties to spend at least as much on transportation from their unrestricted funds as they spent from 2009-10 through

2011-12, on average. The State Controller's Office is authorized to perform audits to ensure compliance. Additionally, cities and counties must submit to the CTC a list of proposed projects approved by the city council or county board of supervisors.

Other Provisions. Other major provisions in the legislation (1) create an Advance Mitigation Program at Caltrans to protect natural resources and accelerate project delivery, (2) require Caltrans to create a plan to increase contracts awarded to certain groups (such as small businesses), (3) require Caltrans to incorporate the "complete streets" design concept into its highway design manual, (4) require the Department of Motor Vehicles to confirm certain trucks are in compliance with state air pollution standards as a condition of registration starting in 2020, and (5) prohibit state and local regulations requiring a truck to meet stricter air pollution standards for up to 18 years after it is first certified for use.

ISSUES FOR LEGISLATIVE CONSIDERATION

While SB 1 included specific funding allocations to individual programs, it left some implementation details up to future legislative and administration actions. On May 11, 2017, the Governor released his May Revision budget proposal for 2017-18, which addresses some implementation issues. We discuss these issues below. Additionally, we discuss at the end overarching issues for the Legislature to consider regarding oversight and accountability.

Allocating State Highway Funding. As previously indicated, one area where the legislation does not explicitly allocate funding is between state highway maintenance and rehabilitation programs. In his May Revision, the Governor allocates slightly more funding from the new revenues to highway

maintenance as compared to rehabilitation. As maintenance projects can help prevent more costly rehabilitation projects in the future, the Legislature could consider allocating more funding to maintenance to achieve long-term savings.

Establishing Program Guidelines. Most of the programs funded through SB 1 already are in existence. The legislation, however, creates a few new programs, such as one for commuter and intercity rail and another for trade corridors. CTC and the California State Transportation Agency are tasked with developing guidelines for the new programs. Nonetheless, the Legislature could consider specifying in statute certain program requirements. In his May Revision, for example, the Governor proposes trailer bill language for the

trade corridor program that establishes various program requirements, such as for 60 percent of funds to support projects nominated by local and regional agencies and 40 percent for projects nominated by Caltrans.

Increasing Efficiency at Caltrans. As described earlier, SB 1 includes several measures to increase efficiency at Caltrans, such as by creating a new Inspector General to find ways to improve the department's operations and by setting an expectation for Caltrans to achieve efficiency savings. As part of his May Revision, the Governor proposed an initial staffing plan for the Inspector General's office but certain key questions remain unanswered, such as how the Inspector General would select audits and investigations to perform. Additionally, the administration did not present a plan for Caltrans to operate more efficiently and achieve the expected \$100 million in savings (though its spending plan documents reflect the savings). One way our office in the past has recommended having Caltrans operate more efficiently is by reducing its capital outlay support staff relative to the volume of capital projects the department delivers. The Governor's May Revision takes a step in this direction by reducing capital outlay support staff, but it also leaves open the possibility for staffing augmentations in 2017-18 after the enactment of the budget.

Ensuring Oversight and Accountability.

Though SB 1 establishes various long-term performance outcome measures for highway conditions, the legislation does not include specific mechanisms for holding the administration accountable for achieving these outcomes nor does it set interim benchmarks against which to measure the administration's progress in the near term. To improve its oversight of the new funding, we encourage the Legislature to begin now considering how to hold the administration accountable in the near term. For instance, the Legislature could establish in state law interim outcome measures against which to measure the administration's progress in achieving the longer-term outcomes contained in SB 1. It also could consider consequences should the administration not achieve these interim outcome measures. For instance, the Legislature could consider reprioritizing funding across programs (such as from rehabilitation to maintenance) or enacting organizational or governance changes to state transportation agencies to improve their effectiveness (such as by further strengthening the authority of CTC to oversee Caltrans' rehabilitation projects by authorizing the commission to approve or reject individual projects, rather than an entire program of projects).

LAO Publications

This brief was prepared by Paul Golaszewski and reviewed by Anthony Simbol. The Legislative Analyst's Office (LAO) is a nonpartisan office that provides fiscal and policy information and advice to the Legislature.

To request publications call (916) 445-4656. This brief and others, as well as an e-mail subscription service, are available on the LAO's website at www.lao.ca.gov. The LAO is located at 925 L Street, Suite 1000, Sacramento, CA 95814.

Average Vehicle License Fee Increase

New Vehicle License Fee	Count of Vehicles Impacted	Total Vehicle License Fee Impact	Average Vehicle License Fee Impact Per Vehicle
\$ 25	827	\$ 20,675	
\$ 50	1921	\$ 96,050	
\$ 100	341	\$ 34,100	
\$ 150	549	\$ 82,350	
\$ 175	650	\$ 113,750	
	4288	\$ 346,925	\$ 80.91

* 4,288 vehicles is representative of all SCE-owned vehicles in which there is a vehicle license fee increase.

* SCE anticipates a fleet of 4,345 vehicles impacted by this increase in 2018 and applied an average \$81 increase to the planned vehicle count to estimate the new forecast. Please refer to Table VII-14 in the testimony.

Appendix G

Attachments for Chapter VIII

Joint Pole Organization Capital/O&M split

Dept.	Dept. Code	EE	Capital %	Expense %	Count	Marrket Rate	Total	Weighted Total	Weighted Spilt
Process Validation	20007270	Joint Pole Clerk	99	1	13	\$ 73,793	\$ 959,312.64	\$ 949,719.51	
		Admin Aide 3	100	0	2	\$ 54,900	\$ 109,800.00	\$ 109,800.00	
		Agent	90	10	1	\$ 63,000	\$ 63,000	\$ 56,700.0	
							\$ 1,132,113	\$ 1,116,219.51	98.6%
JPA Process Mgmt	20006955	Joint Pole Specialist	99	1	8	\$ 81,635	\$ 653,077.44	\$ 646,546.67	
		Admin Aide 3	95	5	2	\$ 54,900	\$ 109,800	\$ 104,310.00	
							\$ 762,877	\$ 750,856.67	98.4%
Process Evaluation	20020159	Agent	90	10	5	\$ 63,000	\$ 315,000	\$ 283,500.0	
		Admin Aide 3	90	10	1	\$ 54,900	\$ 54,900	\$ 49,410.0	
							\$ 369,900	\$ 332,910.0	90.0%
Process Support	20006267	Admin Aide	80	20	1	\$ 45,000	\$ 45,000	\$ 36,000.0	
		Admin Aide 3	90	10	8	\$ 54,900	\$ 439,200	\$ 395,280.0	
							\$ 484,200	\$ 431,280.0	89.1%
JPA/TPA Compliance	20006956	Agent	76	24	1	\$ 63,000	\$ 63,000	\$ 47,880.00	
		TSP 2	75	25	6	\$ 79,800	\$ 478,800	\$ 359,100.00	
Removed from Calculation ->		ISU 1	0	100	2	\$ 73,800	\$ 147,600	\$ -	
Removed from Calculation ->		ISU 2	0	100	1	\$ 94,200	\$ 94,200	\$ -	
		Admin Aide 3	88	12	1	\$ 54,900	\$ 54,900	\$ 48,312.00	
							\$ 596,700	\$ 455,292.00	76.3%
Buddy Poles	20021888	APP 2	65	35	1	\$ 74,400	\$ 74,400	\$ 48,360.00	
							\$ 74,400	\$ 48,360.00	65.0%
Third Part Access Mgmt	20007268	Agent	23	77	4	\$ 63,000	\$ 252,000	\$ 57,960.00	
		Admin Aide 3	40	60	2	\$ 54,900	\$ 109,800	\$ 43,920.00	
							\$ 361,800	\$ 101,880.00	28.2%
Third Part Access Mgmt	20007269	Agent	23	77	4	\$ 63,000	\$ 252,000	\$ 57,960.00	
		Admin Aide 3	35	65	2	\$ 54,900	\$ 109,800	\$ 38,430.00	
							\$ 361,800	\$ 96,390.00	26.6%
							\$ 4,143,790	\$ 3,333,188	80.4%
Dept.	Dept. Code	EE	Capital %	Expense %	Count	Marrket Rate	Total	Weighted Total	Weighted Spilt
3rd Party Attachments	20007456	Planner 1	5	95	9	\$ 78,000	\$ 702,000	\$ 35,100.00	
		Designer 2	10	90	2	\$ 83,100	\$ 166,200	\$ 16,620.0	
		Designer 1	15	85	1	\$ 64,800	\$ 64,800	\$ 9,720.00	
		Admin Aide 3	10	90	1	\$ 54,900	\$ 54,900	\$ 5,490.0	
							\$ 987,900	\$ 66,930.00	6.8%
							\$ 987,900	\$ 66,930	7%
Overall Total							Overall Total	Overall Weighted Total	Overall Split
							\$ 5,131,690	\$ 3,400,118.18	66.3%

Original Workpaper for JPO Request, Annotated to Show Revisions for Capital C

		2018	Split	Capital	O&M
Labor					
	Manager 2 @\$152,069	152,069	80/20	121,655	30,414
	Manager 1 @ \$138,528	138,528	80/20	110,822	27,706
	(3 in 2016, 4 in 2017-2020)		80/20,except 1 is		
	Supervisor 3 @130,624	522,496	100% O&M	313,498	208,998
	1 in 2016, 2 in 2017-2020)				
	Supervisor 2 @ \$127,629	255,258	80/20	204,206	51,052
	(4) Supervisor 1 @ \$88,067	352,268	80/20	281,814	70,454
	Contract Manager 2 @ \$100,090	100,090	80/20	80,072	20,018
	(15) Agent 1 @ \$68,099	1,021,485	80/20	817,188	204,297
	(6) Tech Spec 2 @ \$79,851	479,106	80/20	383,285	95,821
	Surveillance Inspector 2 @ \$94,474	94,474	100% O&M	0	94,474
	(2) Surveillance Inspector 1 @ \$73,008	146,016	100% O&M	0	146,016
	(17 in 2016, 21 in 2017-2020) Aide 3		80/20,except 1 is		
	@ \$51,750	1,086,750	100% O&M	828,000	258,750
	Business Analyst 2 @ \$75,379	75,379	80/20	60,303	15,076
	(8) Joint Pole Specialist @ \$79,456	635,648	80/20	508,518	127,130
	(7, 6 SW's for six months only in				
	2016) Joint Pole Clerk @ \$71,822	502,754	80/20	402,203	100,551
	(7) Planner 1 @ \$73,216	512,512	100% O&M	0	512,512
	(2) Designer 2 @ \$82,098	164,196	100% O&M	0	164,196
	Designer 1 @ \$63,918	63,918	100% O&M	0	63,918
	Staff Overtime and Expenses	624,000	ratio	407,050	216,950
Total Labor		<u>6,926,947</u>		<u>4,518,616</u>	<u>2,408,331</u>
Non-Labor					
	TPA Request for Attachment				
	Inspections	Units			
	Total Inspections	Units			
		Avg. Cost Per			
		\$			
		<u>958,707</u>	100% O&M	<u>-</u>	<u>958,707</u>
	Pre-Billing Vendor				
	Recalc JPA's				
Sub-Total Non-Labor		<u>958,707</u>	n/a	<u>958,707</u>	
	Division Overhead	8.40%	ratio	379,563.74	282,831.18
Total Non-Labor		<u>1,621,102</u>	n/a	<u>1,241,538</u>	
	Grand Total	<u>8,548,049</u>		<u>4,898,180</u>	<u>3,649,869</u>
	2018-2020 average	8,548,049			

Appendix H

Attachments for Chapter XI

EXHIBIT SCE-59

CHAPTER XI

OLD-AGE, SURVIVORS, AND DISABILITY INSURANCE

(OASDI)

2017 OASDI Trustees Report

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C. PROGRAM-SPECIFIC ASSUMPTIONS AND METHODS

The Office of the Chief Actuary at the Social Security Administration uses a set of models to project future income and cost under the OASDI program. These models rely not only on the demographic and economic assumptions described in the previous sections, but also on a number of program-specific assumptions and methods. Values of many program parameters change from year to year as prescribed by formulas set out in the [Social Security Act](#). These program parameters affect the level of [payroll taxes](#) collected and the level of benefits paid. The office uses more complex models to project the numbers of future workers covered under OASDI and the levels of their [covered earnings](#), as well as the numbers of future beneficiaries and the expected levels of their benefits. The following subsections provide descriptions of these program-specific assumptions and methods.

1. Automatically Adjusted Program Parameters

The [Social Security Act](#) requires that certain parameters affecting the determination of OASDI benefits and taxes be adjusted annually to reflect changes in particular economic measures. Formulas prescribed in the law, applied to reported statistics, change these program parameters annually. The law bases these automatic adjustments on measured changes in the national [average wage index \(AWI\)](#) and the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI).¹ This section shows values for program parameters adjusted using these indices from the time that these adjustments became effective through 2026. Projected values for future years depend on the economic assumptions described in the preceding section of this report.

Tables [V.C1](#) and [V.C2](#) present the historical and projected values of the CPI-based benefit increases, the AWI series, and the values of many of the wage-indexed program parameters. Each table shows projections under the three alternative sets of economic assumptions. Table [V.C1](#) includes:

- *The annual cost-of-living benefit increase percentages.* The [automatic cost-of-living adjustment](#) provisions in the [Social Security Act](#) specify increases in OASDI benefits based on increases in the CPI. Volatility in oil prices has resulted in substantial volatility in recent cost-of-living adjustments. A large cost-of-living adjustment in December 2008 was followed by no cost-of-living adjustments in December 2009 and December 2010. More recent volatility in oil prices again affected the CPI, resulting in no cost-of-living adjustment for December 2015. There was a [cost-of-living adjustment](#) for December 2016, and all three sets of assumptions have automatic cost-of-living adjustments for all future years.
- *The annual levels of and percentage increases in the AWI.* Under section 215(b)(3) of the Social Security Act, Social Security benefit computations index taxable earnings (for most workers first becoming eligible for benefits in 1979 or later) using the AWI for each year after 1950. This procedure converts a worker's past earnings to approximately average-wage-indexed equivalent values near the time of his or her benefit eligibility. Other program parameters presented in this section that are subject to the automatic-adjustment provisions also rely on the AWI.
- *The wage-indexed [contribution and benefit base](#).* For any year, the contribution and benefit base is the maximum amount of earnings subject to the OASDI payroll tax and creditable toward benefit computation. The Social Security Act defers any increase in the contribution and benefit base if there is no cost-of-living adjustment effective for December of the preceding year. There was no increase in the contribution and benefit base for 2010, 2011, or 2016 because there was no cost-of-living adjustment for the immediate prior December in each case. Under all three sets of assumptions, the contribution and benefit base is projected to increase for all future years.

- *The wage-indexed retirement earnings test exempt amounts.* The exempt amounts are the annual amount of earnings below which beneficiaries do not have benefits withheld. A lower exempt amount applies for years prior to the year of attaining [normal retirement age](#). A higher exempt amount applies beginning with the year in which a beneficiary attains normal retirement age. Starting in 2000, the retirement earnings test no longer applies beginning with the month of attaining normal retirement age. The Social Security Act defers any increase in these exempt amounts if there is no cost-of-living adjustment effective for December of the preceding year. There was no increase in these exempt amounts for 2010, 2011, or 2016 because there was no cost-of-living adjustment for the immediate prior December. Under all three sets of assumptions, the exempt amounts increase for all future years.

Table V.C1.—Cost-of-Living Benefit Increases, Average Wage Index, Contribution and Benefit Bases, and Retirement Earnings Test Exempt Amounts, 1975-2026

Calendar year	Cost-of-living benefit increase ^a	Average wage index (AWI) ^b		Contribution and benefit base ^c	Retirement earnings test exempt amount	
	(percent)	Amount	Increase(percent)		Under NRA ^d	At NRA ^e
Historical data:						
1975	8.0	\$8,630.92	7.5	\$14,100	\$2,520	\$2,520
1976	6.4	9,226.48	6.9	15,300	2,760	2,760
1977	5.9	9,779.44	6.0	16,500	3,000	3,000
1978	6.5	10,556.03	7.9	17,700	3,240	4,000
1979	9.9	11,479.46	8.7	22,900	3,480	4,500
1980	14.3	12,513.46	9.0	25,900	3,720	5,000
1981	11.2	13,773.10	10.1	29,700	4,080	5,500
1982	7.4	14,531.34	5.5	32,400	4,440	6,000
1983	3.5	15,239.24	4.9	35,700	4,920	6,600
1984	3.5	16,135.07	5.9	37,800	5,160	6,960
1985	3.1	16,822.51	4.3	39,600	5,400	7,320
1986	1.3	17,321.82	3.0	42,000	5,760	7,800
1987	4.2	18,426.51	6.4	43,800	6,000	8,160
1988	4.0	19,334.04	4.9	45,000	6,120	8,400
1989	4.7	20,099.55	4.0	48,000	6,480	8,880
1990	5.4	21,027.98	4.6	51,300	6,840	9,360
1991	3.7	21,811.60	3.7	53,400	7,080	9,720
1992	3.0	22,935.42	5.2	55,500	7,440	10,200
1993	2.6	23,132.67	.9	57,600	7,680	10,560
1994	2.8	23,753.53	2.7	60,600	8,040	11,160
1995	2.6	24,705.66	4.0	61,200	8,160	11,280
1996	2.9	25,913.90	4.9	62,700	8,280	12,500
1997	2.1	27,426.00	5.8	65,400	8,640	13,500
1998	1.3	28,861.44	5.2	68,400	9,120	14,500
1999	^f 2.5	30,469.84	5.6	72,600	9,600	15,500

2000	3.5	32,154.82	5.5	76,200	10,080	17,000
2001	2.6	32,921.92	2.4	80,400	10,680	25,000
2002	1.4	33,252.09	1.0	84,900	11,280	30,000
2003	2.1	34,064.95	2.4	87,000	11,520	30,720
2004	2.7	35,648.55	4.6	87,900	11,640	31,080
2005	4.1	36,952.94	3.7	90,000	12,000	31,800
2006	3.3	38,651.41	4.6	94,200	12,480	33,240
2007	2.3	40,405.48	4.5	97,500	12,960	34,440
2008	5.8	41,334.97	2.3	102,000	13,560	36,120
2009	.0	40,711.61	-1.5	106,800	14,160	37,680
2010	.0	41,673.83	2.4	106,800	14,160	37,680
2011	3.6	42,979.61	3.1	106,800	14,160	37,680
2012	1.7	44,321.67	3.1	110,100	14,640	38,880
2013	1.5	44,888.16	1.3	113,700	15,120	40,080
2014	1.7	46,481.52	3.5	117,000	15,480	41,400
2015	.0	48,098.63	3.5	118,500	15,720	41,880
Intermediate:						
2016	<u>g</u> 3	49,364.95	2.6	<u>g</u> 118,500	<u>g</u> 15,720	<u>g</u> 41,880
2017	2.2	51,314.31	3.9	<u>g</u> 127,200	<u>g</u> 16,920	<u>g</u> 44,880
2018	3.1	53,798.38	4.8	130,500	17,280	46,080
2019	2.6	56,223.60	4.5	135,600	18,000	47,880
2020	2.6	58,735.48	4.5	142,200	18,840	50,160
2021	2.6	61,211.89	4.2	148,500	19,680	52,440
2022	2.6	63,609.73	3.9	155,100	20,640	54,840
2023	2.6	65,987.64	3.7	161,700	21,480	57,120
2024	2.6	68,493.99	3.8	168,000	22,320	59,400
2025	2.6	71,119.99	3.8	174,300	23,160	61,560
2026	2.6	73,835.30	3.8	180,900	24,000	63,960
Low-cost:						
2016	<u>g</u> 0.3	\$49,397.54	2.7	<u>g</u> \$118,500	<u>g</u> \$15,720	<u>g</u> \$41,880
2017	2.9	51,754.23	4.8	<u>g</u> 127,200	<u>g</u> 16,920	<u>g</u> 44,880
2018	4.0	55,183.94	6.6	130,500	17,280	46,080
2019	3.3	58,676.00	6.3	136,800	18,120	48,240
2020	3.2	62,137.45	5.9	145,800	19,320	51,480
2021	3.2	65,352.13	5.2	155,100	20,520	54,720
2022	3.2	68,560.54	4.9	164,100	21,840	57,960
2023	3.2	71,925.67	4.9	172,800	22,920	60,960
2024	3.2	75,501.62	5.0	181,200	24,000	63,960
2025	3.2	79,285.59	5.0	189,900	25,200	67,080
2026	3.2	83,321.83	5.1	199,500	26,520	70,440
High-cost:						
2016	<u>g</u> 3	49,343.60	2.6	<u>g</u> 118,500	<u>g</u> 15,720	<u>g</u> 41,880
2017	1.5	50,695.11	2.7	<u>g</u> 127,200	<u>g</u> 16,920	<u>g</u> 44,880

2018	2.8	51,598.51	1.8	130,500	17,280	46,080
2019	2.1	53,039.20	2.8	133,800	17,760	47,280
2020	2.0	54,856.54	3.4	136,200	18,120	48,120
2021	2.0	56,567.87	3.1	140,100	18,600	49,440
2022	2.0	58,266.76	3.0	144,900	19,200	51,240
2023	2.0	59,941.26	2.9	149,400	19,800	52,800
2024	2.0	61,647.11	2.8	153,900	20,400	54,360
2025	2.0	63,324.94	2.7	158,400	21,000	55,920
2026	2.0	64,976.83	2.6	162,900	21,600	57,480

^a Effective with benefits payable for June in each year 1975-82, and for December in each year after 1982.

^b See table [VI.G6](#) for projected dollar amounts of the AWI for years beyond the last year of this table.

^c Public Law 95-216 specified amounts for 1978-81. Public Law 101-239 changed the indexing procedure and caused slightly higher bases after 1989.

^d Normal retirement age. See table [V.C3](#) for specific values.

^e In 1955-82, the retirement earnings test did not apply at ages 72 and over. In 1983-99, the test did not apply at ages 70 and over. Beginning in 2000, the test does not apply beginning with the month of normal retirement age attainment. In the year of normal retirement age attainment, the higher exempt amount applies to earnings prior to the month of normal retirement age attainment. Public Law 95-216 specified amounts for 1978-82. Public Law 104-121 specified amounts for 1996-2002.

^f Originally determined as 2.4 percent. Pursuant to Public Law 106-554, effectively 2.5 percent.

^g Actual amount, as determined under automatic-adjustment provisions.

Table [V.C2](#) shows values for other wage-indexed parameters. The table provides historical values from 1978, when indexing of the amount of earnings required for a quarter of coverage first began, through 2017, and also shows projected values through 2026. These other wage-indexed program parameters are:

- The *bend points* in the formula for computing the *primary insurance amount (PIA)* for workers who reach age 62, become disabled, or die in a given year. As figure V.C1 illustrates, these two bend points define three ranges in a worker's *average indexed monthly earnings* (AIME). The formula for the worker's PIA multiplies a 90, 32, or 15 percent factor by the portion of the worker's AIME that falls within the three respective ranges, and then adds the resulting products together.

Figure V.C1.—Primary-Insurance-Amount Formula for Those Newly Eligible in 2017

SCE 2018 GRC Update			
OASDI Limitations			
	GRC Application	2017 OASDI Report	Differences
2017	126,300	127,200	900
2018	133,200	130,500	(2,700)
2019	139,800	135,600	(4,200)
2020	146,700	142,200	(4,500)

Appendix I

Attachments for Chapter XII

EXHIBIT SCE-59

CHAPTER XII

ADDED FACILITIES RATES

Added Facilities Rates Components

SCE Financed				Customer Financed		
	Replacement at Additional Cost	Replacement for 20 Yrs No Additional Cost	Replacement (Perpetuity) No Additional Cost	Replacement at Additional Cost	Replacement for 20 Yrs No Additional Cost	Replacement (Perpetuity) No Additional Cost
Line Rate	(%)	(%)	(%)	(%)	(%)	(%)
No. Components	(1)	(2)	(3)	(4)	(5)	(6)
1. Overhead: A&G,						
2. Ad Val., & Ins.	2.50	2.55 ^{1/}	2.80 ^{3/}	2.50	2.55 ^{1/}	2.78 ^{3/}
3.						
4. Return, Depreciation,						
5. and Income Taxes	9.92	9.92	9.92	—	—	—
6.						
7. Replacement:	—	0.21 ^{2/}	1.16	—	0.20 ^{2/}	1.16
8.						
9. Total	12.42	12.69	13.89	2.50	2.75	3.95
10. Average O&M	1.61	1.65	1.81 ^{4/}	1.61	1.65	1.79 ^{4/}
11.						
12. Annual	14.04	14.33	15.69	4.12	4.40	5.74
13. Monthly	1.17	1.19	1.31	0.34	0.37	0.48
14.						
15. One-Time-						
16. Payment Factor	N/A	144.94	203.71	N/A	44.49	74.54

Assumptions

Rate of Return	7.61%	Uncollectibles & Franchise	1.11%
Escalation for Transmission	2.43%		
Escalation for Distribution	2.97%		
ISCF for Replacement =	1.1123	Weighted Average Economic Life (years):	
ISCF for Replacement =	1.1194	Company Financed n =	45.38
		Customer Financed n =	46.50

Footnotes

- 1/ = 2.50% + 0.2 * 2.50% * ((1 + 2.43%)/(1 + 7.61%))^{45.38}
2/ = 2.50% * ISCF
3/ = 9.92% + 0.2 * 9.92% * ((1 + 2.43%)/(1 + 7.61%))^{45.38}
4/ = 1.61% * ISCF

Carrying Charge Rates
General Assumptions
Based on the 2012 Forecast Rate of Return of 7.90%

Return on Rate Base: _1/

	<u>Capital Ratio</u>	<u>Cost Factor</u>	<u>Weighted Cost</u>
Debt	43.00%	4.98%	2.14%
Preferred Stock	9.00%	5.82%	0.52%
Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

Discount Rate:

Discount Rate = 7.61%

Ad Valorem Tax: _2/

Ad Valorem = 1.28% of Assessed Value
(Assessed Value = 0.8012 x HCLD)
HCLD: Historical Cost Less Depreciation

Annual A&G and Insurance Expenses as a % of Original Rate Base: _3/

A&G = 1.44%
Insurance = 0.39%

Income Taxes:

Federal Income Tax Rate = 35.00%
State Income Tax Rate = 8.84%

Notes:

- _1/ SCE's current authorized rate of return
- _2/ Ad valorem tax rate based on Controllers Department study, D. Lee
- _3/ A&G rate based on Controllers Department study, R. Montes
Insurance rate based on Treasurers Department study, G. Ung

FERC Account Assumptions for Carrying Charge Rates

<u>FERC Uniform Account #</u>	<u>Description</u>	<u>Book Life (Yrs)</u>	<u>Salvage Value (%)</u>	<u>Federal Deprec Type</u>	<u>Life (Yrs)</u>	<u>State Deprec Type</u>	<u>Life (Yrs)</u>
<u>Transmission Plant</u>							
350	Land and Land Rights	N/A	N/A	N/A	N/A	N/A	N/A
352	Structures and Improvements	55	-35%	SL	39	DB	45
353	Station Equipment	45	-15%	DB	15	DDB	30
354	Towers and Fixtures	65	-60%	DB	15	DDB	30
355	Poles and Fixtures	50	-72%	DB	15	DDB	30
356	Overhead Conductors and Devices	61	-80%	DB	15	DDB	30
357	Underground Conduit	55	0%	DB	15	DDB	30
358	Underground Conductors and Devices	40	-15%	DB	15	DDB	30
359	Roads and Trails	60	0%	DB	20	DDB	30
<u>Distribution Plant</u>							
360	Land and Land Rights	N/A	N/A	N/A	N/A	N/A	N/A
361	Structures and Improvements	42	-25%	SL	39	DB	45
362	Station Equipment	45	-25%	DB	20	DDB	30
364	Poles, Towers and Fixtures	47	-210%	DB	20	DDB	30
365	Overhead Conductors and Devices	45	-115%	DB	20	DDB	30
366	Underground Conduit	59	-30%	DB	20	DDB	30
367	Underground Conductors and Devices	45	-60%	DB	20	DDB	30
368	Line Transformers	33	-20%	DB	20	DDB	30
369	Services	45	-100%	DB	20	DDB	30
370	Meters	20	-5%	DB	20	DDB	30
373	Street Lighting and Signal Systems	40	-30%	DDB	7	DDB	9

Notes:

Lives and Salvage Values are based on Property Accounting's Annual Accrual Rate Determination for Test Year 2015

DB: 150% declining balance

DDB: 200% declining balance

ADDED FACILITIES RATE

Rebase after One life
Company Financed

Account	Annual O&M Charge % (1)	Capital- Carrying Charge % (2) _2/	Levelized A&G Ad Val. & Ins. Charge % (3)	Added Facilits Plant \$ (4) _3/	Added Facilits Plant % (5)	Weighed Cap. Carrying Charge % (6)	Added Facilits Charge % (7)=(1)+(2)+(3)
TRANSMISSION							
350		11.71		1,655	1.38	0.16	
352		10.52		1,332	1.11	0.12	
353		9.43		66,779	55.78	5.26	
354		9.19		4,020	3.36	0.31	
355		9.62		16,431	13.73	1.32	
356		9.34		14,253	11.91	1.11	
357		9.09		3,741	3.13	0.28	
358		9.65		11,467	9.58	0.92	
359		9.31		38	0.03	0.00	
			<u>1/</u>				
Total	1.24	9.59	2.50	119,717	100.00	9.49	13.3
DISTRIBUTION							
360		11.71		309	0.17	0.02	
361		10.93		3,205	1.71	0.19	
362		9.80		113,023	60.40	5.92	
364		10.99		3,317	1.77	0.19	
365		10.47		3,232	1.73	0.18	
366		9.45		1,491	0.80	0.08	
367		10.06		33,785	18.06	1.82	
368		10.53		21,866	11.69	1.23	
369		10.36		3,540	1.89	0.20	
370		12.45		1,828	0.98	0.12	
373		8.83		1,526	0.82	0.07	
			<u>1/</u>				
Total	1.93	10.12	2.50	187,121	100.00	10.01	14.6
ANNUAL	1.61	9.92	2.50				14.04
MONTHLY							1.17

_1/ Includes Uncoll. & Franchise %

1.11%

_2/ See workpaper: LACC Components for Capital

_3/ See workpaper: Added Facilities Capital Investment By Account

ADDED FACILITIES RATE
(Payment to Perpetuity)
Customer Financed

Annual O&M Charge % (1)	Annual Capital-rel. Charge % (2) <u>_1/</u>	Levelized A&G, Ad Val. & Ins. Charge % (3)	Added Facilit. Plant \$ (4) <u>_2/</u>	Added Facilits Plant % (5)	Weighed Cap. Carrying Charge % (6)	Annual Add.Fclts Charge % (7)=(1)+(2)+(3)
	0.51		3,688	2.00	0.01	
	0.73		1,606	0.87	0.01	
	1.11		99,567	53.93	0.60	
	0.38		10,991	5.95	0.02	
	0.87		23,874	12.93	0.11	
	0.48		25,743	13.94	0.07	
	0.63		4,154	2.25	0.01	
	1.48		14,881	8.06	0.12	
	0.50		104	0.06	0.00	
<u>_3/</u>						
1.38	0.96	2.78	184,608	100.00	0.95	5.1
	0.51		225	0.13	0.00	
	1.50		2,620	1.46	0.02	
	1.15		106,975	59.69	0.69	
	1.16		5,452	3.04	0.04	
	1.23		8,925	4.98	0.06	
	0.54		2,436	1.36	0.01	
	1.18		30,531	17.04	0.20	
	2.34		15,679	8.75	0.21	
	1.22		1,879	1.05	0.01	
	5.70		3,901	2.18	0.12	
	1.35		588	0.33	0.00	
<u>_3/</u>						
2.14	1.38	2.78	179,211	100.00	1.36	6.3
1.79	1.16	2.78				5.74
						0.48

_1/ = [PW(RR)-PW(AG, Ins, Ad Val)]*ISCF*Rate of Return
Includes Uncoll. & Franchise % 1.11%
Annual Carrying Charges * ISCF

_2/ See workpaper: Added Facilities Capital Investment By Account

_3/ Translated to an infinite series
ISCF=Infinite Series Correction Factor
ISCF = 1.1123

LACC COMPONENTS FOR CAPITAL _1/

Accounts	Economic Life	Ovhd. A&G+AdVal + Ins.	A&G+AdVal + Ins. pw	LACC w/ A&G	LACC w/o A&G	PW of 1st. Life Rev. Req.	w/o A&G, Ad. Val &Ins. PW of 1st. Life	Perpetuity LACC _2/	W/O 1st. LACC
350	60	2.47%	32.0	14.2	11.7	154.1	122.1	9.80	0.51
352	55	2.55%	33.0	13.1	10.5	168.8	135.9	11.07	0.73
353	45	2.56%	32.4	12.0	9.4	151.7	119.3	10.19	1.11
354	65	2.55%	33.2	11.7	9.2	153.0	119.8	9.50	0.38
355	50	2.46%	31.5	12.1	9.6	154.7	123.2	10.24	0.87
356	61	2.50%	32.5	11.8	9.3	153.8	121.3	9.71	0.48
357	55	2.63%	33.9	11.7	9.1	151.3	117.3	9.56	0.63
358	40	2.54%	31.6	12.2	9.6	151.6	120.1	10.61	1.48
359	60	2.64%	34.3	12.0	9.3	155.2	120.8	9.70	0.50
360	60	2.47%	32.0	14.2	11.7	154.1	122.1	9.80	0.51
361	42	2.52%	31.6	13.5	10.9	168.7	137.1	11.93	1.50
362	45	2.53%	32.1	12.3	9.8	156.1	124.0	10.59	1.15
364	47	2.27%	28.9	13.3	11.0	168.7	139.8	11.80	1.16
365	45	2.37%	30.0	12.8	10.5	162.5	132.5	11.31	1.23
366	59	2.58%	33.5	12.0	9.5	156.0	122.6	9.87	0.54
367	45	2.46%	31.1	12.5	10.1	158.5	127.3	10.87	1.18
368	33	2.49%	29.8	13.0	10.5	155.8	126.0	11.93	2.34
369	45	2.39%	30.3	12.7	10.4	161.4	131.1	11.19	1.22
370	20	2.47%	25.0	14.9	12.5	150.9	125.9	15.28	5.70
373	40	2.50%	31.1	11.3	8.8	140.9	109.8	9.71	1.35

Average 2.50%

_1/ LACC = Levelized Annual Carrying Charge

_2/ $PV_0 = \text{Discount Rate} \times \text{ISCF}$, Where PV_0 = Present Worth

Discount Rate = 7.61%

ISCF = Infinite Series Correction Factor

$= 1 / (1 - ((1+2.50\%)/(1+7.61\%))^n)$

n = economic life; Escalation = 2.97%

RECORDED O&M EXPENSES (FERC FORM1)

Ten Year
Average

FERC Account	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
560	10,920	13,850	14,664	18,445	14,120	13,029	12,023	14,680	12,474	8,912	
562	17,815	19,092	19,420	22,944	21,289	20,615	22,038	31,225	24,289	22,898	
563	4,883	6,594	5,675	3,366	4,023	4,781	4,850	6,491	5,048	6,226	
564	806	1,231	1,064	894	963	1,103	1,294	1,201	1,008	1,186	
568	2,336	2,269	2,239	3,155	2,742	2,161	2,390	2,820	2,332	2,232	
569	297	540	890	691	547	263	145	224	297	225	
570	9,742	7,456	10,108	10,091	15,276	10,723	10,459	6,209	9,552	9,034	
571	20,690	22,155	21,640	35,474	39,491	31,095	29,467	34,985	39,246	30,313	
572	3,778	441	951	474	-141	733	360	646	251	998	
0	0	0	0	0	0	0	0	0	0	0	
Sub-total	71,267	73,628	76,650	95,535	98,310	84,502	83,025	98,481	94,496	82,025	85,792
580	20,345	6,632	9,705	34,244	38,414	39,218	30,566	32,117	28,410	24,967	
582	20,138	21,196	21,256	25,235	29,807	29,758	29,987	32,747	32,779	35,242	
583	24,880	23,389	22,186	29,353	23,656	26,959	30,615	46,392	57,706	61,477	
584	4,451	4,157	2,738	2,412	3,611	5,800	7,096	6,880	5,826	5,725	
585	1,870	726	731	93	480	617	556	546	32	10	
586	27,763	29,367	26,003	26,797	31,154	33,195	28,543	27,470	25,910	24,822	
590	2,378	1,720	786	1,499	2,734	2,204	2,267	2,564	2,071	2,004	
591	994	702	385	72	186	251	111	86	93	215	
592	9,656	9,842	7,668	8,323	7,818	4,583	6,237	9,998	5,247	11,259	
593	104,767	95,284	81,712	84,521	104,489	112,027	103,989	110,509	127,978	146,051	
594	16,171	15,988	27,701	47,196	48,745	51,101	60,972	64,935	72,067	55,911	
595	2,221	2,462	3,785	4,402	4,819	6,855	8,037	6,134	5,364	6,520	
596	6,587	6,963	6,784	7,732	6,288	5,794	6,369	6,584	6,722	5,942	
597	2,104	2,271	1,590	2,186	1,931	2,392	2,591	5,314	4,480	4,335	
Sub-total	244,325	220,700	213,029	274,065	304,131	320,754	317,935	352,275	374,685	384,481	300,638

PLANT INVESTMENT (EOY)

O&M Ratio Calculation

FERC Accounts	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Ten Year Average
350	195,791	199,529	205,393	236,127	235,894	238,723	268,447	299,050	320,175	328,445	
352	191,391	214,794	220,961	269,525	297,910	334,506	378,255	568,146	630,180	683,745	
353	2,461,842	2,662,052	2,727,170	2,998,770	3,214,737	3,421,751	4,021,792	4,745,909	5,023,215	5,283,695	
354	432,277	433,176	433,572	648,131	675,240	601,728	772,204	1,521,251	1,884,520	2,260,744	
355	388,887	416,239	428,118	469,625	517,954	545,743	603,692	702,475	847,109	1,018,087	
356	500,724	505,343	510,150	578,230	614,853	617,980	706,021	987,303	1,275,756	1,484,377	
357	36,987	38,360	38,582	40,230	42,768	46,153	48,517	54,845	56,304	54,913	
358	147,498	159,124	168,556	173,469	175,962	183,442	208,167	217,930	250,109	270,777	
359	24,301	24,301	24,301	30,992	31,913	113,893	43,039	76,536	86,703	194,078	
Subtotal	4,379,698	4,652,917	4,756,802	5,445,099	5,807,229	6,103,919	7,050,134	9,173,446	10,374,072	11,578,861	6,932,218
	1.63%	1.58%	1.61%	1.75%	1.69%	1.38%	1.18%	1.07%	0.91%	0.71%	1.24%
(\$1999)	1.94%	1.85%	1.84%	1.94%	1.82%	1.46%	1.23%	1.11%		0.71%	
360	92,188	101,395	100,984	101,019	101,703	105,855	105,975	106,706	107,598	115,268	
361	299,171	314,781	313,709	388,979	399,411	431,351	436,831	481,352	539,514	588,946	
362	1,132,207	1,189,734	1,235,918	1,363,545	1,457,056	1,609,973	1,761,038	1,913,611	2,065,202	2,268,104	
364	1,088,555	1,172,866	1,246,128	1,386,110	1,538,474	1,575,556	1,655,027	1,785,054	2,066,840	2,481,629	
365	860,261	900,633	937,210	983,228	1,049,690	1,135,495	1,195,653	1,275,376	1,348,029	1,444,328	
366	965,045	1,013,243	1,081,706	1,207,771	1,301,069	1,320,538	1,389,563	1,480,941	1,635,326	1,821,645	
367	2,774,924	3,078,952	3,264,593	3,487,894	3,764,680	4,118,133	4,402,044	4,782,931	5,179,015	5,598,005	
368	2,054,703	2,193,402	2,317,371	2,476,362	2,701,301	2,864,158	3,022,096	3,190,693	3,366,402	3,559,466	
369	919,839	978,631	1,011,472	1,051,459	1,089,181	1,131,303	1,172,062	1,213,808	1,256,384	1,303,011	
370	524,318	544,923	568,270	606,793	757,651	902,706	960,736	975,952	982,535	996,826	
373	621,398	650,791	670,295	687,168	708,425	732,030	753,721	792,860	849,091	889,230	
Subtotal	11,332,608	12,139,351	12,747,656	13,740,327	14,868,641	15,927,099	16,854,745	17,999,284	19,395,937	21,066,459	15,607,211
	2.16%	1.82%	1.67%	1.99%	2.05%	2.01%	1.89%	1.96%	1.93%	1.83%	1.93%
(\$1999)	2.78%	2.26%	2.01%	2.31%	2.31%	2.21%	2.02%	2.07%		1.83%	

RULE 2H

Company Financed
Rebase after One life

Customer Financed
Payment to Perpetuity

Account	Annual O&M Charge % (1)	Capital- Carrying Charge % (2)	Levelized A&G Ad Val. & Ins. Charge % (3)	Added Facilits Plant \$ (4)	Added Facilits Plant % (5)	Weighted Cap. Carrying Charge % (6)	Added Facilits Charge % (7)=(1)+(2)+(3)	Annual O&M Charge % (1)	Annual Capital-rel. Charge % (2)_1/	Levelized A&G Ad Val. & Ins. Charge % (3)	Added Facilits. Plant \$ (4)	Added Facilits Plant % (5)	Weighted Cap. Carrying Charge % (6)	Annual Add.Folts Charge % (7)=(1)+(2)+(3)
TRANSMISSION														
350		11.71		352	0.59	0.07			0.51		111	0.59	0.00	
352		10.52		844	1.42	0.15			0.73		267	1.42	0.01	
353		9.43		34,481	58.15	5.48			1.11		10,919	58.15	0.64	
354		9.19		18	0.03	0.00			0.38		6	0.03	0.00	
355		9.62		8,742	14.74	1.42			0.87		2,768	14.74	0.13	
356		9.34		5,510	9.29	0.87			0.48		1,745	9.29	0.04	
357		9.09		2,518	4.25	0.39			0.63		797	4.25	0.03	
358		9.65		6,834	11.52	1.11			1.48		2,164	11.52	0.17	
359		9.31		0	0.00	0.00			0.50		0	0.00	0.00	
			<u>-1/</u>						<u>-2/</u>					
Total	1.24	9.59	2.50	59,298	100.00	9.49	13.33	1.38	1.04	2.78	18,777	100.00	1.03	5.20
DISTRIBUTION														
360		11.71		257	0.17	0.02			0.51		81	0.15	0.00	
361		10.93		2,543	1.66	0.18			1.50		805	1.53	0.02	
362		9.80		83,704	54.61	5.35			1.15		26,506	50.31	0.58	
364		10.99		2,942	1.92	0.21			1.16		1,114	2.11	0.02	
365		10.47		2,544	1.66	0.17			1.23		963	1.83	0.02	
366		9.45		1,324	0.86	0.08			0.54		502	0.95	0.01	
367		10.06		32,200	21.01	2.11			1.18		12,194	23.15	0.27	
368		10.53		21,205	13.83	1.46			2.34		8,030	15.24	0.36	
369		10.36		3,492	2.28	0.24			1.22		1,322	2.51	0.03	
370		12.45		1,542	1.01	0.13			5.70		584	1.11	0.06	
373		8.83		1,525	0.99	0.09			1.35		577	1.10	0.01	
			<u>-1/</u>						<u>-2/</u>					
Total	1.93	10.15	2.50	153,277	100.00	10.04	14.58	2.14	1.41	2.78	52,680	100.00	1.39	6.33
ANNUAL	1.74	9.99	2.50				14.23	1.93	1.31	2.78				6.03

-1/ Includes Uncoll. & Franchise of : 1.11%
-2/ Includes ISCF (Customer financed) 1.1123

RULE 21

Company Financed
Rebase after One life

Account	Annual O&M Charge % (1)	Capital- Carrying Charge % (2)	Levelized A&G Ad Val. & Ins. Charge % (3)	Added Facilits Plant \$ (4)	Added Facilits Plant % (5)	Weighed Cap. Carrying Charge % (6)	Added Facilits Charge % (7)=(1)+(2)+(3)
Transmission							
350		11.71		1,303	2.2	0.25	
352		10.52		488	0.8	0.08	
353		9.43		32,298	53.5	5.04	
354		9.19		4,002	6.6	0.61	
355		9.62		7,690	12.7	1.22	
356		9.34		8,743	14.5	1.35	
357		9.09		1,223	2.0	0.18	
358		9.65		4,633	7.7	0.74	
359		9.31		38	0.1	0.01	
			<u>1/</u>				
Total	1.24	9.60	2.50	60,419	100.0	9.49	13.34
Distribution							
360		11.71		52	0.2	0.02	
361		10.93		661	2.0	0.21	
362		9.80		29,318	86.6	8.49	
364		10.99		375	1.1	0.12	
365		10.47		688	2.0	0.21	
366		9.45		167	0.5	0.05	
367		10.06		1,585	4.7	0.47	
368		10.53		661	2.0	0.21	
369		10.36		48	0.1	0.01	
370		12.45		287	0.8	0.11	
373		8.83		1	0.0	0.00	
			<u>1/</u>				
Total	1.93	10.01	2.50	33,844	100.0	9.90	14.44
ANNUAL	1.48	9.74	2.50				13.73

1/ Includes Uncoll. & Franchise of :
2/ Includes ISCF (Customer financed)

1.11%
1.1123

Customer Financed
Payment to Perpetuity

Annual O&M Charge % (1)	Annual Capital-rel. Charge % (2) <u>1/</u>	Levelized A&G Ad Val. & Ins. Charge % (3)	Added Facilits. Plant \$ (4)	Added Facilits Plant % (5)	Weighed Cap. Carrying Charge % (6)	Annual Add.Fclts Charge % (7)=(1)+(2)+(3)	
		0.51	3,577	2.2	0.01		
		0.73	1,338	0.8	0.01		
		1.11	88,649	53.5	0.59		
		0.38	10,986	6.6	0.03		
		0.87	21,105	12.7	0.11		
		0.48	23,998	14.5	0.07		
		0.63	3,357	2.0	0.01		
		1.48	12,717	7.7	0.11		
		0.50	104	0.1	0.00		
<u>2/</u>	1.38	0.95	2.78	165,831	99.9	0.94	5.1
		0.51	143	0.1	0.00		
		1.50	1,815	1.4	0.02		
		1.15	80,469	63.6	0.73		
		1.16	4,338	3.4	0.04		
		1.23	7,962	6.3	0.08		
		0.54	1,934	1.5	0.01		
		1.18	18,336	14.5	0.17		
		2.34	7,648	6.0	0.14		
		1.22	557	0.4	0.01		
		5.70	3,318	2.6	0.15		
		1.35	11	0.0	0.00		
<u>2/</u>	2.14	1.36	2.78	126,531	100.0	1.35	6.3
1.71	1.15	2.78					5.64

ADDED FACILITIES CAPITAL INVESTMENT BY ACCOUNT

		Added Facs. Plant											
Accounts	Econ. Life	Added/Intercon.				Rule 2H				Rule 21			
		Com Fin	%	Cust Fin	%	Com Fin	%	Cust Fin	%	Com Fin	%	Cust Fin	%
350	60	1,655	1.38	3,688	2.00	352	0.59	111	0.59	1,303	2.16	3,577	2.16
352	55	1,332	1.11	1,606	0.87	844	1.42	267	1.42	488	0.81	1,338	0.81
353	45	66,779	55.78	99,567	53.93	34,481	58.15	10,919	58.15	32,298	53.46	88,649	53.46
354	65	4,020	3.36	10,991	5.95	18	0.03	6	0.03	4,002	6.62	10,986	6.62
355	50	16,431	13.73	23,874	12.93	8,742	14.74	2,768	14.74	7,690	12.73	21,105	12.73
356	61	14,253	11.91	25,743	13.94	5,510	9.29	1,745	9.29	8,743	14.47	23,998	14.47
357	55	3,741	3.13	4,154	2.25	2,518	4.25	797	4.25	1,223	2.02	3,357	2.02
358	40	11,467	9.58	14,881	8.06	6,834	11.52	2,164	11.52	4,633	7.67	12,717	7.67
359	60	38	0.03	104	0.06	-	0.00	-	0.00	38	0.06	104	0.06
		119,717	100.00	184,608	100.00	59,298	100.00	18,777	100.00	60,419	100.00	165,831	100.00
Accounts													
360	60	309	0.17	225	0.13	257	0.17	81	0.15	52	0.15	143	0.11
361	42	3,205	1.71	2,620	1.46	2,543	1.66	805	1.53	661	1.95	1,815	1.43
362	45	113,023	60.40	106,975	59.69	83,704	54.61	26,506	50.31	29,318	86.63	80,469	63.60
364	47	3,317	1.77	5,452	3.04	2,942	1.92	1,114	2.11	375	1.11	4,338	3.43
365	45	3,232	1.73	8,925	4.98	2,544	1.66	963	1.83	688	2.03	7,962	6.29
366	59	1,491	0.80	2,436	1.36	1,324	0.86	502	0.95	167	0.49	1,934	1.53
367	45	33,785	18.06	30,531	17.04	32,200	21.01	12,194	23.15	1,585	4.68	18,336	14.49
368	33	21,866	11.69	15,679	8.75	21,205	13.83	8,030	15.24	661	1.95	7,648	6.04
369	45	3,540	1.89	1,879	1.05	3,492	2.28	1,322	2.51	48	0.14	557	0.44
370	20	1,828	0.98	3,901	2.18	1,542	1.01	584	1.11	287	0.85	3,318	2.62
373	40	1,526	0.82	588	0.33	1,525	0.99	577	1.10	1	0.00	11	0.01
		187,121	100.00	179,211	100.00	153,277	100.00	52,680	100.00	33,844	100.00	126,531	100.00

CARRYING CHARGE COMPONENTS & ASSUMPTIONS

352

Structures and Improvement**COMPONENTS:**

	Present Val.	Levelized
o Book Depreciation	31.69%	2.45%
o Return	66.45%	5.15%
o Federal Tax	30.30%	2.35%
o State Tax	7.67%	0.59%
o Property Tax	9.35%	0.72%
o A&G, Insurance	23.63%	1.83%
o Tax Adjustment for Salvage	-0.25%	-0.02%
Total	168.8%	13.1%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 55 Years
 o Book Salvage: -35.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

Tax Depreciation Income Tax Rate

o Federal Tax: SL 39 Yrs 35.0%
 o State Tax: 150% DB 45 Yrs 8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total 1.83%

o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlays associated with regulated utility assets.
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period.

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 352 Structures and Improvement

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	2.5%	7.6%	3.3%	0.9%	1.0%	1.8%		17.1%	92.9%	15.9%
2 2011	2.5%	7.4%	3.2%	0.8%	1.0%	1.8%		16.7%	86.4%	30.4%
3 2012	2.5%	7.2%	3.2%	0.7%	1.0%	1.8%		16.4%	80.3%	43.5%
4 2013	2.5%	7.0%	3.1%	0.7%	1.0%	1.8%		16.1%	74.6%	55.5%
5 2014	2.5%	6.8%	3.0%	0.7%	0.9%	1.8%		15.7%	69.3%	66.4%
6 2015	2.5%	6.6%	2.9%	0.7%	0.9%	1.8%		15.4%	64.4%	76.3%
7 2016	2.5%	6.4%	2.8%	0.7%	0.9%	1.8%		15.1%	59.9%	85.4%
8 2017	2.5%	6.2%	2.8%	0.7%	0.8%	1.8%		14.8%	55.6%	93.6%
9 2018	2.5%	6.0%	2.7%	0.7%	0.8%	1.8%		14.4%	51.7%	101.0%
10 2019	2.5%	5.8%	2.6%	0.7%	0.8%	1.8%		14.1%	48.0%	107.8%
11 2020	2.5%	5.6%	2.5%	0.6%	0.8%	1.8%		13.8%	44.6%	114.0%
12 2021	2.5%	5.4%	2.4%	0.6%	0.7%	1.8%		13.5%	41.5%	119.6%
13 2022	2.5%	5.2%	2.4%	0.6%	0.7%	1.8%		13.1%	38.5%	124.6%
14 2023	2.5%	5.0%	2.3%	0.6%	0.7%	1.8%		12.8%	35.8%	129.2%
15 2024	2.5%	4.8%	2.2%	0.6%	0.7%	1.8%		12.5%	33.3%	133.4%
16 2025	2.5%	4.5%	2.1%	0.6%	0.6%	1.8%		12.2%	30.9%	137.1%
17 2026	2.5%	4.3%	2.0%	0.5%	0.6%	1.8%		11.8%	28.7%	140.5%
18 2027	2.5%	4.1%	2.0%	0.5%	0.6%	1.8%		11.5%	26.7%	143.6%
19 2028	2.5%	3.9%	1.9%	0.5%	0.6%	1.8%		11.2%	24.8%	146.4%
20 2029	2.5%	3.7%	1.8%	0.5%	0.5%	1.8%		10.8%	23.1%	148.9%
21 2030	2.5%	3.5%	1.7%	0.5%	0.5%	1.8%		10.5%	21.4%	151.1%
22 2031	2.5%	3.3%	1.6%	0.4%	0.5%	1.8%		10.2%	19.9%	153.1%
23 2032	2.5%	3.1%	1.6%	0.4%	0.5%	1.8%		9.8%	18.5%	155.0%
24 2033	2.5%	2.9%	1.5%	0.4%	0.4%	1.8%		9.5%	17.2%	156.6%
25 2034	2.5%	2.7%	1.4%	0.4%	0.4%	1.8%		9.2%	16.0%	158.1%
26 2035	2.5%	2.5%	1.3%	0.3%	0.4%	1.8%		8.8%	14.9%	159.4%
27 2036	2.5%	2.3%	1.2%	0.3%	0.4%	1.8%		8.5%	13.8%	160.5%
28 2037	2.5%	2.1%	1.2%	0.3%	0.3%	1.8%		8.2%	12.8%	161.6%
29 2038	2.5%	1.9%	1.1%	0.3%	0.3%	1.8%		7.8%	11.9%	162.5%
30 2039	2.5%	1.7%	1.0%	0.3%	0.3%	1.8%		7.5%	11.1%	163.4%
31 2040	2.5%	1.5%	0.9%	0.2%	0.3%	1.8%		7.2%	10.3%	164.1%
32 2041	2.5%	1.2%	0.8%	0.2%	0.2%	1.8%		6.8%	9.6%	164.7%
33 2042	2.5%	1.0%	0.8%	0.2%	0.2%	1.8%		6.5%	8.9%	165.3%
34 2043	2.5%	0.8%	0.7%	0.2%	0.2%	1.8%		6.2%	8.3%	165.8%
35 2044	2.5%	0.6%	0.6%	0.1%	0.2%	1.8%		5.8%	7.7%	166.3%
36 2045	2.5%	0.4%	0.5%	0.1%	0.1%	1.8%		5.5%	7.1%	166.7%
37 2046	2.5%	0.2%	0.4%	0.1%	0.1%	1.8%		5.2%	6.6%	167.0%
38 2047	2.5%	0.0%	0.4%	0.1%	0.1%	1.8%		4.8%	6.2%	167.3%
39 2048	2.5%	-0.2%	0.3%	0.1%	0.1%	1.8%		4.5%	5.7%	167.6%
40 2049	2.5%	-0.4%	0.2%	0.0%	0.0%	1.8%		4.2%	5.3%	167.8%
41 2050	2.5%	-0.6%	0.1%	0.0%		1.8%		3.9%	4.9%	168.0%
42 2051	2.5%	-0.7%	0.1%	0.0%		1.8%		3.6%	4.6%	168.2%
43 2052	2.5%	-0.9%	0.0%	0.0%		1.8%		3.4%	4.3%	168.3%
44 2053	2.5%	-1.0%	0.0%	0.0%		1.8%		3.2%	4.0%	168.4%
45 2054	2.5%	-1.1%	-0.1%	0.0%		1.8%		3.0%	3.7%	168.5%
46 2055	2.5%	-1.3%	-0.1%	0.0%		1.8%		2.9%	3.4%	168.6%
47 2056	2.5%	-1.4%	-0.2%	0.1%		1.8%		2.8%	3.2%	168.7%
48 2057	2.5%	-1.6%	-0.2%	0.1%		1.8%		2.6%	3.0%	168.8%
49 2058	2.5%	-1.7%	-0.3%	0.1%		1.8%		2.4%	2.8%	168.9%
50 2059	2.5%	-1.8%	-0.4%	0.1%		1.8%		2.2%	2.6%	168.9%
51 2060	2.5%	-2.0%	-0.4%	0.1%		1.8%		2.0%	2.4%	169.0%
52 2061	2.5%	-2.1%	-0.5%	0.0%		1.8%		1.8%	2.2%	169.0%
53 2062	2.5%	-2.2%	-0.5%	0.0%		1.8%		1.6%	2.1%	169.0%

54	2063	2.5%	-2.4%	-0.6%	0.0%		1.8%	1.3%	1.9%	169.1%
55	2064	2.5%	-2.5%	-0.6%	0.0%		1.8%	-14.0%	1.8%	168.8%
56	2065								1.6%	168.8%
57	2066								1.5%	168.8%
58	2067								1.4%	168.8%
59	2068								1.3%	168.8%
60	2069								1.2%	168.8%
61	2070								1.1%	168.8%
62	2071								1.1%	168.8%
63	2072								1.0%	168.8%
64	2073								0.9%	168.8%
65	2074								0.9%	168.8%
66	2075								0.8%	168.8%
67	2076								0.7%	168.8%
68	2077								0.7%	168.8%
69	2078								0.6%	168.8%
70	2079								0.6%	168.8%
71	2080								0.5%	168.8%
72	2081								0.5%	168.8%
73	2082								0.5%	168.8%
74	2083								0.4%	168.8%
75	2084								0.4%	168.8%
76	2085								0.4%	168.8%
77	2086								0.4%	168.8%
78	2087								0.3%	168.8%
79	2088								0.3%	168.8%
80	2089								0.3%	168.8%
81	2090								0.3%	168.8%
PV		31.7%	66.5%	30.3%	7.7%	9.3%	23.6%	-0.2%	168.8%	
Levelized		2.45%	5.15%	2.35%	0.59%	0.72%	1.83%	-0.02%	13.08%	

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

353

Station Equipment**COMPONENTS:**

	Present Val	Levelized
o Book Depreciation	32.35%	2.56%
o Return	57.42%	4.54%
o Federal Tax	24.69%	1.95%
o State Tax	5.09%	0.40%
o Property Tax	9.21%	0.73%
o A&G, Insurance	23.17%	1.83%
o Tax Adjustment for Salvage	-0.23%	-0.02%
Total	151.7%	12.0%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 45 Years
 o Book Salvage: -15.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	150% DB 15 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total	1.83%
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o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 353 Station Equipment

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	2.6%	7.6%	3.1%	0.8%	1.0%	1.8%		16.9%	92.9%	15.7%
2 2011	2.6%	7.3%	3.0%	0.4%	1.0%	1.8%		16.2%	86.4%	29.7%
3 2012	2.6%	7.0%	2.9%	0.4%	1.0%	1.8%		15.6%	80.3%	42.3%
4 2013	2.6%	6.6%	2.7%	0.4%	0.9%	1.8%		15.1%	74.6%	53.5%
5 2014	2.6%	6.3%	2.6%	0.4%	0.9%	1.8%		14.6%	69.3%	63.7%
6 2015	2.6%	5.9%	2.5%	0.4%	0.9%	1.8%		14.1%	64.4%	72.8%
7 2016	2.6%	5.6%	2.4%	0.4%	0.9%	1.8%		13.7%	59.9%	81.0%
8 2017	2.6%	5.3%	2.3%	0.4%	0.8%	1.8%		13.3%	55.6%	88.4%
9 2018	2.6%	5.1%	2.2%	0.4%	0.8%	1.8%		12.8%	51.7%	95.0%
10 2019	2.6%	4.8%	2.0%	0.4%	0.8%	1.8%		12.4%	48.0%	100.9%
11 2020	2.6%	4.5%	1.9%	0.4%	0.8%	1.8%		12.0%	44.6%	106.3%
12 2021	2.6%	4.2%	1.8%	0.4%	0.7%	1.8%		11.5%	41.5%	111.1%
13 2022	2.6%	3.9%	1.7%	0.4%	0.7%	1.8%		11.1%	38.5%	115.3%
14 2023	2.6%	3.6%	1.6%	0.4%	0.7%	1.8%		10.6%	35.8%	119.1%
15 2024	2.6%	3.3%	1.5%	0.4%	0.7%	1.8%		10.2%	33.3%	122.5%
16 2025	2.6%	3.0%	1.4%	0.4%	0.6%	1.8%		9.8%	30.9%	125.6%
17 2026	2.6%	2.8%	1.3%	0.3%	0.6%	1.8%		9.4%	28.7%	128.3%
18 2027	2.6%	2.7%	1.2%	0.3%	0.6%	1.8%		9.2%	26.7%	130.7%
19 2028	2.6%	2.5%	1.2%	0.3%	0.6%	1.8%		9.0%	24.8%	132.9%
20 2029	2.6%	2.4%	1.1%	0.3%	0.5%	1.8%		8.7%	23.1%	135.0%
21 2030	2.6%	2.3%	1.1%	0.3%	0.5%	1.8%		8.5%	21.4%	136.8%
22 2031	2.6%	2.1%	1.0%	0.3%	0.5%	1.8%		8.3%	19.9%	138.4%
23 2032	2.6%	2.0%	1.0%	0.3%	0.4%	1.8%		8.0%	18.5%	139.9%
24 2033	2.6%	1.9%	0.9%	0.2%	0.4%	1.8%		7.8%	17.2%	141.3%
25 2034	2.6%	1.7%	0.9%	0.2%	0.4%	1.8%		7.6%	16.0%	142.5%
26 2035	2.6%	1.6%	0.8%	0.2%	0.4%	1.8%		7.3%	14.9%	143.6%
27 2036	2.6%	1.4%	0.8%	0.2%	0.3%	1.8%		7.1%	13.8%	144.5%
28 2037	2.6%	1.3%	0.7%	0.2%	0.3%	1.8%		6.9%	12.8%	145.4%
29 2038	2.6%	1.2%	0.6%	0.2%	0.3%	1.8%		6.7%	11.9%	146.2%
30 2039	2.6%	1.0%	0.6%	0.2%	0.3%	1.8%		6.4%	11.1%	146.9%
31 2040	2.6%	0.9%	0.5%	0.2%	0.2%	1.8%		6.3%	10.3%	147.6%
32 2041	2.6%	0.8%	0.5%	0.3%	0.2%	1.8%		6.2%	9.6%	148.2%
33 2042	2.6%	0.6%	0.4%	0.3%	0.2%	1.8%		6.0%	8.9%	148.7%
34 2043	2.6%	0.5%	0.4%	0.3%	0.2%	1.8%		5.7%	8.3%	149.2%
35 2044	2.6%	0.4%	0.3%	0.3%	0.1%	1.8%		5.5%	7.7%	149.6%
36 2045	2.6%	0.2%	0.3%	0.3%	0.1%	1.8%		5.3%	7.1%	150.0%
37 2046	2.6%	0.1%	0.2%	0.3%	0.1%	1.8%		5.1%	6.6%	150.3%
38 2047	2.6%	-0.1%	0.2%	0.3%	0.1%	1.8%		4.8%	6.2%	150.6%
39 2048	2.6%	-0.2%	0.1%	0.2%	0.0%	1.8%		4.6%	5.7%	150.9%
40 2049	2.6%	-0.3%	0.1%	0.2%		1.8%		4.4%	5.3%	151.1%
41 2050	2.6%	-0.5%	0.0%	0.2%		1.8%		4.2%	4.9%	151.3%
42 2051	2.6%	-0.6%	0.0%	0.2%		1.8%		4.0%	4.6%	151.5%
43 2052	2.6%	-0.7%	-0.1%	0.2%		1.8%		3.8%	4.3%	151.7%
44 2053	2.6%	-0.9%	-0.1%	0.2%		1.8%		3.5%	4.0%	151.8%
45 2054	2.6%	-1.0%	-0.2%	0.2%		1.8%	-6.1%	-2.8%	3.7%	151.7%
46 2055									3.4%	151.7%
47 2056									3.2%	151.7%
48 2057									3.0%	151.7%
49 2058									2.8%	151.7%
50 2059									2.6%	151.7%
51 2060									2.4%	151.7%
52 2061									2.2%	151.7%
53 2062									2.1%	151.7%

54	2063									1.9%	151.7%
55	2064									1.8%	151.7%
56	2065									1.6%	151.7%
57	2066									1.5%	151.7%
58	2067									1.4%	151.7%
59	2068									1.3%	151.7%
60	2069									1.2%	151.7%
61	2070									1.1%	151.7%
62	2071									1.1%	151.7%
63	2072									1.0%	151.7%
64	2073									0.9%	151.7%
65	2074									0.9%	151.7%
66	2075									0.8%	151.7%
67	2076									0.7%	151.7%
68	2077									0.7%	151.7%
69	2078									0.6%	151.7%
70	2079									0.6%	151.7%
71	2080									0.5%	151.7%
72	2081									0.5%	151.7%
73	2082									0.5%	151.7%
74	2083									0.4%	151.7%
75	2084									0.4%	151.7%
76	2085									0.4%	151.7%
77	2086									0.4%	151.7%
78	2087									0.3%	151.7%
79	2088									0.3%	151.7%
80	2089									0.3%	151.7%
81	2090									0.3%	151.7%
PV		32.3%	57.4%	24.7%	5.1%	9.2%	23.2%	-0.2%	151.7%		
Levelized		2.56%	4.54%	1.95%	0.40%	0.73%	1.83%	-0.02%	11.98%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

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Towers and Fixtures**COMPONENTS:**

	Present Val	Levelized
o Book Depreciation	32.08%	2.46%
o Return	54.86%	4.21%
o Federal Tax	27.84%	2.14%
o State Tax	5.19%	0.40%
o Property Tax	9.34%	0.72%
o A&G, Insurance	23.85%	1.83%
o Tax Adjustment for Salvage	-0.20%	-0.02%
Total	153.0%	11.7%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 65 Years
 o Book Salvage: -60.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
-------------------------	------------------------

o Federal Tax:	150% DB 15 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense:	-- A&G	1.44%
	-- Insuranc	0.39%
Total		1.83%

o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 354 Towers and Fixtures

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjsted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	2.5%	7.6%	3.5%	0.8%	1.0%	1.8%		17.2%	92.9%	15.9%
2 2011	2.5%	7.3%	3.3%	0.5%	1.0%	1.8%		16.4%	86.4%	30.1%
3 2012	2.5%	6.9%	3.2%	0.5%	1.0%	1.8%		15.8%	80.3%	42.8%
4 2013	2.5%	6.6%	3.0%	0.5%	0.9%	1.8%		15.3%	74.6%	54.3%
5 2014	2.5%	6.2%	2.9%	0.5%	0.9%	1.8%		14.8%	69.3%	64.5%
6 2015	2.5%	5.9%	2.8%	0.5%	0.9%	1.8%		14.3%	64.4%	73.7%
7 2016	2.5%	5.6%	2.7%	0.4%	0.9%	1.8%		13.9%	59.9%	82.0%
8 2017	2.5%	5.3%	2.5%	0.4%	0.8%	1.8%		13.4%	55.6%	89.5%
9 2018	2.5%	5.0%	2.4%	0.4%	0.8%	1.8%		13.0%	51.7%	96.2%
10 2019	2.5%	4.7%	2.3%	0.4%	0.8%	1.8%		12.5%	48.0%	102.2%
11 2020	2.5%	4.4%	2.2%	0.4%	0.8%	1.8%		12.1%	44.6%	107.6%
12 2021	2.5%	4.1%	2.1%	0.4%	0.7%	1.8%		11.6%	41.5%	112.4%
13 2022	2.5%	3.8%	2.0%	0.4%	0.7%	1.8%		11.1%	38.5%	116.7%
14 2023	2.5%	3.5%	1.8%	0.4%	0.7%	1.8%		10.7%	35.8%	120.5%
15 2024	2.5%	3.2%	1.7%	0.4%	0.7%	1.8%		10.2%	33.3%	123.9%
16 2025	2.5%	2.9%	1.6%	0.4%	0.6%	1.8%		9.8%	30.9%	126.9%
17 2026	2.5%	2.6%	1.5%	0.3%	0.6%	1.8%		9.4%	28.7%	129.6%
18 2027	2.5%	2.5%	1.5%	0.3%	0.6%	1.8%		9.2%	26.7%	132.1%
19 2028	2.5%	2.3%	1.4%	0.3%	0.6%	1.8%		8.9%	24.8%	134.3%
20 2029	2.5%	2.2%	1.4%	0.3%	0.5%	1.8%		8.7%	23.1%	136.3%
21 2030	2.5%	2.0%	1.3%	0.3%	0.5%	1.8%		8.4%	21.4%	138.1%
22 2031	2.5%	1.9%	1.2%	0.3%	0.5%	1.8%		8.2%	19.9%	139.7%
23 2032	2.5%	1.7%	1.2%	0.2%	0.5%	1.8%		7.9%	18.5%	141.2%
24 2033	2.5%	1.6%	1.1%	0.2%	0.4%	1.8%		7.7%	17.2%	142.5%
25 2034	2.5%	1.5%	1.1%	0.2%	0.4%	1.8%		7.5%	16.0%	143.7%
26 2035	2.5%	1.3%	1.0%	0.2%	0.4%	1.8%		7.2%	14.9%	144.8%
27 2036	2.5%	1.2%	1.0%	0.2%	0.4%	1.8%		7.0%	13.8%	145.7%
28 2037	2.5%	1.0%	0.9%	0.2%	0.3%	1.8%		6.7%	12.8%	146.6%
29 2038	2.5%	0.9%	0.8%	0.2%	0.3%	1.8%		6.5%	11.9%	147.4%
30 2039	2.5%	0.7%	0.8%	0.1%	0.3%	1.8%		6.2%	11.1%	148.1%
31 2040	2.5%	0.6%	0.7%	0.2%	0.3%	1.8%		6.1%	10.3%	148.7%
32 2041	2.5%	0.4%	0.7%	0.3%	0.2%	1.8%		6.0%	9.6%	149.3%
33 2042	2.5%	0.3%	0.6%	0.3%	0.2%	1.8%		5.7%	8.9%	149.8%
34 2043	2.5%	0.1%	0.6%	0.3%	0.2%	1.8%		5.5%	8.3%	150.2%
35 2044	2.5%	0.0%	0.5%	0.3%	0.2%	1.8%		5.2%	7.7%	150.6%
36 2045	2.5%	-0.2%	0.4%	0.3%	0.1%	1.8%		5.0%	7.1%	151.0%
37 2046	2.5%	-0.3%	0.4%	0.3%	0.1%	1.8%		4.7%	6.6%	151.3%
38 2047	2.5%	-0.5%	0.3%	0.2%	0.1%	1.8%		4.5%	6.2%	151.6%
39 2048	2.5%	-0.6%	0.3%	0.2%	0.1%	1.8%		4.3%	5.7%	151.8%
40 2049	2.5%	-0.7%	0.2%	0.2%	0.0%	1.8%		4.0%	5.3%	152.0%
41 2050	2.5%	-0.9%	0.2%	0.2%		1.8%		3.8%	4.9%	152.2%
42 2051	2.5%	-1.0%	0.1%	0.2%		1.8%		3.5%	4.6%	152.4%
43 2052	2.5%	-1.2%	0.0%	0.2%		1.8%		3.3%	4.3%	152.5%
44 2053	2.5%	-1.3%	0.0%	0.1%		1.8%		3.1%	4.0%	152.6%
45 2054	2.5%	-1.5%	-0.1%	0.1%		1.8%		2.9%	3.7%	152.8%
46 2055	2.5%	-1.6%	-0.1%	0.1%		1.8%		2.7%	3.4%	152.8%
47 2056	2.5%	-1.8%	-0.2%	0.1%		1.8%		2.4%	3.2%	152.9%
48 2057	2.5%	-1.9%	-0.2%	0.1%		1.8%		2.2%	3.0%	153.0%
49 2058	2.5%	-2.1%	-0.3%	0.1%		1.8%		2.0%	2.8%	153.0%
50 2059	2.5%	-2.2%	-0.3%	0.1%		1.8%		1.8%	2.6%	153.1%
51 2060	2.5%	-2.4%	-0.4%	0.0%		1.8%		1.6%	2.4%	153.1%
52 2061	2.5%	-2.5%	-0.5%	0.0%		1.8%		1.3%	2.2%	153.2%
53 2062	2.5%	-2.7%	-0.5%	0.0%		1.8%		1.1%	2.1%	153.2%

54	2063	2.5%	-2.8%	-0.6%	0.0%	1.8%	0.9%	1.9%	153.2%
55	2064	2.5%	-2.9%	-0.6%	0.0%	1.8%	0.7%	1.8%	153.2%
56	2065	2.5%	-3.1%	-0.7%	0.0%	1.8%	0.5%	1.6%	153.2%
57	2066	2.5%	-3.2%	-0.7%	-0.1%	1.8%	0.2%	1.5%	153.2%
58	2067	2.5%	-3.4%	-0.8%	-0.1%	1.8%	0.0%	1.4%	153.2%
59	2068	2.5%	-3.5%	-0.9%	-0.1%	1.8%	-0.2%	1.3%	153.2%
60	2069	2.5%	-3.7%	-0.9%	-0.1%	1.8%	-0.4%	1.2%	153.2%
61	2070	2.5%	-3.8%	-1.0%	-0.1%	1.8%	-0.6%	1.1%	153.2%
62	2071	2.5%	-4.0%	-1.0%	-0.1%	1.8%	-0.9%	1.1%	153.2%
63	2072	2.5%	-4.1%	-1.1%	-0.2%	1.8%	-1.1%	1.0%	153.2%
64	2073	2.5%	-4.3%	-1.1%	-0.2%	1.8%	-1.3%	0.9%	153.2%
65	2074	2.5%	-4.4%	-1.2%	-0.2%	1.8%	-23.7%	-25.2%	153.0%
66	2075							0.8%	153.0%
67	2076							0.7%	153.0%
68	2077							0.7%	153.0%
69	2078							0.6%	153.0%
70	2079							0.6%	153.0%
71	2080							0.5%	153.0%
72	2081							0.5%	153.0%
73	2082							0.5%	153.0%
74	2083							0.4%	153.0%
75	2084							0.4%	153.0%
76	2085							0.4%	153.0%
77	2086							0.4%	153.0%
78	2087							0.3%	153.0%
79	2088							0.3%	153.0%
80	2089							0.3%	153.0%
81	2090							0.3%	153.0%
PV		32.1%	54.9%	27.8%	5.2%	9.3%	23.8%	-0.2%	153.0%
Levelized		2.46%	4.21%	2.14%	0.40%	0.72%	1.83%	-0.02%	11.74%

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

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Poles and Fixtures**COMPONENTS:**

	Present Val.	Levelized
o Book Depreciation	44.06%	3.44%
o Return	46.13%	3.60%
o Federal Tax	27.96%	2.18%
o State Tax	5.76%	0.45%
o Property Tax	8.11%	0.63%
o A&G, Insurance	23.44%	1.83%
o Tax Adjustment for Salvage	-0.75%	-0.06%
Total	154.7%	12.1%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 50 Years
 o Book Salvage: -72.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

	<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	150% DB 15 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total	1.83%
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o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 355 Poles and Fixtures

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	3.4%	7.6%	3.7%	0.9%	1.0%	1.8%		18.5%	92.9%	17.2%
2 2011	3.4%	7.3%	3.6%	0.6%	1.0%	1.8%		17.7%	86.4%	32.5%
3 2012	3.4%	6.8%	3.4%	0.6%	1.0%	1.8%		17.0%	80.3%	46.2%
4 2013	3.4%	6.4%	3.3%	0.6%	0.9%	1.8%		16.4%	74.6%	58.4%
5 2014	3.4%	6.0%	3.1%	0.5%	0.9%	1.8%		15.8%	69.3%	69.3%
6 2015	3.4%	5.6%	2.9%	0.5%	0.8%	1.8%		15.2%	64.4%	79.1%
7 2016	3.4%	5.2%	2.8%	0.5%	0.8%	1.8%		14.6%	59.9%	87.8%
8 2017	3.4%	4.8%	2.7%	0.5%	0.8%	1.8%		14.1%	55.6%	95.7%
9 2018	3.4%	4.5%	2.5%	0.5%	0.7%	1.8%		13.5%	51.7%	102.6%
10 2019	3.4%	4.1%	2.4%	0.5%	0.7%	1.8%		13.0%	48.0%	108.9%
11 2020	3.4%	3.7%	2.2%	0.5%	0.7%	1.8%		12.4%	44.6%	114.4%
12 2021	3.4%	3.4%	2.1%	0.5%	0.6%	1.8%		11.8%	41.5%	119.3%
13 2022	3.4%	3.0%	2.0%	0.4%	0.6%	1.8%		11.3%	38.5%	123.7%
14 2023	3.4%	2.6%	1.8%	0.4%	0.6%	1.8%		10.7%	35.8%	127.5%
15 2024	3.4%	2.3%	1.7%	0.4%	0.5%	1.8%		10.2%	33.3%	130.9%
16 2025	3.4%	1.9%	1.5%	0.4%	0.5%	1.8%		9.6%	30.9%	133.9%
17 2026	3.4%	1.6%	1.4%	0.4%	0.5%	1.8%		9.1%	28.7%	136.5%
18 2027	3.4%	1.4%	1.3%	0.3%	0.4%	1.8%		8.8%	26.7%	138.8%
19 2028	3.4%	1.2%	1.3%	0.3%	0.4%	1.8%		8.4%	24.8%	140.9%
20 2029	3.4%	1.0%	1.2%	0.3%	0.4%	1.8%		8.1%	23.1%	142.8%
21 2030	3.4%	0.8%	1.1%	0.3%	0.3%	1.8%		7.8%	21.4%	144.5%
22 2031	3.4%	0.6%	1.0%	0.2%	0.3%	1.8%		7.4%	19.9%	145.9%
23 2032	3.4%	0.4%	0.9%	0.2%	0.2%	1.8%		7.1%	18.5%	147.3%
24 2033	3.4%	0.2%	0.9%	0.2%	0.2%	1.8%		6.7%	17.2%	148.4%
25 2034	3.4%	0.0%	0.8%	0.2%	0.2%	1.8%		6.4%	16.0%	149.4%
26 2035	3.4%	-0.2%	0.7%	0.2%	0.1%	1.8%		6.0%	14.9%	150.3%
27 2036	3.4%	-0.5%	0.6%	0.1%	0.1%	1.8%		5.7%	13.8%	151.1%
28 2037	3.4%	-0.7%	0.5%	0.1%	0.1%	1.8%		5.3%	12.8%	151.8%
29 2038	3.4%	-0.9%	0.4%	0.1%	0.0%	1.8%		5.0%	11.9%	152.4%
30 2039	3.4%	-1.1%	0.4%	0.1%		1.8%		4.6%	11.1%	152.9%
31 2040	3.4%	-1.3%	0.3%	0.2%		1.8%		4.4%	10.3%	153.3%
32 2041	3.4%	-1.5%	0.2%	0.2%		1.8%		4.2%	9.6%	153.7%
33 2042	3.4%	-1.7%	0.1%	0.2%		1.8%		3.9%	8.9%	154.1%
34 2043	3.4%	-1.9%	0.0%	0.2%		1.8%		3.6%	8.3%	154.4%
35 2044	3.4%	-2.1%	0.0%	0.2%		1.8%		3.3%	7.7%	154.6%
36 2045	3.4%	-2.3%	-0.1%	0.2%		1.8%		3.0%	7.1%	154.9%
37 2046	3.4%	-2.5%	-0.2%	0.1%		1.8%		2.7%	6.6%	155.0%
38 2047	3.4%	-2.8%	-0.3%	0.1%		1.8%		2.3%	6.2%	155.2%
39 2048	3.4%	-3.0%	-0.4%	0.1%		1.8%		2.0%	5.7%	155.3%
40 2049	3.4%	-3.2%	-0.4%	0.1%		1.8%		1.7%	5.3%	155.4%
41 2050	3.4%	-3.4%	-0.5%	0.0%		1.8%		1.4%	4.9%	155.5%
42 2051	3.4%	-3.6%	-0.6%	0.0%		1.8%		1.1%	4.6%	155.5%
43 2052	3.4%	-3.8%	-0.7%	0.0%		1.8%		0.8%	4.3%	155.5%
44 2053	3.4%	-4.0%	-0.8%	0.0%		1.8%		0.5%	4.0%	155.6%
45 2054	3.4%	-4.2%	-0.8%	0.0%		1.8%		0.2%	3.7%	155.6%
46 2055	3.4%	-4.4%	-0.9%	-0.1%		1.8%		-0.2%	3.4%	155.6%
47 2056	3.4%	-4.6%	-1.0%	-0.1%		1.8%		-0.5%	3.2%	155.5%
48 2057	3.4%	-4.9%	-1.1%	-0.1%		1.8%		-0.8%	3.0%	155.5%
49 2058	3.4%	-5.1%	-1.2%	-0.1%		1.8%		-1.1%	2.8%	155.5%
50 2059	3.4%	-5.3%	-1.2%	-0.2%		1.8%	-29.3%	-30.7%	2.6%	154.7%
51 2060									2.4%	154.7%
52 2061									2.2%	154.7%
53 2062									2.1%	154.7%

54	2063									1.9%	154.7%
55	2064									1.8%	154.7%
56	2065									1.6%	154.7%
57	2066									1.5%	154.7%
58	2067									1.4%	154.7%
59	2068									1.3%	154.7%
60	2069									1.2%	154.7%
61	2070									1.1%	154.7%
62	2071									1.1%	154.7%
63	2072									1.0%	154.7%
64	2073									0.9%	154.7%
65	2074									0.9%	154.7%
66	2075									0.8%	154.7%
67	2076									0.7%	154.7%
68	2077									0.7%	154.7%
69	2078									0.6%	154.7%
70	2079									0.6%	154.7%
71	2080									0.5%	154.7%
72	2081									0.5%	154.7%
73	2082									0.5%	154.7%
74	2083									0.4%	154.7%
75	2084									0.4%	154.7%
76	2085									0.4%	154.7%
77	2086									0.4%	154.7%
78	2087									0.3%	154.7%
79	2088									0.3%	154.7%
80	2089									0.3%	154.7%
81	2090									0.3%	154.7%
PV		44.1%	46.1%	28.0%	5.8%	8.1%	23.4%	-0.8%	154.7%		
Levelized		3.44%	3.60%	2.18%	0.45%	0.63%	1.83%	-0.06%	12.08%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

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Overhead Cond & Devices**COMPONENTS:**

	Present Val	Levelized
o Book Depreciation	38.34%	2.95%
o Return	49.43%	3.80%
o Federal Tax	28.45%	2.19%
o State Tax	5.48%	0.42%
o Property Tax	8.68%	0.67%
o A&G, Insurance	23.78%	1.83%
o Tax Adjustment for Salvage	-0.37%	-0.03%
Total	153.8%	11.8%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 61 Years
 o Book Salvage: -80.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	150% DB 15 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total 1.83%

o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 356 Overhead Cond & Devices

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	3.0%	7.6%	3.7%	0.9%	1.0%	1.8%		17.9%	92.9%	16.7%
2 2011	3.0%	7.3%	3.5%	0.5%	1.0%	1.8%		17.1%	86.4%	31.5%
3 2012	3.0%	6.9%	3.4%	0.5%	1.0%	1.8%		16.5%	80.3%	44.7%
4 2013	3.0%	6.5%	3.2%	0.5%	0.9%	1.8%		15.9%	74.6%	56.6%
5 2014	3.0%	6.1%	3.1%	0.5%	0.9%	1.8%		15.3%	69.3%	67.2%
6 2015	3.0%	5.7%	2.9%	0.5%	0.9%	1.8%		14.8%	64.4%	76.7%
7 2016	3.0%	5.4%	2.8%	0.5%	0.8%	1.8%		14.3%	59.9%	85.3%
8 2017	3.0%	5.0%	2.7%	0.5%	0.8%	1.8%		13.8%	55.6%	92.9%
9 2018	3.0%	4.7%	2.5%	0.5%	0.8%	1.8%		13.3%	51.7%	99.8%
10 2019	3.0%	4.4%	2.4%	0.5%	0.8%	1.8%		12.8%	48.0%	105.9%
11 2020	3.0%	4.0%	2.3%	0.5%	0.7%	1.8%		12.3%	44.6%	111.4%
12 2021	3.0%	3.7%	2.1%	0.4%	0.7%	1.8%		11.7%	41.5%	116.2%
13 2022	3.0%	3.3%	2.0%	0.4%	0.7%	1.8%		11.2%	38.5%	120.6%
14 2023	3.0%	3.0%	1.9%	0.4%	0.6%	1.8%		10.7%	35.8%	124.4%
15 2024	3.0%	2.7%	1.8%	0.4%	0.6%	1.8%		10.2%	33.3%	127.8%
16 2025	3.0%	2.3%	1.6%	0.4%	0.6%	1.8%		9.7%	30.9%	130.8%
17 2026	3.0%	2.1%	1.5%	0.4%	0.5%	1.8%		9.3%	28.7%	133.5%
18 2027	3.0%	1.9%	1.5%	0.3%	0.5%	1.8%		9.0%	26.7%	135.9%
19 2028	3.0%	1.7%	1.4%	0.3%	0.5%	1.8%		8.7%	24.8%	138.0%
20 2029	3.0%	1.5%	1.3%	0.3%	0.5%	1.8%		8.4%	23.1%	139.9%
21 2030	3.0%	1.4%	1.2%	0.3%	0.4%	1.8%		8.1%	21.4%	141.7%
22 2031	3.0%	1.2%	1.2%	0.3%	0.4%	1.8%		7.8%	19.9%	143.2%
23 2032	3.0%	1.0%	1.1%	0.2%	0.4%	1.8%		7.5%	18.5%	144.6%
24 2033	3.0%	0.8%	1.0%	0.2%	0.3%	1.8%		7.2%	17.2%	145.8%
25 2034	3.0%	0.6%	1.0%	0.2%	0.3%	1.8%		6.9%	16.0%	146.9%
26 2035	3.0%	0.4%	0.9%	0.2%	0.3%	1.8%		6.6%	14.9%	147.9%
27 2036	3.0%	0.3%	0.8%	0.2%	0.2%	1.8%		6.3%	13.8%	148.8%
28 2037	3.0%	0.1%	0.7%	0.1%	0.2%	1.8%		6.0%	12.8%	149.5%
29 2038	3.0%	-0.1%	0.7%	0.1%	0.2%	1.8%		5.7%	11.9%	150.2%
30 2039	3.0%	-0.3%	0.6%	0.1%	0.1%	1.8%		5.4%	11.1%	150.8%
31 2040	3.0%	-0.5%	0.5%	0.2%	0.1%	1.8%		5.2%	10.3%	151.3%
32 2041	3.0%	-0.6%	0.5%	0.3%	0.1%	1.8%		5.0%	9.6%	151.8%
33 2042	3.0%	-0.8%	0.4%	0.3%	0.1%	1.8%		4.7%	8.9%	152.2%
34 2043	3.0%	-1.0%	0.3%	0.2%		1.8%		4.3%	8.3%	152.6%
35 2044	3.0%	-1.2%	0.3%	0.2%		1.8%		4.1%	7.7%	152.9%
36 2045	3.0%	-1.4%	0.2%	0.2%		1.8%		3.8%	7.1%	153.2%
37 2046	3.0%	-1.6%	0.1%	0.2%		1.8%		3.5%	6.6%	153.4%
38 2047	3.0%	-1.7%	0.0%	0.2%		1.8%		3.3%	6.2%	153.6%
39 2048	3.0%	-1.9%	0.0%	0.2%		1.8%		3.0%	5.7%	153.8%
40 2049	3.0%	-2.1%	-0.1%	0.1%		1.8%		2.7%	5.3%	153.9%
41 2050	3.0%	-2.3%	-0.2%	0.1%		1.8%		2.5%	4.9%	154.0%
42 2051	3.0%	-2.5%	-0.2%	0.1%		1.8%		2.2%	4.6%	154.1%
43 2052	3.0%	-2.6%	-0.3%	0.1%		1.8%		1.9%	4.3%	154.2%
44 2053	3.0%	-2.8%	-0.4%	0.1%		1.8%		1.6%	4.0%	154.3%
45 2054	3.0%	-3.0%	-0.4%	0.0%		1.8%		1.4%	3.7%	154.3%
46 2055	3.0%	-3.2%	-0.5%	0.0%		1.8%		1.1%	3.4%	154.4%
47 2056	3.0%	-3.4%	-0.6%	0.0%		1.8%		0.8%	3.2%	154.4%
48 2057	3.0%	-3.5%	-0.7%	0.0%		1.8%		0.6%	3.0%	154.4%
49 2058	3.0%	-3.7%	-0.7%	0.0%		1.8%		0.3%	2.8%	154.4%
50 2059	3.0%	-3.9%	-0.8%	-0.1%		1.8%		0.0%	2.6%	154.4%
51 2060	3.0%	-4.1%	-0.9%	-0.1%		1.8%		-0.3%	2.4%	154.4%
52 2061	3.0%	-4.3%	-0.9%	-0.1%		1.8%		-0.5%	2.2%	154.4%
53 2062	3.0%	-4.5%	-1.0%	-0.1%		1.8%		-0.8%	2.1%	154.4%

54	2063	3.0%	-4.6%	-1.1%	-0.1%	1.8%	-1.1%	1.9%	154.4%
55	2064	3.0%	-4.8%	-1.1%	-0.2%	1.8%	-1.3%	1.8%	154.4%
56	2065	3.0%	-5.0%	-1.2%	-0.2%	1.8%	-1.6%	1.6%	154.3%
57	2066	3.0%	-5.2%	-1.3%	-0.2%	1.8%	-1.9%	1.5%	154.3%
58	2067	3.0%	-5.4%	-1.4%	-0.2%	1.8%	-2.2%	1.4%	154.3%
59	2068	3.0%	-5.5%	-1.4%	-0.2%	1.8%	-2.4%	1.3%	154.2%
60	2069	3.0%	-5.7%	-1.5%	-0.3%	1.8%	-2.7%	1.2%	154.2%
61	2070	3.0%	-5.9%	-1.6%	-0.3%	1.8%	-32.0%	-35.0%	153.8%
62	2071							1.1%	153.8%
63	2072							1.0%	153.8%
64	2073							0.9%	153.8%
65	2074							0.9%	153.8%
66	2075							0.8%	153.8%
67	2076							0.7%	153.8%
68	2077							0.7%	153.8%
69	2078							0.6%	153.8%
70	2079							0.6%	153.8%
71	2080							0.5%	153.8%
72	2081							0.5%	153.8%
73	2082							0.5%	153.8%
74	2083							0.4%	153.8%
75	2084							0.4%	153.8%
76	2085							0.4%	153.8%
77	2086							0.4%	153.8%
78	2087							0.3%	153.8%
79	2088							0.3%	153.8%
80	2089							0.3%	153.8%
81	2090							0.3%	153.8%
PV		38.3%	49.4%	28.5%	5.5%	8.7%	23.8%	-0.4%	153.8%
Levelized		2.95%	3.80%	2.19%	0.42%	0.67%	1.83%	-0.03%	11.84%

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

357

Underground Conduit**COMPONENTS:**

	Present Value	Levelized
o Book Depreciation	23.47%	1.82%
o Return	64.14%	4.97%
o Federal Tax	24.98%	1.93%
o State Tax	4.73%	0.37%
o Property Tax	10.31%	0.80%
o A&G, Insurance	23.63%	1.83%
o Tax Adjustment for Salvage	0.00%	0.00%
Total	151.3%	11.7%

ASSUMPTIONS:

- o In-service: 2016
- o Book Life or Economic Life: 55 Years
- o Book Salvage: 0.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

	<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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- o Federal Tax: 150% DB 15 Yrs 35.0%
- o State Tax: 200% DB 30 Yrs 8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
HCLD: Historical Cost Less Depreciation

- o Overhead Expense: -- A&G 1.44%
- Insuranc 0.39%

Total	1.83%
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o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 357 Underground Conduit

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	1.8%	7.6%	3.0%	0.7%	1.0%	1.8%		15.9%	92.9%	14.8%
2 2011	1.8%	7.4%	2.9%	0.4%	1.0%	1.8%		15.3%	86.4%	28.0%
3 2012	1.8%	7.0%	2.7%	0.4%	1.0%	1.8%		14.8%	80.3%	39.8%
4 2013	1.8%	6.7%	2.6%	0.4%	1.0%	1.8%		14.3%	74.6%	50.5%
5 2014	1.8%	6.4%	2.5%	0.4%	1.0%	1.8%		13.9%	69.3%	60.2%
6 2015	1.8%	6.2%	2.4%	0.4%	0.9%	1.8%		13.5%	64.4%	68.9%
7 2016	1.8%	5.9%	2.3%	0.4%	0.9%	1.8%		13.1%	59.9%	76.7%
8 2017	1.8%	5.7%	2.2%	0.4%	0.9%	1.8%		12.8%	55.6%	83.8%
9 2018	1.8%	5.4%	2.1%	0.4%	0.9%	1.8%		12.4%	51.7%	90.3%
10 2019	1.8%	5.2%	2.0%	0.4%	0.9%	1.8%		12.1%	48.0%	96.1%
11 2020	1.8%	4.9%	1.9%	0.4%	0.8%	1.8%		11.7%	44.6%	101.3%
12 2021	1.8%	4.7%	1.8%	0.4%	0.8%	1.8%		11.3%	41.5%	106.0%
13 2022	1.8%	4.4%	1.7%	0.4%	0.8%	1.8%		11.0%	38.5%	110.2%
14 2023	1.8%	4.2%	1.6%	0.4%	0.8%	1.8%		10.6%	35.8%	114.0%
15 2024	1.8%	3.9%	1.5%	0.3%	0.8%	1.8%		10.2%	33.3%	117.4%
16 2025	1.8%	3.7%	1.4%	0.3%	0.7%	1.8%		9.9%	30.9%	120.5%
17 2026	1.8%	3.5%	1.4%	0.3%	0.7%	1.8%		9.6%	28.7%	123.3%
18 2027	1.8%	3.4%	1.3%	0.3%	0.7%	1.8%		9.5%	26.7%	125.8%
19 2028	1.8%	3.3%	1.3%	0.3%	0.7%	1.8%		9.3%	24.8%	128.1%
20 2029	1.8%	3.3%	1.3%	0.3%	0.7%	1.8%		9.2%	23.1%	130.2%
21 2030	1.8%	3.2%	1.2%	0.3%	0.7%	1.8%		9.0%	21.4%	132.1%
22 2031	1.8%	3.1%	1.2%	0.3%	0.6%	1.8%		8.8%	19.9%	133.9%
23 2032	1.8%	3.0%	1.2%	0.3%	0.6%	1.8%		8.7%	18.5%	135.5%
24 2033	1.8%	2.9%	1.1%	0.3%	0.6%	1.8%		8.5%	17.2%	137.0%
25 2034	1.8%	2.8%	1.1%	0.3%	0.6%	1.8%		8.4%	16.0%	138.3%
26 2035	1.8%	2.7%	1.1%	0.2%	0.6%	1.8%		8.2%	14.9%	139.5%
27 2036	1.8%	2.6%	1.0%	0.2%	0.5%	1.8%		8.1%	13.8%	140.7%
28 2037	1.8%	2.5%	1.0%	0.2%	0.5%	1.8%		7.9%	12.8%	141.7%
29 2038	1.8%	2.4%	1.0%	0.2%	0.5%	1.8%		7.8%	11.9%	142.6%
30 2039	1.8%	2.4%	0.9%	0.2%	0.5%	1.8%		7.6%	11.1%	143.4%
31 2040	1.8%	2.3%	0.9%	0.3%	0.5%	1.8%		7.6%	10.3%	144.2%
32 2041	1.8%	2.2%	0.9%	0.4%	0.4%	1.8%		7.5%	9.6%	144.9%
33 2042	1.8%	2.1%	0.8%	0.4%	0.4%	1.8%		7.4%	8.9%	145.6%
34 2043	1.8%	2.0%	0.8%	0.4%	0.4%	1.8%		7.2%	8.3%	146.2%
35 2044	1.8%	1.9%	0.7%	0.4%	0.4%	1.8%		7.1%	7.7%	146.7%
36 2045	1.8%	1.8%	0.7%	0.4%	0.4%	1.8%		6.9%	7.1%	147.2%
37 2046	1.8%	1.7%	0.7%	0.4%	0.4%	1.8%		6.8%	6.6%	147.7%
38 2047	1.8%	1.6%	0.6%	0.4%	0.3%	1.8%		6.6%	6.2%	148.1%
39 2048	1.8%	1.5%	0.6%	0.3%	0.3%	1.8%		6.5%	5.7%	148.5%
40 2049	1.8%	1.4%	0.6%	0.3%	0.3%	1.8%		6.3%	5.3%	148.8%
41 2050	1.8%	1.4%	0.5%	0.3%	0.3%	1.8%		6.1%	4.9%	149.1%
42 2051	1.8%	1.3%	0.5%	0.3%	0.3%	1.8%		6.0%	4.6%	149.4%
43 2052	1.8%	1.2%	0.5%	0.3%	0.2%	1.8%		5.8%	4.3%	149.6%
44 2053	1.8%	1.1%	0.4%	0.3%	0.2%	1.8%		5.7%	4.0%	149.9%
45 2054	1.8%	1.0%	0.4%	0.3%	0.2%	1.8%		5.5%	3.7%	150.1%
46 2055	1.8%	0.9%	0.4%	0.3%	0.2%	1.8%		5.4%	3.4%	150.2%
47 2056	1.8%	0.8%	0.3%	0.3%	0.2%	1.8%		5.2%	3.2%	150.4%
48 2057	1.8%	0.7%	0.3%	0.3%	0.1%	1.8%		5.1%	3.0%	150.6%
49 2058	1.8%	0.6%	0.3%	0.2%	0.1%	1.8%		4.9%	2.8%	150.7%
50 2059	1.8%	0.5%	0.2%	0.2%	0.1%	1.8%		4.8%	2.6%	150.8%
51 2060	1.8%	0.5%	0.2%	0.2%	0.1%	1.8%		4.6%	2.4%	150.9%
52 2061	1.8%	0.4%	0.2%	0.2%	0.1%	1.8%		4.5%	2.2%	151.0%
53 2062	1.8%	0.3%	0.1%	0.2%	0.1%	1.8%		4.3%	2.1%	151.1%

54	2063	1.8%	0.2%	0.1%	0.2%	0.0%	1.8%	4.1%	1.9%	151.2%	
55	2064	1.8%	0.1%	0.0%	0.2%		1.8%	0.2%	4.2%	1.8%	151.3%
56	2065									1.6%	151.3%
57	2066									1.5%	151.3%
58	2067									1.4%	151.3%
59	2068									1.3%	151.3%
60	2069									1.2%	151.3%
61	2070									1.1%	151.3%
62	2071									1.1%	151.3%
63	2072									1.0%	151.3%
64	2073									0.9%	151.3%
65	2074									0.9%	151.3%
66	2075									0.8%	151.3%
67	2076									0.7%	151.3%
68	2077									0.7%	151.3%
69	2078									0.6%	151.3%
70	2079									0.6%	151.3%
71	2080									0.5%	151.3%
72	2081									0.5%	151.3%
73	2082									0.5%	151.3%
74	2083									0.4%	151.3%
75	2084									0.4%	151.3%
76	2085									0.4%	151.3%
77	2086									0.4%	151.3%
78	2087									0.3%	151.3%
79	2088									0.3%	151.3%
80	2089									0.3%	151.3%
81	2090									0.3%	151.3%
PV		23.5%	64.1%	25.0%	4.7%	10.3%	23.6%	0.0%	151.3%		
Levelized		1.82%	4.97%	1.93%	0.37%	0.80%	1.83%	0.00%	11.72%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

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Underground Cond & Devices**COMPONENTS:**

	Present Value	Levelized
o Book Depreciation	35.78%	2.87%
o Return	55.27%	4.44%
o Federal Tax	24.11%	1.94%
o State Tax	5.22%	0.42%
o Property Tax	8.78%	0.71%
o A&G, Insurance	22.77%	1.83%
o Tax Adjustment for Salvage	-0.33%	-0.03%
Total	151.6%	12.2%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 40 Years
 o Book Salvage: -15.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

	<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	150% DB 15 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total 1.83%

o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 358 Underground Cond & Devices

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	2.9%	7.6%	3.2%	0.8%	1.0%	1.8%		17.3%	92.9%	16.1%
2 2011	2.9%	7.3%	3.1%	0.5%	1.0%	1.8%		16.5%	86.4%	30.4%
3 2012	2.9%	6.9%	2.9%	0.5%	1.0%	1.8%		16.0%	80.3%	43.2%
4 2013	2.9%	6.5%	2.8%	0.5%	0.9%	1.8%		15.4%	74.6%	54.7%
5 2014	2.9%	6.2%	2.6%	0.5%	0.9%	1.8%		14.9%	69.3%	65.0%
6 2015	2.9%	5.9%	2.5%	0.5%	0.9%	1.8%		14.4%	64.4%	74.2%
7 2016	2.9%	5.5%	2.4%	0.5%	0.8%	1.8%		13.9%	59.9%	82.6%
8 2017	2.9%	5.2%	2.2%	0.5%	0.8%	1.8%		13.4%	55.6%	90.0%
9 2018	2.9%	4.9%	2.1%	0.4%	0.8%	1.8%		13.0%	51.7%	96.7%
10 2019	2.9%	4.6%	2.0%	0.4%	0.8%	1.8%		12.5%	48.0%	102.8%
11 2020	2.9%	4.3%	1.9%	0.4%	0.7%	1.8%		12.1%	44.6%	108.1%
12 2021	2.9%	4.0%	1.8%	0.4%	0.7%	1.8%		11.6%	41.5%	112.9%
13 2022	2.9%	3.7%	1.6%	0.4%	0.7%	1.8%		11.1%	38.5%	117.2%
14 2023	2.9%	3.4%	1.5%	0.4%	0.6%	1.8%		10.6%	35.8%	121.0%
15 2024	2.9%	3.1%	1.4%	0.4%	0.6%	1.8%		10.2%	33.3%	124.4%
16 2025	2.9%	2.8%	1.3%	0.4%	0.6%	1.8%		9.7%	30.9%	127.4%
17 2026	2.9%	2.5%	1.2%	0.3%	0.6%	1.8%		9.3%	28.7%	130.1%
18 2027	2.9%	2.4%	1.1%	0.3%	0.5%	1.8%		9.1%	26.7%	132.5%
19 2028	2.9%	2.2%	1.1%	0.3%	0.5%	1.8%		8.8%	24.8%	134.7%
20 2029	2.9%	2.1%	1.0%	0.3%	0.5%	1.8%		8.6%	23.1%	136.7%
21 2030	2.9%	1.9%	1.0%	0.3%	0.4%	1.8%		8.3%	21.4%	138.5%
22 2031	2.9%	1.8%	0.9%	0.3%	0.4%	1.8%		8.0%	19.9%	140.1%
23 2032	2.9%	1.6%	0.8%	0.2%	0.4%	1.8%		7.8%	18.5%	141.5%
24 2033	2.9%	1.5%	0.8%	0.2%	0.3%	1.8%		7.5%	17.2%	142.8%
25 2034	2.9%	1.3%	0.7%	0.2%	0.3%	1.8%		7.3%	16.0%	144.0%
26 2035	2.9%	1.2%	0.7%	0.2%	0.3%	1.8%		7.0%	14.9%	145.0%
27 2036	2.9%	1.0%	0.6%	0.2%	0.3%	1.8%		6.8%	13.8%	145.9%
28 2037	2.9%	0.8%	0.5%	0.2%	0.2%	1.8%		6.5%	12.8%	146.8%
29 2038	2.9%	0.7%	0.5%	0.1%	0.2%	1.8%		6.2%	11.9%	147.5%
30 2039	2.9%	0.5%	0.4%	0.1%	0.2%	1.8%		6.0%	11.1%	148.2%
31 2040	2.9%	0.4%	0.4%	0.2%	0.1%	1.8%		5.8%	10.3%	148.8%
32 2041	2.9%	0.2%	0.3%	0.3%	0.1%	1.8%		5.7%	9.6%	149.3%
33 2042	2.9%	0.1%	0.3%	0.3%	0.1%	1.8%		5.4%	8.9%	149.8%
34 2043	2.9%	-0.1%	0.2%	0.3%	0.1%	1.8%		5.2%	8.3%	150.2%
35 2044	2.9%	-0.2%	0.1%	0.3%		1.8%		4.9%	7.7%	150.6%
36 2045	2.9%	-0.4%	0.1%	0.3%		1.8%		4.7%	7.1%	151.0%
37 2046	2.9%	-0.5%	0.0%	0.2%		1.8%		4.4%	6.6%	151.2%
38 2047	2.9%	-0.7%	0.0%	0.2%		1.8%		4.2%	6.2%	151.5%
39 2048	2.9%	-0.8%	-0.1%	0.2%		1.8%		4.0%	5.7%	151.7%
40 2049	2.9%	-1.0%	-0.2%	0.2%		1.8%	-6.1%	-2.4%	5.3%	151.6%
41 2050									4.9%	151.6%
42 2051									4.6%	151.6%
43 2052									4.3%	151.6%
44 2053									4.0%	151.6%
45 2054									3.7%	151.6%
46 2055									3.4%	151.6%
47 2056									3.2%	151.6%
48 2057									3.0%	151.6%
49 2058									2.8%	151.6%
50 2059									2.6%	151.6%
51 2060									2.4%	151.6%
52 2061									2.2%	151.6%
53 2062									2.1%	151.6%

54	2063									1.9%	151.6%
55	2064									1.8%	151.6%
56	2065									1.6%	151.6%
57	2066									1.5%	151.6%
58	2067									1.4%	151.6%
59	2068									1.3%	151.6%
60	2069									1.2%	151.6%
61	2070									1.1%	151.6%
62	2071									1.1%	151.6%
63	2072									1.0%	151.6%
64	2073									0.9%	151.6%
65	2074									0.9%	151.6%
66	2075									0.8%	151.6%
67	2076									0.7%	151.6%
68	2077									0.7%	151.6%
69	2078									0.6%	151.6%
70	2079									0.6%	151.6%
71	2080									0.5%	151.6%
72	2081									0.5%	151.6%
73	2082									0.5%	151.6%
74	2083									0.4%	151.6%
75	2084									0.4%	151.6%
76	2085									0.4%	151.6%
77	2086									0.4%	151.6%
78	2087									0.3%	151.6%
79	2088									0.3%	151.6%
80	2089									0.3%	151.6%
81	2090									0.3%	151.6%
PV		35.8%	55.3%	24.1%	5.2%	8.8%	22.8%	-0.3%	151.6%		
Levelized		2.87%	4.44%	1.94%	0.42%	0.71%	1.83%	-0.03%	12.18%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

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Roads and Trails**COMPONENTS:**

	Present Value	Levelized
o Book Depreciation	21.64%	1.67%
o Return	67.85%	5.23%
o Federal Tax	26.41%	2.03%
o State Tax	4.95%	0.38%
o Property Tax	10.56%	0.81%
o A&G, Insurance	23.76%	1.83%
o Tax Adjustment for Salvage	0.01%	0.00%
Total	155.2%	12.0%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 60 Years
 o Book Salvage: 0.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	150% DB 20 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense:	-- A&G	1.44%
	-- Insuranc	0.39%
Total		1.83%

o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 359 Roads and Trails

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjsted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	1.7%	7.6%	3.0%	0.7%	1.0%	1.8%		15.7%	92.9%	14.6%
2 2011	1.7%	7.4%	2.9%	0.3%	1.0%	1.8%		15.2%	86.4%	27.7%
3 2012	1.7%	7.2%	2.8%	0.4%	1.0%	1.8%		14.8%	80.3%	39.6%
4 2013	1.7%	6.9%	2.7%	0.4%	1.0%	1.8%		14.4%	74.6%	50.3%
5 2014	1.7%	6.7%	2.6%	0.4%	1.0%	1.8%		14.1%	69.3%	60.1%
6 2015	1.7%	6.4%	2.5%	0.4%	0.9%	1.8%		13.7%	64.4%	68.9%
7 2016	1.7%	6.2%	2.4%	0.4%	0.9%	1.8%		13.4%	59.9%	76.9%
8 2017	1.7%	6.0%	2.3%	0.4%	0.9%	1.8%		13.1%	55.6%	84.2%
9 2018	1.7%	5.8%	2.2%	0.4%	0.9%	1.8%		12.8%	51.7%	90.9%
10 2019	1.7%	5.6%	2.2%	0.4%	0.9%	1.8%		12.5%	48.0%	96.9%
11 2020	1.7%	5.4%	2.1%	0.4%	0.9%	1.8%		12.2%	44.6%	102.3%
12 2021	1.7%	5.2%	2.0%	0.4%	0.8%	1.8%		11.9%	41.5%	107.3%
13 2022	1.7%	5.0%	1.9%	0.4%	0.8%	1.8%		11.6%	38.5%	111.8%
14 2023	1.7%	4.8%	1.9%	0.4%	0.8%	1.8%		11.3%	35.8%	115.8%
15 2024	1.7%	4.6%	1.8%	0.4%	0.8%	1.8%		11.0%	33.3%	119.5%
16 2025	1.7%	4.4%	1.7%	0.4%	0.8%	1.8%		10.7%	30.9%	122.9%
17 2026	1.7%	4.2%	1.6%	0.4%	0.8%	1.8%		10.4%	28.7%	125.9%
18 2027	1.7%	4.0%	1.6%	0.4%	0.7%	1.8%		10.1%	26.7%	128.6%
19 2028	1.7%	3.8%	1.5%	0.3%	0.7%	1.8%		9.8%	24.8%	131.0%
20 2029	1.7%	3.6%	1.4%	0.3%	0.7%	1.8%		9.5%	23.1%	133.2%
21 2030	1.7%	3.4%	1.3%	0.3%	0.7%	1.8%		9.2%	21.4%	135.1%
22 2031	1.7%	3.2%	1.3%	0.3%	0.7%	1.8%		8.9%	19.9%	136.9%
23 2032	1.7%	3.2%	1.2%	0.3%	0.6%	1.8%		8.8%	18.5%	138.6%
24 2033	1.7%	3.1%	1.2%	0.3%	0.6%	1.8%		8.7%	17.2%	140.1%
25 2034	1.7%	3.0%	1.2%	0.3%	0.6%	1.8%		8.5%	16.0%	141.4%
26 2035	1.7%	2.9%	1.1%	0.2%	0.6%	1.8%		8.4%	14.9%	142.7%
27 2036	1.7%	2.8%	1.1%	0.2%	0.6%	1.8%		8.2%	13.8%	143.8%
28 2037	1.7%	2.7%	1.1%	0.2%	0.6%	1.8%		8.1%	12.8%	144.8%
29 2038	1.7%	2.7%	1.0%	0.2%	0.5%	1.8%		8.0%	11.9%	145.8%
30 2039	1.7%	2.6%	1.0%	0.2%	0.5%	1.8%		7.8%	11.1%	146.7%
31 2040	1.7%	2.5%	1.0%	0.3%	0.5%	1.8%		7.8%	10.3%	147.5%
32 2041	1.7%	2.4%	0.9%	0.4%	0.5%	1.8%		7.8%	9.6%	148.2%
33 2042	1.7%	2.3%	0.9%	0.4%	0.5%	1.8%		7.6%	8.9%	148.9%
34 2043	1.7%	2.2%	0.9%	0.4%	0.5%	1.8%		7.5%	8.3%	149.5%
35 2044	1.7%	2.2%	0.8%	0.4%	0.4%	1.8%		7.3%	7.7%	150.1%
36 2045	1.7%	2.1%	0.8%	0.4%	0.4%	1.8%		7.2%	7.1%	150.6%
37 2046	1.7%	2.0%	0.8%	0.4%	0.4%	1.8%		7.1%	6.6%	151.0%
38 2047	1.7%	1.9%	0.8%	0.4%	0.4%	1.8%		6.9%	6.2%	151.5%
39 2048	1.7%	1.8%	0.7%	0.4%	0.4%	1.8%		6.8%	5.7%	151.9%
40 2049	1.7%	1.7%	0.7%	0.3%	0.4%	1.8%		6.6%	5.3%	152.2%
41 2050	1.7%	1.7%	0.7%	0.3%	0.3%	1.8%		6.5%	4.9%	152.5%
42 2051	1.7%	1.6%	0.6%	0.3%	0.3%	1.8%		6.4%	4.6%	152.8%
43 2052	1.7%	1.5%	0.6%	0.3%	0.3%	1.8%		6.2%	4.3%	153.1%
44 2053	1.7%	1.4%	0.6%	0.3%	0.3%	1.8%		6.1%	4.0%	153.3%
45 2054	1.7%	1.3%	0.5%	0.3%	0.3%	1.8%		5.9%	3.7%	153.5%
46 2055	1.7%	1.2%	0.5%	0.3%	0.3%	1.8%		5.8%	3.4%	153.7%
47 2056	1.7%	1.2%	0.5%	0.3%	0.2%	1.8%		5.6%	3.2%	153.9%
48 2057	1.7%	1.1%	0.4%	0.3%	0.2%	1.8%		5.5%	3.0%	154.1%
49 2058	1.7%	1.0%	0.4%	0.3%	0.2%	1.8%		5.4%	2.8%	154.2%
50 2059	1.7%	0.9%	0.4%	0.3%	0.2%	1.8%		5.2%	2.6%	154.4%
51 2060	1.7%	0.8%	0.3%	0.3%	0.2%	1.8%		5.1%	2.4%	154.5%
52 2061	1.7%	0.7%	0.3%	0.2%	0.2%	1.8%		4.9%	2.2%	154.6%
53 2062	1.7%	0.7%	0.3%	0.2%	0.1%	1.8%		4.8%	2.1%	154.7%

54	2063	1.7%	0.6%	0.2%	0.2%	0.1%	1.8%		4.7%	1.9%	154.8%
55	2064	1.7%	0.5%	0.2%	0.2%	0.1%	1.8%		4.5%	1.8%	154.9%
56	2065	1.7%	0.4%	0.2%	0.2%	0.1%	1.8%		4.4%	1.6%	154.9%
57	2066	1.7%	0.3%	0.1%	0.2%	0.1%	1.8%		4.2%	1.5%	155.0%
58	2067	1.7%	0.2%	0.1%	0.2%	0.1%	1.8%		4.1%	1.4%	155.1%
59	2068	1.7%	0.2%	0.1%	0.2%	0.0%	1.8%		4.0%	1.3%	155.1%
60	2069	1.7%	0.1%	0.0%	0.2%		1.8%	0.5%	4.3%	1.2%	155.2%
61	2070									1.1%	155.2%
62	2071									1.1%	155.2%
63	2072									1.0%	155.2%
64	2073									0.9%	155.2%
65	2074									0.9%	155.2%
66	2075									0.8%	155.2%
67	2076									0.7%	155.2%
68	2077									0.7%	155.2%
69	2078									0.6%	155.2%
70	2079									0.6%	155.2%
71	2080									0.5%	155.2%
72	2081									0.5%	155.2%
73	2082									0.5%	155.2%
74	2083									0.4%	155.2%
75	2084									0.4%	155.2%
76	2085									0.4%	155.2%
77	2086									0.4%	155.2%
78	2087									0.3%	155.2%
79	2088									0.3%	155.2%
80	2089									0.3%	155.2%
81	2090									0.3%	155.2%
PV		21.6%	67.9%	26.4%	4.9%	10.6%	23.8%	0.0%	155.2%		
Levelized		1.67%	5.23%	2.03%	0.38%	0.81%	1.83%	0.00%	11.95%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

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Structures and Improvements**COMPONENTS:**

	Present Val.	Levelized
o Book Depreciation	37.32%	2.98%
o Return	63.56%	5.07%
o Federal Tax	28.82%	2.30%
o State Tax	7.87%	0.63%
o Property Tax	8.65%	0.69%
o A&G, Insurance	22.95%	1.83%
o Tax Adjustment for Salvage	-0.49%	-0.04%
Total	168.7%	13.5%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 42 Years
 o Book Salvage: -25.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

	<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	SL 39 Yrs	35.0%
o State Tax:	150% DB 45 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense:	-- A&G	1.44%
	-- Insuranc	0.39%
Total		1.83%

o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 361 Structures and Improvements

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	3.0%	7.6%	3.3%	1.0%	1.0%	1.8%		17.7%	92.9%	16.4%
2 2011	3.0%	7.4%	3.2%	0.8%	1.0%	1.8%		17.2%	86.4%	31.3%
3 2012	3.0%	7.2%	3.1%	0.8%	1.0%	1.8%		16.9%	80.3%	44.8%
4 2013	3.0%	6.9%	3.0%	0.8%	0.9%	1.8%		16.5%	74.6%	57.1%
5 2014	3.0%	6.7%	2.9%	0.8%	0.9%	1.8%		16.1%	69.3%	68.3%
6 2015	3.0%	6.5%	2.8%	0.7%	0.9%	1.8%		15.8%	64.4%	78.5%
7 2016	3.0%	6.3%	2.8%	0.7%	0.8%	1.8%		15.4%	59.9%	87.7%
8 2017	3.0%	6.0%	2.7%	0.7%	0.8%	1.8%		15.0%	55.6%	96.0%
9 2018	3.0%	5.8%	2.6%	0.7%	0.8%	1.8%		14.7%	51.7%	103.6%
10 2019	3.0%	5.6%	2.5%	0.7%	0.8%	1.8%		14.3%	48.0%	110.5%
11 2020	3.0%	5.3%	2.4%	0.7%	0.7%	1.8%		13.9%	44.6%	116.7%
12 2021	3.0%	5.1%	2.3%	0.6%	0.7%	1.8%		13.5%	41.5%	122.3%
13 2022	3.0%	4.9%	2.2%	0.6%	0.7%	1.8%		13.2%	38.5%	127.4%
14 2023	3.0%	4.6%	2.1%	0.6%	0.6%	1.8%		12.8%	35.8%	132.0%
15 2024	3.0%	4.4%	2.0%	0.6%	0.6%	1.8%		12.4%	33.3%	136.1%
16 2025	3.0%	4.2%	2.0%	0.6%	0.6%	1.8%		12.1%	30.9%	139.8%
17 2026	3.0%	3.9%	1.9%	0.6%	0.5%	1.8%		11.7%	28.7%	143.2%
18 2027	3.0%	3.7%	1.8%	0.5%	0.5%	1.8%		11.3%	26.7%	146.2%
19 2028	3.0%	3.5%	1.7%	0.5%	0.5%	1.8%		10.9%	24.8%	148.9%
20 2029	3.0%	3.2%	1.6%	0.5%	0.4%	1.8%		10.6%	23.1%	151.4%
21 2030	3.0%	3.0%	1.5%	0.5%	0.4%	1.8%		10.2%	21.4%	153.6%
22 2031	3.0%	2.8%	1.4%	0.4%	0.4%	1.8%		9.8%	19.9%	155.5%
23 2032	3.0%	2.6%	1.3%	0.4%	0.4%	1.8%		9.4%	18.5%	157.3%
24 2033	3.0%	2.3%	1.2%	0.4%	0.3%	1.8%		9.1%	17.2%	158.8%
25 2034	3.0%	2.1%	1.1%	0.4%	0.3%	1.8%		8.7%	16.0%	160.2%
26 2035	3.0%	1.9%	1.1%	0.3%	0.3%	1.8%		8.3%	14.9%	161.5%
27 2036	3.0%	1.6%	1.0%	0.3%	0.2%	1.8%		7.9%	13.8%	162.6%
28 2037	3.0%	1.4%	0.9%	0.3%	0.2%	1.8%		7.6%	12.8%	163.5%
29 2038	3.0%	1.2%	0.8%	0.3%	0.2%	1.8%		7.2%	11.9%	164.4%
30 2039	3.0%	0.9%	0.7%	0.2%	0.1%	1.8%		6.8%	11.1%	165.1%
31 2040	3.0%	0.7%	0.6%	0.2%	0.1%	1.8%		6.4%	10.3%	165.8%
32 2041	3.0%	0.5%	0.5%	0.2%	0.1%	1.8%		6.1%	9.6%	166.4%
33 2042	3.0%	0.2%	0.4%	0.2%	0.0%	1.8%		5.7%	8.9%	166.9%
34 2043	3.0%	0.0%	0.3%	0.1%		1.8%		5.3%	8.3%	167.3%
35 2044	3.0%	-0.2%	0.3%	0.1%		1.8%		4.9%	7.7%	167.7%
36 2045	3.0%	-0.5%	0.2%	0.1%		1.8%		4.6%	7.1%	168.0%
37 2046	3.0%	-0.7%	0.1%	0.1%		1.8%		4.3%	6.6%	168.3%
38 2047	3.0%	-0.9%	0.0%	0.0%		1.8%		3.9%	6.2%	168.6%
39 2048	3.0%	-1.1%	-0.1%	0.0%		1.8%		3.6%	5.7%	168.8%
40 2049	3.0%	-1.4%	-0.2%	0.0%		1.8%		3.2%	5.3%	168.9%
41 2050	3.0%	-1.6%	-0.3%	0.0%		1.8%		2.9%	4.9%	169.1%
42 2051	3.0%	-1.7%	-0.3%	-0.1%		1.8%	-10.6%	-7.9%	4.6%	168.7%
43 2052				-0.2%				-0.2%	4.3%	168.7%
44 2053				-0.2%				-0.2%	4.0%	168.7%
45 2054				-0.2%				-0.2%	3.7%	168.7%
46 2055				-0.1%				-0.1%	3.4%	168.7%
47 2056									3.2%	168.7%
48 2057									3.0%	168.7%
49 2058									2.8%	168.7%
50 2059									2.6%	168.7%
51 2060									2.4%	168.7%
52 2061									2.2%	168.7%
53 2062									2.1%	168.7%

54	2063								1.9%	168.7%
55	2064								1.8%	168.7%
56	2065								1.6%	168.7%
57	2066								1.5%	168.7%
58	2067								1.4%	168.7%
59	2068								1.3%	168.7%
60	2069								1.2%	168.7%
61	2070								1.1%	168.7%
62	2071								1.1%	168.7%
63	2072								1.0%	168.7%
64	2073								0.9%	168.7%
65	2074								0.9%	168.7%
66	2075								0.8%	168.7%
67	2076								0.7%	168.7%
68	2077								0.7%	168.7%
69	2078								0.6%	168.7%
70	2079								0.6%	168.7%
71	2080								0.5%	168.7%
72	2081								0.5%	168.7%
73	2082								0.5%	168.7%
74	2083								0.4%	168.7%
75	2084								0.4%	168.7%
76	2085								0.4%	168.7%
77	2086								0.4%	168.7%
78	2087								0.3%	168.7%
79	2088								0.3%	168.7%
80	2089								0.3%	168.7%
81	2090								0.3%	168.7%
PV		37.3%	63.6%	28.8%	7.9%	8.7%	22.9%	-0.5%	168.7%	
Levelized		2.98%	5.07%	2.30%	0.63%	0.69%	1.83%	-0.04%	13.45%	

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

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Station Equipment**COMPONENTS:**

	Present Val	Levelized
o Book Depreciation	35.16%	2.78%
o Return	57.49%	4.54%
o Federal Tax	26.23%	2.07%
o State Tax	5.52%	0.44%
o Property Tax	8.91%	0.70%
o A&G, Insurance	23.17%	1.83%
o Tax Adjustment for Salvage	-0.38%	-0.03%
Total	156.1%	12.3%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 45 Years
 o Book Salvage: -25.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

	<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	150% DB 20 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total 1.83%

o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 362 Station Equipment

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	2.8%	7.6%	3.3%	0.8%	1.0%	1.8%		17.3%	92.9%	16.1%
2 2011	2.8%	7.4%	3.2%	0.5%	1.0%	1.8%		16.6%	86.4%	30.4%
3 2012	2.8%	7.0%	3.0%	0.5%	1.0%	1.8%		16.1%	80.3%	43.3%
4 2013	2.8%	6.7%	2.9%	0.5%	0.9%	1.8%		15.6%	74.6%	55.0%
5 2014	2.8%	6.4%	2.8%	0.5%	0.9%	1.8%		15.2%	69.3%	65.5%
6 2015	2.8%	6.1%	2.7%	0.5%	0.9%	1.8%		14.7%	64.4%	74.9%
7 2016	2.8%	5.8%	2.5%	0.5%	0.9%	1.8%		14.3%	59.9%	83.5%
8 2017	2.8%	5.5%	2.4%	0.5%	0.8%	1.8%		13.8%	55.6%	91.2%
9 2018	2.8%	5.2%	2.3%	0.5%	0.8%	1.8%		13.4%	51.7%	98.1%
10 2019	2.8%	5.0%	2.2%	0.5%	0.8%	1.8%		13.0%	48.0%	104.4%
11 2020	2.8%	4.7%	2.1%	0.5%	0.7%	1.8%		12.6%	44.6%	110.0%
12 2021	2.8%	4.4%	2.0%	0.5%	0.7%	1.8%		12.2%	41.5%	115.1%
13 2022	2.8%	4.1%	1.9%	0.5%	0.7%	1.8%		11.8%	38.5%	119.6%
14 2023	2.8%	3.9%	1.8%	0.4%	0.7%	1.8%		11.4%	35.8%	123.7%
15 2024	2.8%	3.6%	1.7%	0.4%	0.6%	1.8%		11.0%	33.3%	127.4%
16 2025	2.8%	3.3%	1.6%	0.4%	0.6%	1.8%		10.6%	30.9%	130.6%
17 2026	2.8%	3.1%	1.5%	0.4%	0.6%	1.8%		10.1%	28.7%	133.6%
18 2027	2.8%	2.8%	1.4%	0.4%	0.5%	1.8%		9.7%	26.7%	136.2%
19 2028	2.8%	2.5%	1.3%	0.3%	0.5%	1.8%		9.3%	24.8%	138.5%
20 2029	2.8%	2.2%	1.2%	0.3%	0.5%	1.8%		8.8%	23.1%	140.5%
21 2030	2.8%	2.0%	1.1%	0.3%	0.5%	1.8%		8.4%	21.4%	142.3%
22 2031	2.8%	1.8%	1.0%	0.3%	0.4%	1.8%		8.1%	19.9%	143.9%
23 2032	2.8%	1.6%	0.9%	0.2%	0.4%	1.8%		7.8%	18.5%	145.3%
24 2033	2.8%	1.5%	0.9%	0.2%	0.4%	1.8%		7.6%	17.2%	146.6%
25 2034	2.8%	1.3%	0.8%	0.2%	0.3%	1.8%		7.3%	16.0%	147.8%
26 2035	2.8%	1.2%	0.8%	0.2%	0.3%	1.8%		7.0%	14.9%	148.9%
27 2036	2.8%	1.0%	0.7%	0.2%	0.3%	1.8%		6.8%	13.8%	149.8%
28 2037	2.8%	0.9%	0.6%	0.2%	0.3%	1.8%		6.5%	12.8%	150.6%
29 2038	2.8%	0.7%	0.6%	0.1%	0.2%	1.8%		6.3%	11.9%	151.4%
30 2039	2.8%	0.5%	0.5%	0.1%	0.2%	1.8%		6.0%	11.1%	152.0%
31 2040	2.8%	0.4%	0.5%	0.2%	0.2%	1.8%		5.9%	10.3%	152.7%
32 2041	2.8%	0.2%	0.4%	0.3%	0.1%	1.8%		5.7%	9.6%	153.2%
33 2042	2.8%	0.1%	0.3%	0.3%	0.1%	1.8%		5.5%	8.9%	153.7%
34 2043	2.8%	-0.1%	0.3%	0.3%	0.1%	1.8%		5.2%	8.3%	154.1%
35 2044	2.8%	-0.2%	0.2%	0.3%	0.1%	1.8%		5.0%	7.7%	154.5%
36 2045	2.8%	-0.4%	0.2%	0.3%		1.8%		4.7%	7.1%	154.8%
37 2046	2.8%	-0.5%	0.1%	0.2%		1.8%		4.4%	6.6%	155.1%
38 2047	2.8%	-0.7%	0.1%	0.2%		1.8%		4.2%	6.2%	155.4%
39 2048	2.8%	-0.8%	0.0%	0.2%		1.8%		4.0%	5.7%	155.6%
40 2049	2.8%	-1.0%	-0.1%	0.2%		1.8%		3.8%	5.3%	155.8%
41 2050	2.8%	-1.1%	-0.1%	0.2%		1.8%		3.5%	4.9%	156.0%
42 2051	2.8%	-1.3%	-0.2%	0.2%		1.8%		3.3%	4.6%	156.1%
43 2052	2.8%	-1.4%	-0.2%	0.1%		1.8%		3.1%	4.3%	156.3%
44 2053	2.8%	-1.6%	-0.3%	0.1%		1.8%		2.8%	4.0%	156.4%
45 2054	2.8%	-1.7%	-0.4%	0.1%		1.8%	-10.2%	-7.6%	3.7%	156.1%
46 2055									3.4%	156.1%
47 2056									3.2%	156.1%
48 2057									3.0%	156.1%
49 2058									2.8%	156.1%
50 2059									2.6%	156.1%
51 2060									2.4%	156.1%
52 2061									2.2%	156.1%
53 2062									2.1%	156.1%

54	2063									1.9%	156.1%
55	2064									1.8%	156.1%
56	2065									1.6%	156.1%
57	2066									1.5%	156.1%
58	2067									1.4%	156.1%
59	2068									1.3%	156.1%
60	2069									1.2%	156.1%
61	2070									1.1%	156.1%
62	2071									1.1%	156.1%
63	2072									1.0%	156.1%
64	2073									0.9%	156.1%
65	2074									0.9%	156.1%
66	2075									0.8%	156.1%
67	2076									0.7%	156.1%
68	2077									0.7%	156.1%
69	2078									0.6%	156.1%
70	2079									0.6%	156.1%
71	2080									0.5%	156.1%
72	2081									0.5%	156.1%
73	2082									0.5%	156.1%
74	2083									0.4%	156.1%
75	2084									0.4%	156.1%
76	2085									0.4%	156.1%
77	2086									0.4%	156.1%
78	2087									0.3%	156.1%
79	2088									0.3%	156.1%
80	2089									0.3%	156.1%
81	2090									0.3%	156.1%
PV		35.2%	57.5%	26.2%	5.5%	8.9%	23.2%	-0.4%	156.1%		
Levelized		2.78%	4.54%	2.07%	0.44%	0.70%	1.83%	-0.03%	12.33%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

364

Poles, Towers and Fixtures**COMPONENTS:**

	Present Value	Levelized
o Book Depreciation	83.93%	6.60%
o Return	14.13%	1.11%
o Federal Tax	36.27%	2.85%
o State Tax	8.20%	0.64%
o Property Tax	5.64%	0.44%
o A&G, Insurance	23.29%	1.83%
o Tax Adjustment for Salvage	-2.73%	-0.21%
Total	168.7%	13.3%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 47 Years
 o Book Salvage: -210.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

	<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	150% DB 20 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total	1.83%
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o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT

Account 364 Poles, Towers and Fixtures

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	6.6%	7.6%	5.4%	1.4%	1.0%	1.8%		23.8%	92.9%	22.1%
2 2011	6.6%	7.1%	5.2%	1.0%	1.0%	1.8%		22.6%	86.4%	41.6%
3 2012	6.6%	6.4%	4.9%	1.0%	0.9%	1.8%		21.6%	80.3%	59.0%
4 2013	6.6%	5.8%	4.7%	1.0%	0.8%	1.8%		20.7%	74.6%	74.4%
5 2014	6.6%	5.2%	4.4%	0.9%	0.8%	1.8%		19.7%	69.3%	88.1%
6 2015	6.6%	4.6%	4.2%	0.9%	0.7%	1.8%		18.8%	64.4%	100.2%
7 2016	6.6%	4.0%	4.0%	0.9%	0.6%	1.8%		17.9%	59.9%	111.0%
8 2017	6.6%	3.4%	3.8%	0.8%	0.6%	1.8%		17.0%	55.6%	120.4%
9 2018	6.6%	2.9%	3.5%	0.8%	0.5%	1.8%		16.1%	51.7%	128.7%
10 2019	6.6%	2.3%	3.3%	0.8%	0.4%	1.8%		15.2%	48.0%	136.1%
11 2020	6.6%	1.8%	3.1%	0.7%	0.3%	1.8%		14.4%	44.6%	142.5%
12 2021	6.6%	1.2%	2.9%	0.7%	0.3%	1.8%		13.5%	41.5%	148.1%
13 2022	6.6%	0.6%	2.7%	0.7%	0.2%	1.8%		12.6%	38.5%	152.9%
14 2023	6.6%	0.1%	2.4%	0.6%	0.1%	1.8%		11.7%	35.8%	157.1%
15 2024	6.6%	-0.5%	2.2%	0.6%	0.1%	1.8%		10.8%	33.3%	160.7%
16 2025	6.6%	-1.1%	2.0%	0.5%		1.8%		9.9%	30.9%	163.8%
17 2026	6.6%	-1.6%	1.8%	0.5%		1.8%		9.1%	28.7%	166.4%
18 2027	6.6%	-2.2%	1.6%	0.4%		1.8%		8.2%	26.7%	168.6%
19 2028	6.6%	-2.8%	1.4%	0.4%		1.8%		7.4%	24.8%	170.4%
20 2029	6.6%	-3.3%	1.1%	0.3%		1.8%		6.5%	23.1%	171.9%
21 2030	6.6%	-3.9%	0.9%	0.2%		1.8%		5.7%	21.4%	173.1%
22 2031	6.6%	-4.4%	0.7%	0.2%		1.8%		4.9%	19.9%	174.1%
23 2032	6.6%	-4.8%	0.6%	0.1%		1.8%		4.3%	18.5%	174.9%
24 2033	6.6%	-5.3%	0.4%	0.1%		1.8%		3.6%	17.2%	175.5%
25 2034	6.6%	-5.7%	0.2%	0.0%		1.8%		2.9%	16.0%	176.0%
26 2035	6.6%	-6.2%	0.0%	0.0%		1.8%		2.3%	14.9%	176.3%
27 2036	6.6%	-6.6%	-0.1%	-0.1%		1.8%		1.6%	13.8%	176.6%
28 2037	6.6%	-7.1%	-0.3%	-0.1%		1.8%		0.9%	12.8%	176.7%
29 2038	6.6%	-7.5%	-0.5%	-0.2%		1.8%		0.3%	11.9%	176.7%
30 2039	6.6%	-8.0%	-0.7%	-0.2%		1.8%		-0.4%	11.1%	176.7%
31 2040	6.6%	-8.4%	-0.8%	-0.1%		1.8%		-0.9%	10.3%	176.6%
32 2041	6.6%	-8.8%	-1.0%	-0.1%		1.8%		-1.5%	9.6%	176.4%
33 2042	6.6%	-9.3%	-1.2%	-0.1%		1.8%		-2.2%	8.9%	176.2%
34 2043	6.6%	-9.7%	-1.3%	-0.2%		1.8%		-2.8%	8.3%	176.0%
35 2044	6.6%	-10.2%	-1.5%	-0.2%		1.8%		-3.5%	7.7%	175.7%
36 2045	6.6%	-10.6%	-1.7%	-0.3%		1.8%		-4.2%	7.1%	175.4%
37 2046	6.6%	-11.1%	-1.9%	-0.3%		1.8%		-4.8%	6.6%	175.1%
38 2047	6.6%	-11.5%	-2.0%	-0.4%		1.8%		-5.5%	6.2%	174.8%
39 2048	6.6%	-12.0%	-2.2%	-0.4%		1.8%		-6.2%	5.7%	174.4%
40 2049	6.6%	-12.4%	-2.4%	-0.5%		1.8%		-6.8%	5.3%	174.1%
41 2050	6.6%	-12.9%	-2.6%	-0.5%		1.8%		-7.5%	4.9%	173.7%
42 2051	6.6%	-13.3%	-2.7%	-0.6%		1.8%		-8.2%	4.6%	173.3%
43 2052	6.6%	-13.7%	-2.9%	-0.6%		1.8%		-8.8%	4.3%	172.9%
44 2053	6.6%	-14.2%	-3.1%	-0.6%		1.8%		-9.5%	4.0%	172.6%
45 2054	6.6%	-14.6%	-3.2%	-0.7%		1.8%		-10.2%	3.7%	172.2%
46 2055	6.6%	-15.1%	-3.4%	-0.7%		1.8%		-10.8%	3.4%	171.8%
47 2056	6.6%	-15.5%	-3.6%	-0.8%		1.8%	-85.6%	-97.1%	3.2%	168.7%
48 2057									3.0%	168.7%
49 2058									2.8%	168.7%
50 2059									2.6%	168.7%
51 2060									2.4%	168.7%
52 2061									2.2%	168.7%
53 2062									2.1%	168.7%

54	2063									1.9%	168.7%
55	2064									1.8%	168.7%
56	2065									1.6%	168.7%
57	2066									1.5%	168.7%
58	2067									1.4%	168.7%
59	2068									1.3%	168.7%
60	2069									1.2%	168.7%
61	2070									1.1%	168.7%
62	2071									1.1%	168.7%
63	2072									1.0%	168.7%
64	2073									0.9%	168.7%
65	2074									0.9%	168.7%
66	2075									0.8%	168.7%
67	2076									0.7%	168.7%
68	2077									0.7%	168.7%
69	2078									0.6%	168.7%
70	2079									0.6%	168.7%
71	2080									0.5%	168.7%
72	2081									0.5%	168.7%
73	2082									0.5%	168.7%
74	2083									0.4%	168.7%
75	2084									0.4%	168.7%
76	2085									0.4%	168.7%
77	2086									0.4%	168.7%
78	2087									0.3%	168.7%
79	2088									0.3%	168.7%
80	2089									0.3%	168.7%
81	2090									0.3%	168.7%
PV		83.9%	14.1%	36.3%	8.2%	5.6%	23.3%	-2.7%	168.7%		
Levelized		6.60%	1.11%	2.85%	0.64%	0.44%	1.83%	-0.21%	13.26%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

365

Overhead Cond & Devices**COMPONENTS:**

	Present Val	Levelized
o Book Depreciation	60.48%	4.78%
o Return	35.50%	2.80%
o Federal Tax	31.35%	2.48%
o State Tax	6.94%	0.55%
o Property Tax	6.83%	0.54%
o A&G, Insurance	23.17%	1.83%
o Tax Adjustment for Salvage	-1.73%	-0.14%
Total	162.5%	12.8%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 45 Years
 o Book Salvage: -115.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
-------------------------	------------------------

o Federal Tax:	150% DB 20 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense:	-- A&G	1.44%
	-- Insuranc	0.39%
Total		1.83%

o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 365 Overhead Cond & Devices

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	4.8%	7.6%	4.3%	1.1%	1.0%	1.8%		20.7%	92.9%	19.2%
2 2011	4.8%	7.2%	4.2%	0.8%	1.0%	1.8%		19.7%	86.4%	36.2%
3 2012	4.8%	6.7%	4.0%	0.7%	0.9%	1.8%		19.0%	80.3%	51.5%
4 2013	4.8%	6.2%	3.8%	0.7%	0.9%	1.8%		18.2%	74.6%	65.1%
5 2014	4.8%	5.8%	3.6%	0.7%	0.8%	1.8%		17.5%	69.3%	77.2%
6 2015	4.8%	5.3%	3.4%	0.7%	0.8%	1.8%		16.8%	64.4%	88.1%
7 2016	4.8%	4.9%	3.3%	0.7%	0.7%	1.8%		16.2%	59.9%	97.7%
8 2017	4.8%	4.4%	3.1%	0.7%	0.7%	1.8%		15.5%	55.6%	106.4%
9 2018	4.8%	4.0%	2.9%	0.6%	0.6%	1.8%		14.8%	51.7%	114.0%
10 2019	4.8%	3.6%	2.8%	0.6%	0.6%	1.8%		14.2%	48.0%	120.8%
11 2020	4.8%	3.2%	2.6%	0.6%	0.5%	1.8%		13.5%	44.6%	126.9%
12 2021	4.8%	2.7%	2.5%	0.6%	0.5%	1.8%		12.9%	41.5%	132.2%
13 2022	4.8%	2.3%	2.3%	0.6%	0.4%	1.8%		12.2%	38.5%	136.9%
14 2023	4.8%	1.9%	2.1%	0.5%	0.4%	1.8%		11.5%	35.8%	141.1%
15 2024	4.8%	1.5%	2.0%	0.5%	0.3%	1.8%		10.9%	33.3%	144.7%
16 2025	4.8%	1.0%	1.8%	0.5%	0.3%	1.8%		10.2%	30.9%	147.8%
17 2026	4.8%	0.6%	1.6%	0.4%	0.2%	1.8%		9.5%	28.7%	150.6%
18 2027	4.8%	0.2%	1.5%	0.4%	0.2%	1.8%		8.9%	26.7%	152.9%
19 2028	4.8%	-0.2%	1.3%	0.3%	0.1%	1.8%		8.2%	24.8%	155.0%
20 2029	4.8%	-0.6%	1.1%	0.3%	0.1%	1.8%		7.5%	23.1%	156.7%
21 2030	4.8%	-1.1%	1.0%	0.3%		1.8%		6.8%	21.4%	158.2%
22 2031	4.8%	-1.4%	0.8%	0.2%		1.8%		6.2%	19.9%	159.4%
23 2032	4.8%	-1.7%	0.7%	0.2%		1.8%		5.8%	18.5%	160.5%
24 2033	4.8%	-2.0%	0.6%	0.2%		1.8%		5.3%	17.2%	161.4%
25 2034	4.8%	-2.3%	0.5%	0.1%		1.8%		4.9%	16.0%	162.2%
26 2035	4.8%	-2.6%	0.4%	0.1%		1.8%		4.4%	14.9%	162.8%
27 2036	4.8%	-3.0%	0.2%	0.1%		1.8%		4.0%	13.8%	163.4%
28 2037	4.8%	-3.3%	0.1%	0.0%		1.8%		3.5%	12.8%	163.8%
29 2038	4.8%	-3.6%	0.0%	0.0%		1.8%		3.0%	11.9%	164.2%
30 2039	4.8%	-3.9%	-0.1%	0.0%		1.8%		2.6%	11.1%	164.5%
31 2040	4.8%	-4.2%	-0.2%	0.0%		1.8%		2.2%	10.3%	164.7%
32 2041	4.8%	-4.5%	-0.3%	0.1%		1.8%		1.9%	9.6%	164.9%
33 2042	4.8%	-4.8%	-0.5%	0.1%		1.8%		1.4%	8.9%	165.0%
34 2043	4.8%	-5.1%	-0.6%	0.1%		1.8%		1.0%	8.3%	165.1%
35 2044	4.8%	-5.4%	-0.7%	0.0%		1.8%		0.5%	7.7%	165.1%
36 2045	4.8%	-5.7%	-0.8%	0.0%		1.8%		0.1%	7.1%	165.2%
37 2046	4.8%	-6.0%	-0.9%	0.0%		1.8%		-0.4%	6.6%	165.1%
38 2047	4.8%	-6.3%	-1.1%	-0.1%		1.8%		-0.8%	6.2%	165.1%
39 2048	4.8%	-6.6%	-1.2%	-0.1%		1.8%		-1.3%	5.7%	165.0%
40 2049	4.8%	-6.9%	-1.3%	-0.1%		1.8%		-1.7%	5.3%	164.9%
41 2050	4.8%	-7.2%	-1.4%	-0.2%		1.8%		-2.2%	4.9%	164.8%
42 2051	4.8%	-7.5%	-1.5%	-0.2%		1.8%		-2.7%	4.6%	164.7%
43 2052	4.8%	-7.8%	-1.6%	-0.2%		1.8%		-3.1%	4.3%	164.5%
44 2053	4.8%	-8.1%	-1.8%	-0.3%		1.8%		-3.6%	4.0%	164.4%
45 2054	4.8%	-8.4%	-1.9%	-0.3%		1.8%	-46.9%	-50.9%	3.7%	162.5%
46 2055									3.4%	162.5%
47 2056									3.2%	162.5%
48 2057									3.0%	162.5%
49 2058									2.8%	162.5%
50 2059									2.6%	162.5%
51 2060									2.4%	162.5%
52 2061									2.2%	162.5%
53 2062									2.1%	162.5%

54	2063									1.9%	162.5%
55	2064									1.8%	162.5%
56	2065									1.6%	162.5%
57	2066									1.5%	162.5%
58	2067									1.4%	162.5%
59	2068									1.3%	162.5%
60	2069									1.2%	162.5%
61	2070									1.1%	162.5%
62	2071									1.1%	162.5%
63	2072									1.0%	162.5%
64	2073									0.9%	162.5%
65	2074									0.9%	162.5%
66	2075									0.8%	162.5%
67	2076									0.7%	162.5%
68	2077									0.7%	162.5%
69	2078									0.6%	162.5%
70	2079									0.6%	162.5%
71	2080									0.5%	162.5%
72	2081									0.5%	162.5%
73	2082									0.5%	162.5%
74	2083									0.4%	162.5%
75	2084									0.4%	162.5%
76	2085									0.4%	162.5%
77	2086									0.4%	162.5%
78	2087									0.3%	162.5%
79	2088									0.3%	162.5%
80	2089									0.3%	162.5%
81	2090									0.3%	162.5%
PV		60.5%	35.5%	31.3%	6.9%	6.8%	23.2%	-1.7%	162.5%		
Levelized		4.78%	2.80%	2.48%	0.55%	0.54%	1.83%	-0.14%	12.84%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

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Underground Conduit**COMPONENTS:**

	Present Val	Levelized
o Book Depreciation	28.58%	2.20%
o Return	61.43%	4.74%
o Federal Tax	27.47%	2.12%
o State Tax	5.27%	0.41%
o Property Tax	9.72%	0.75%
o A&G, Insurance	23.73%	1.83%
o Tax Adjustment for Salvage	-0.16%	-0.01%
Total	156.0%	12.0%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 59 Years
 o Book Salvage: -30.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	150% DB 20 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total 1.83%

o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 366 Underground Conduit

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	2.2%	7.6%	3.2%	0.7%	1.0%	1.8%		16.6%	92.9%	15.5%
2 2011	2.2%	7.4%	3.1%	0.4%	1.0%	1.8%		16.0%	86.4%	29.3%
3 2012	2.2%	7.1%	3.0%	0.4%	1.0%	1.8%		15.5%	80.3%	41.7%
4 2013	2.2%	6.8%	2.9%	0.4%	1.0%	1.8%		15.1%	74.6%	53.0%
5 2014	2.2%	6.5%	2.8%	0.4%	0.9%	1.8%		14.7%	69.3%	63.2%
6 2015	2.2%	6.2%	2.7%	0.4%	0.9%	1.8%		14.3%	64.4%	72.4%
7 2016	2.2%	6.0%	2.6%	0.4%	0.9%	1.8%		13.9%	59.9%	80.7%
8 2017	2.2%	5.7%	2.5%	0.4%	0.9%	1.8%		13.5%	55.6%	88.2%
9 2018	2.2%	5.5%	2.4%	0.4%	0.8%	1.8%		13.2%	51.7%	95.1%
10 2019	2.2%	5.2%	2.3%	0.4%	0.8%	1.8%		12.8%	48.0%	101.2%
11 2020	2.2%	5.0%	2.2%	0.4%	0.8%	1.8%		12.5%	44.6%	106.8%
12 2021	2.2%	4.7%	2.1%	0.4%	0.8%	1.8%		12.1%	41.5%	111.8%
13 2022	2.2%	4.5%	2.0%	0.4%	0.8%	1.8%		11.7%	38.5%	116.3%
14 2023	2.2%	4.3%	1.9%	0.4%	0.7%	1.8%		11.4%	35.8%	120.4%
15 2024	2.2%	4.0%	1.8%	0.4%	0.7%	1.8%		11.0%	33.3%	124.1%
16 2025	2.2%	3.8%	1.7%	0.4%	0.7%	1.8%		10.7%	30.9%	127.4%
17 2026	2.2%	3.5%	1.7%	0.4%	0.7%	1.8%		10.3%	28.7%	130.3%
18 2027	2.2%	3.3%	1.6%	0.4%	0.6%	1.8%		9.9%	26.7%	133.0%
19 2028	2.2%	3.1%	1.5%	0.3%	0.6%	1.8%		9.5%	24.8%	135.3%
20 2029	2.2%	2.8%	1.4%	0.3%	0.6%	1.8%		9.1%	23.1%	137.4%
21 2030	2.2%	2.6%	1.3%	0.3%	0.6%	1.8%		8.8%	21.4%	139.3%
22 2031	2.2%	2.4%	1.2%	0.3%	0.6%	1.8%		8.5%	19.9%	141.0%
23 2032	2.2%	2.3%	1.2%	0.3%	0.5%	1.8%		8.3%	18.5%	142.5%
24 2033	2.2%	2.1%	1.1%	0.2%	0.5%	1.8%		8.0%	17.2%	143.9%
25 2034	2.2%	2.0%	1.1%	0.2%	0.5%	1.8%		7.8%	16.0%	145.2%
26 2035	2.2%	1.9%	1.0%	0.2%	0.5%	1.8%		7.6%	14.9%	146.3%
27 2036	2.2%	1.8%	1.0%	0.2%	0.4%	1.8%		7.4%	13.8%	147.3%
28 2037	2.2%	1.7%	0.9%	0.2%	0.4%	1.8%		7.2%	12.8%	148.3%
29 2038	2.2%	1.5%	0.9%	0.2%	0.4%	1.8%		7.0%	11.9%	149.1%
30 2039	2.2%	1.4%	0.8%	0.2%	0.4%	1.8%		6.8%	11.1%	149.9%
31 2040	2.2%	1.3%	0.8%	0.3%	0.3%	1.8%		6.7%	10.3%	150.6%
32 2041	2.2%	1.2%	0.7%	0.4%	0.3%	1.8%		6.6%	9.6%	151.2%
33 2042	2.2%	1.0%	0.7%	0.4%	0.3%	1.8%		6.4%	8.9%	151.8%
34 2043	2.2%	0.9%	0.6%	0.3%	0.3%	1.8%		6.2%	8.3%	152.3%
35 2044	2.2%	0.8%	0.6%	0.3%	0.3%	1.8%		6.0%	7.7%	152.7%
36 2045	2.2%	0.7%	0.5%	0.3%	0.2%	1.8%		5.8%	7.1%	153.1%
37 2046	2.2%	0.5%	0.5%	0.3%	0.2%	1.8%		5.6%	6.6%	153.5%
38 2047	2.2%	0.4%	0.4%	0.3%	0.2%	1.8%		5.4%	6.2%	153.8%
39 2048	2.2%	0.3%	0.4%	0.3%	0.2%	1.8%		5.2%	5.7%	154.1%
40 2049	2.2%	0.2%	0.4%	0.3%	0.1%	1.8%		5.0%	5.3%	154.4%
41 2050	2.2%	0.1%	0.3%	0.2%	0.1%	1.8%		4.8%	4.9%	154.6%
42 2051	2.2%	-0.1%	0.3%	0.2%	0.1%	1.8%		4.6%	4.6%	154.9%
43 2052	2.2%	-0.2%	0.2%	0.2%	0.1%	1.8%		4.4%	4.3%	155.0%
44 2053	2.2%	-0.3%	0.2%	0.2%	0.1%	1.8%		4.1%	4.0%	155.2%
45 2054	2.2%	-0.4%	0.1%	0.2%	0.0%	1.8%		3.9%	3.7%	155.3%
46 2055	2.2%	-0.6%	0.1%	0.2%		1.8%		3.7%	3.4%	155.5%
47 2056	2.2%	-0.7%	0.0%	0.2%		1.8%		3.5%	3.2%	155.6%
48 2057	2.2%	-0.8%	0.0%	0.2%		1.8%		3.4%	3.0%	155.7%
49 2058	2.2%	-0.9%	-0.1%	0.1%		1.8%		3.2%	2.8%	155.8%
50 2059	2.2%	-1.1%	-0.1%	0.1%		1.8%		3.0%	2.6%	155.9%
51 2060	2.2%	-1.2%	-0.2%	0.1%		1.8%		2.8%	2.4%	155.9%
52 2061	2.2%	-1.3%	-0.2%	0.1%		1.8%		2.6%	2.2%	156.0%
53 2062	2.2%	-1.4%	-0.3%	0.1%		1.8%		2.4%	2.1%	156.0%

54	2063	2.2%	-1.5%	-0.3%	0.1%	1.8%	2.3%	1.9%	156.1%
55	2064	2.2%	-1.7%	-0.4%	0.1%	1.8%	2.1%	1.8%	156.1%
56	2065	2.2%	-1.8%	-0.4%	0.0%	1.8%	1.9%	1.6%	156.1%
57	2066	2.2%	-1.9%	-0.5%	0.0%	1.8%	1.7%	1.5%	156.2%
58	2067	2.2%	-2.0%	-0.5%	0.0%	1.8%	1.5%	1.4%	156.2%
59	2068	2.2%	-2.2%	-0.6%	0.0%	1.8%	-11.8%	-10.4%	156.0%
60	2069							1.2%	156.0%
61	2070							1.1%	156.0%
62	2071							1.1%	156.0%
63	2072							1.0%	156.0%
64	2073							0.9%	156.0%
65	2074							0.9%	156.0%
66	2075							0.8%	156.0%
67	2076							0.7%	156.0%
68	2077							0.7%	156.0%
69	2078							0.6%	156.0%
70	2079							0.6%	156.0%
71	2080							0.5%	156.0%
72	2081							0.5%	156.0%
73	2082							0.5%	156.0%
74	2083							0.4%	156.0%
75	2084							0.4%	156.0%
76	2085							0.4%	156.0%
77	2086							0.4%	156.0%
78	2087							0.3%	156.0%
79	2088							0.3%	156.0%
80	2089							0.3%	156.0%
81	2090							0.3%	156.0%
PV		28.6%	61.4%	27.5%	5.3%	9.7%	23.7%	-0.2%	156.0%
Levelized		2.20%	4.74%	2.12%	0.41%	0.75%	1.83%	-0.01%	12.03%

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

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Underground Cond & Devices**COMPONENTS:**

	Present Val	Levelized
o Book Depreciation	45.01%	3.56%
o Return	48.94%	3.87%
o Federal Tax	28.22%	2.23%
o State Tax	6.07%	0.48%
o Property Tax	7.98%	0.63%
o A&G, Insurance	23.17%	1.83%
o Tax Adjustment for Salvage	-0.90%	-0.07%
Total	158.5%	12.5%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 45 Years
 o Book Salvage: -60.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
-------------------------	------------------------

o Federal Tax:	150% DB 20 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total	1.83%
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o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 367 Underground Cond & Devices

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	3.6%	7.6%	3.7%	0.9%	1.0%	1.8%		18.6%	92.9%	17.3%
2 2011	3.6%	7.3%	3.6%	0.6%	1.0%	1.8%		17.8%	86.4%	32.7%
3 2012	3.6%	6.9%	3.4%	0.6%	1.0%	1.8%		17.2%	80.3%	46.5%
4 2013	3.6%	6.5%	3.3%	0.6%	0.9%	1.8%		16.6%	74.6%	58.9%
5 2014	3.6%	6.1%	3.1%	0.6%	0.9%	1.8%		16.1%	69.3%	70.0%
6 2015	3.6%	5.8%	3.0%	0.6%	0.8%	1.8%		15.5%	64.4%	80.0%
7 2016	3.6%	5.4%	2.8%	0.6%	0.8%	1.8%		15.0%	59.9%	89.0%
8 2017	3.6%	5.1%	2.7%	0.6%	0.8%	1.8%		14.5%	55.6%	97.1%
9 2018	3.6%	4.7%	2.6%	0.5%	0.7%	1.8%		14.0%	51.7%	104.3%
10 2019	3.6%	4.4%	2.4%	0.5%	0.7%	1.8%		13.5%	48.0%	110.8%
11 2020	3.6%	4.1%	2.3%	0.5%	0.7%	1.8%		13.0%	44.6%	116.6%
12 2021	3.6%	3.8%	2.2%	0.5%	0.6%	1.8%		12.5%	41.5%	121.7%
13 2022	3.6%	3.4%	2.1%	0.5%	0.6%	1.8%		12.0%	38.5%	126.4%
14 2023	3.6%	3.1%	1.9%	0.5%	0.6%	1.8%		11.5%	35.8%	130.5%
15 2024	3.6%	2.8%	1.8%	0.5%	0.5%	1.8%		10.9%	33.3%	134.1%
16 2025	3.6%	2.4%	1.7%	0.4%	0.5%	1.8%		10.4%	30.9%	137.3%
17 2026	3.6%	2.1%	1.6%	0.4%	0.4%	1.8%		9.9%	28.7%	140.2%
18 2027	3.6%	1.8%	1.4%	0.4%	0.4%	1.8%		9.4%	26.7%	142.7%
19 2028	3.6%	1.5%	1.3%	0.3%	0.4%	1.8%		8.9%	24.8%	144.9%
20 2029	3.6%	1.1%	1.2%	0.3%	0.3%	1.8%		8.3%	23.1%	146.8%
21 2030	3.6%	0.8%	1.0%	0.3%	0.3%	1.8%		7.8%	21.4%	148.5%
22 2031	3.6%	0.5%	0.9%	0.2%	0.3%	1.8%		7.4%	19.9%	149.9%
23 2032	3.6%	0.3%	0.9%	0.2%	0.2%	1.8%		7.0%	18.5%	151.2%
24 2033	3.6%	0.1%	0.8%	0.2%	0.2%	1.8%		6.6%	17.2%	152.4%
25 2034	3.6%	-0.1%	0.7%	0.2%	0.2%	1.8%		6.3%	16.0%	153.4%
26 2035	3.6%	-0.3%	0.6%	0.2%	0.1%	1.8%		5.9%	14.9%	154.3%
27 2036	3.6%	-0.5%	0.5%	0.1%	0.1%	1.8%		5.6%	13.8%	155.0%
28 2037	3.6%	-0.7%	0.4%	0.1%	0.0%	1.8%		5.2%	12.8%	155.7%
29 2038	3.6%	-1.0%	0.4%	0.1%		1.8%		4.9%	11.9%	156.3%
30 2039	3.6%	-1.2%	0.3%	0.1%		1.8%		4.6%	11.1%	156.8%
31 2040	3.6%	-1.4%	0.2%	0.2%		1.8%		4.4%	10.3%	157.2%
32 2041	3.6%	-1.6%	0.1%	0.2%		1.8%		4.2%	9.6%	157.6%
33 2042	3.6%	-1.8%	0.0%	0.2%		1.8%		3.8%	8.9%	158.0%
34 2043	3.6%	-2.0%	0.0%	0.2%		1.8%		3.5%	8.3%	158.3%
35 2044	3.6%	-2.2%	-0.1%	0.2%		1.8%		3.2%	7.7%	158.5%
36 2045	3.6%	-2.4%	-0.2%	0.2%		1.8%		2.9%	7.1%	158.7%
37 2046	3.6%	-2.7%	-0.3%	0.1%		1.8%		2.6%	6.6%	158.9%
38 2047	3.6%	-2.9%	-0.4%	0.1%		1.8%		2.2%	6.2%	159.0%
39 2048	3.6%	-3.1%	-0.5%	0.1%		1.8%		1.9%	5.7%	159.1%
40 2049	3.6%	-3.3%	-0.5%	0.1%		1.8%		1.6%	5.3%	159.2%
41 2050	3.6%	-3.5%	-0.6%	0.0%		1.8%		1.3%	4.9%	159.3%
42 2051	3.6%	-3.7%	-0.7%	0.0%		1.8%		1.0%	4.6%	159.3%
43 2052	3.6%	-3.9%	-0.8%	0.0%		1.8%		0.7%	4.3%	159.4%
44 2053	3.6%	-4.1%	-0.9%	0.0%		1.8%		0.3%	4.0%	159.4%
45 2054	3.6%	-4.4%	-1.0%	-0.1%		1.8%	-24.4%	-24.4%	3.7%	158.5%
46 2055									3.4%	158.5%
47 2056									3.2%	158.5%
48 2057									3.0%	158.5%
49 2058									2.8%	158.5%
50 2059									2.6%	158.5%
51 2060									2.4%	158.5%
52 2061									2.2%	158.5%
53 2062									2.1%	158.5%

54	2063									1.9%	158.5%
55	2064									1.8%	158.5%
56	2065									1.6%	158.5%
57	2066									1.5%	158.5%
58	2067									1.4%	158.5%
59	2068									1.3%	158.5%
60	2069									1.2%	158.5%
61	2070									1.1%	158.5%
62	2071									1.1%	158.5%
63	2072									1.0%	158.5%
64	2073									0.9%	158.5%
65	2074									0.9%	158.5%
66	2075									0.8%	158.5%
67	2076									0.7%	158.5%
68	2077									0.7%	158.5%
69	2078									0.6%	158.5%
70	2079									0.6%	158.5%
71	2080									0.5%	158.5%
72	2081									0.5%	158.5%
73	2082									0.5%	158.5%
74	2083									0.4%	158.5%
75	2084									0.4%	158.5%
76	2085									0.4%	158.5%
77	2086									0.4%	158.5%
78	2087									0.3%	158.5%
79	2088									0.3%	158.5%
80	2089									0.3%	158.5%
81	2090									0.3%	158.5%
PV		45.0%	48.9%	28.2%	6.1%	8.0%	23.2%	-0.9%	158.5%		
Levelized		3.56%	3.87%	2.23%	0.48%	0.63%	1.83%	-0.07%	12.52%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

368

Line Transformers**COMPONENTS:**

	Present Value	Levelized
o Book Depreciation	43.54%	3.64%
o Return	52.79%	4.41%
o Federal Tax	24.58%	2.05%
o State Tax	5.84%	0.49%
o Property Tax	7.89%	0.66%
o A&G, Insurance	21.91%	1.83%
o Tax Adjustment for Salvage	-0.72%	-0.06%
Total	155.8%	13.0%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 33 Years
 o Book Salvage: -20.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	150% DB 20 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total	1.83%
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o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 368 Line Transformers

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjsted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	3.6%	7.6%	3.3%	0.9%	1.0%	1.8%		18.3%	92.9%	17.0%
2 2011	3.6%	7.3%	3.2%	0.6%	1.0%	1.8%		17.5%	86.4%	32.1%
3 2012	3.6%	6.9%	3.0%	0.6%	1.0%	1.8%		16.9%	80.3%	45.7%
4 2013	3.6%	6.6%	2.9%	0.6%	0.9%	1.8%		16.4%	74.6%	57.9%
5 2014	3.6%	6.2%	2.7%	0.5%	0.9%	1.8%		15.8%	69.3%	68.9%
6 2015	3.6%	5.8%	2.6%	0.5%	0.8%	1.8%		15.3%	64.4%	78.7%
7 2016	3.6%	5.5%	2.5%	0.5%	0.8%	1.8%		14.8%	59.9%	87.6%
8 2017	3.6%	5.2%	2.4%	0.5%	0.8%	1.8%		14.3%	55.6%	95.5%
9 2018	3.6%	4.9%	2.2%	0.5%	0.7%	1.8%		13.8%	51.7%	102.7%
10 2019	3.6%	4.6%	2.1%	0.5%	0.7%	1.8%		13.3%	48.0%	109.1%
11 2020	3.6%	4.2%	2.0%	0.5%	0.7%	1.8%		12.9%	44.6%	114.8%
12 2021	3.6%	3.9%	1.9%	0.5%	0.6%	1.8%		12.4%	41.5%	119.9%
13 2022	3.6%	3.6%	1.7%	0.5%	0.6%	1.8%		11.9%	38.5%	124.5%
14 2023	3.6%	3.3%	1.6%	0.5%	0.5%	1.8%		11.4%	35.8%	128.6%
15 2024	3.6%	3.0%	1.5%	0.5%	0.5%	1.8%		10.9%	33.3%	132.2%
16 2025	3.6%	2.7%	1.4%	0.4%	0.5%	1.8%		10.4%	30.9%	135.5%
17 2026	3.6%	2.4%	1.3%	0.4%	0.4%	1.8%		9.9%	28.7%	138.3%
18 2027	3.6%	2.0%	1.1%	0.4%	0.4%	1.8%		9.4%	26.7%	140.8%
19 2028	3.6%	1.7%	1.0%	0.3%	0.4%	1.8%		8.9%	24.8%	143.0%
20 2029	3.6%	1.4%	0.9%	0.3%	0.3%	1.8%		8.4%	23.1%	145.0%
21 2030	3.6%	1.1%	0.8%	0.3%	0.3%	1.8%		7.9%	21.4%	146.7%
22 2031	3.6%	0.8%	0.7%	0.2%	0.2%	1.8%		7.5%	19.9%	148.2%
23 2032	3.6%	0.6%	0.6%	0.2%	0.2%	1.8%		7.1%	18.5%	149.5%
24 2033	3.6%	0.4%	0.5%	0.2%	0.2%	1.8%		6.8%	17.2%	150.7%
25 2034	3.6%	0.3%	0.4%	0.2%	0.1%	1.8%		6.5%	16.0%	151.7%
26 2035	3.6%	0.1%	0.4%	0.2%	0.1%	1.8%		6.1%	14.9%	152.6%
27 2036	3.6%	-0.1%	0.3%	0.1%	0.1%	1.8%		5.8%	13.8%	153.4%
28 2037	3.6%	-0.3%	0.2%	0.1%		1.8%		5.5%	12.8%	154.1%
29 2038	3.6%	-0.5%	0.1%	0.1%		1.8%		5.2%	11.9%	154.7%
30 2039	3.6%	-0.7%	0.1%	0.1%		1.8%		4.9%	11.1%	155.3%
31 2040	3.6%	-0.9%	0.0%	0.2%		1.8%		4.7%	10.3%	155.8%
32 2041	3.6%	-1.1%	-0.1%	0.3%		1.8%		4.5%	9.6%	156.2%
33 2042	3.6%	-1.3%	-0.2%	0.2%		1.8%	-8.1%	-3.9%	8.9%	155.8%
34 2043									8.3%	155.8%
35 2044									7.7%	155.8%
36 2045									7.1%	155.8%
37 2046									6.6%	155.8%
38 2047									6.2%	155.8%
39 2048									5.7%	155.8%
40 2049									5.3%	155.8%
41 2050									4.9%	155.8%
42 2051									4.6%	155.8%
43 2052									4.3%	155.8%
44 2053									4.0%	155.8%
45 2054									3.7%	155.8%
46 2055									3.4%	155.8%
47 2056									3.2%	155.8%
48 2057									3.0%	155.8%
49 2058									2.8%	155.8%
50 2059									2.6%	155.8%
51 2060									2.4%	155.8%
52 2061									2.2%	155.8%
53 2062									2.1%	155.8%

54	2063									1.9%	155.8%
55	2064									1.8%	155.8%
56	2065									1.6%	155.8%
57	2066									1.5%	155.8%
58	2067									1.4%	155.8%
59	2068									1.3%	155.8%
60	2069									1.2%	155.8%
61	2070									1.1%	155.8%
62	2071									1.1%	155.8%
63	2072									1.0%	155.8%
64	2073									0.9%	155.8%
65	2074									0.9%	155.8%
66	2075									0.8%	155.8%
67	2076									0.7%	155.8%
68	2077									0.7%	155.8%
69	2078									0.6%	155.8%
70	2079									0.6%	155.8%
71	2080									0.5%	155.8%
72	2081									0.5%	155.8%
73	2082									0.5%	155.8%
74	2083									0.4%	155.8%
75	2084									0.4%	155.8%
76	2085									0.4%	155.8%
77	2086									0.4%	155.8%
78	2087									0.3%	155.8%
79	2088									0.3%	155.8%
80	2089									0.3%	155.8%
81	2090									0.3%	155.8%
PV		43.5%	52.8%	24.6%	5.8%	7.9%	21.9%	-0.7%	155.8%		
Levelized		3.64%	4.41%	2.05%	0.49%	0.66%	1.83%	-0.06%	13.01%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

369

Services**COMPONENTS:**

	Present Val	Levelized
o Book Depreciation	56.26%	4.44%
o Return	39.16%	3.09%
o Federal Tax	30.49%	2.41%
o State Tax	6.70%	0.53%
o Property Tax	7.11%	0.56%
o A&G, Insurance	23.17%	1.83%
o Tax Adjustment for Salvage	-1.50%	-0.12%
Total	161.4%	12.7%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 45 Years
 o Book Salvage: -100.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
-------------------------	------------------------

o Federal Tax:	150% DB 20 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total 1.83%

o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT

Account 369 Services

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	4.4%	7.6%	4.2%	1.0%	1.0%	1.8%		20.1%	92.9%	18.7%
2 2011	4.4%	7.2%	4.0%	0.7%	1.0%	1.8%		19.2%	86.4%	35.3%
3 2012	4.4%	6.8%	3.8%	0.7%	0.9%	1.8%		18.5%	80.3%	50.1%
4 2013	4.4%	6.3%	3.7%	0.7%	0.9%	1.8%		17.8%	74.6%	63.4%
5 2014	4.4%	5.9%	3.5%	0.7%	0.8%	1.8%		17.1%	69.3%	75.3%
6 2015	4.4%	5.4%	3.3%	0.7%	0.8%	1.8%		16.5%	64.4%	85.9%
7 2016	4.4%	5.0%	3.2%	0.6%	0.8%	1.8%		15.8%	59.9%	95.4%
8 2017	4.4%	4.6%	3.0%	0.6%	0.7%	1.8%		15.2%	55.6%	103.8%
9 2018	4.4%	4.2%	2.8%	0.6%	0.7%	1.8%		14.6%	51.7%	111.4%
10 2019	4.4%	3.8%	2.7%	0.6%	0.6%	1.8%		14.0%	48.0%	118.1%
11 2020	4.4%	3.4%	2.5%	0.6%	0.6%	1.8%		13.4%	44.6%	124.1%
12 2021	4.4%	3.0%	2.4%	0.6%	0.5%	1.8%		12.8%	41.5%	129.4%
13 2022	4.4%	2.6%	2.2%	0.5%	0.5%	1.8%		12.1%	38.5%	134.0%
14 2023	4.4%	2.2%	2.1%	0.5%	0.4%	1.8%		11.5%	35.8%	138.2%
15 2024	4.4%	1.8%	1.9%	0.5%	0.4%	1.8%		10.9%	33.3%	141.8%
16 2025	4.4%	1.4%	1.8%	0.5%	0.3%	1.8%		10.3%	30.9%	145.0%
17 2026	4.4%	1.0%	1.6%	0.4%	0.3%	1.8%		9.6%	28.7%	147.7%
18 2027	4.4%	0.6%	1.5%	0.4%	0.3%	1.8%		9.0%	26.7%	150.1%
19 2028	4.4%	0.2%	1.3%	0.3%	0.2%	1.8%		8.4%	24.8%	152.2%
20 2029	4.4%	-0.2%	1.1%	0.3%	0.2%	1.8%		7.7%	23.1%	154.0%
21 2030	4.4%	-0.6%	1.0%	0.3%	0.1%	1.8%		7.1%	21.4%	155.5%
22 2031	4.4%	-0.9%	0.9%	0.2%	0.1%	1.8%		6.5%	19.9%	156.8%
23 2032	4.4%	-1.2%	0.8%	0.2%		1.8%		6.1%	18.5%	158.0%
24 2033	4.4%	-1.5%	0.6%	0.2%		1.8%		5.6%	17.2%	158.9%
25 2034	4.4%	-1.7%	0.5%	0.1%		1.8%		5.2%	16.0%	159.8%
26 2035	4.4%	-2.0%	0.4%	0.1%		1.8%		4.8%	14.9%	160.5%
27 2036	4.4%	-2.3%	0.3%	0.1%		1.8%		4.4%	13.8%	161.1%
28 2037	4.4%	-2.6%	0.2%	0.0%		1.8%		4.0%	12.8%	161.6%
29 2038	4.4%	-2.9%	0.1%	0.0%		1.8%		3.5%	11.9%	162.0%
30 2039	4.4%	-3.1%	0.0%	0.0%		1.8%		3.1%	11.1%	162.4%
31 2040	4.4%	-3.4%	-0.1%	0.1%		1.8%		2.8%	10.3%	162.6%
32 2041	4.4%	-3.7%	-0.2%	0.2%		1.8%		2.5%	9.6%	162.9%
33 2042	4.4%	-4.0%	-0.3%	0.1%		1.8%		2.1%	8.9%	163.1%
34 2043	4.4%	-4.3%	-0.4%	0.1%		1.8%		1.7%	8.3%	163.2%
35 2044	4.4%	-4.5%	-0.5%	0.1%		1.8%		1.3%	7.7%	163.3%
36 2045	4.4%	-4.8%	-0.7%	0.0%		1.8%		0.8%	7.1%	163.4%
37 2046	4.4%	-5.1%	-0.8%	0.0%		1.8%		0.4%	6.6%	163.4%
38 2047	4.4%	-5.4%	-0.9%	0.0%		1.8%		0.0%	6.2%	163.4%
39 2048	4.4%	-5.7%	-1.0%	-0.1%		1.8%		-0.4%	5.7%	163.4%
40 2049	4.4%	-5.9%	-1.1%	-0.1%		1.8%		-0.8%	5.3%	163.3%
41 2050	4.4%	-6.2%	-1.2%	-0.1%		1.8%		-1.2%	4.9%	163.3%
42 2051	4.4%	-6.5%	-1.3%	-0.1%		1.8%		-1.7%	4.6%	163.2%
43 2052	4.4%	-6.8%	-1.4%	-0.2%		1.8%		-2.1%	4.3%	163.1%
44 2053	4.4%	-7.0%	-1.5%	-0.2%		1.8%		-2.5%	4.0%	163.0%
45 2054	4.4%	-7.3%	-1.6%	-0.2%		1.8%	-40.7%	-43.7%	3.7%	161.4%
46 2055									3.4%	161.4%
47 2056									3.2%	161.4%
48 2057									3.0%	161.4%
49 2058									2.8%	161.4%
50 2059									2.6%	161.4%
51 2060									2.4%	161.4%
52 2061									2.2%	161.4%
53 2062									2.1%	161.4%

54	2063								1.9%	161.4%
55	2064								1.8%	161.4%
56	2065								1.6%	161.4%
57	2066								1.5%	161.4%
58	2067								1.4%	161.4%
59	2068								1.3%	161.4%
60	2069								1.2%	161.4%
61	2070								1.1%	161.4%
62	2071								1.1%	161.4%
63	2072								1.0%	161.4%
64	2073								0.9%	161.4%
65	2074								0.9%	161.4%
66	2075								0.8%	161.4%
67	2076								0.7%	161.4%
68	2077								0.7%	161.4%
69	2078								0.6%	161.4%
70	2079								0.6%	161.4%
71	2080								0.5%	161.4%
72	2081								0.5%	161.4%
73	2082								0.5%	161.4%
74	2083								0.4%	161.4%
75	2084								0.4%	161.4%
76	2085								0.4%	161.4%
77	2086								0.4%	161.4%
78	2087								0.3%	161.4%
79	2088								0.3%	161.4%
80	2089								0.3%	161.4%
81	2090								0.3%	161.4%
PV		56.3%	39.2%	30.5%	6.7%	7.1%	23.2%	-1.5%	161.4%	
Levelized		4.44%	3.09%	2.41%	0.53%	0.56%	1.83%	-0.12%	12.75%	

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

370

Meters**COMPONENTS:**

	Present Val	Levelized
o Book Depreciation	53.08%	5.25%
o Return	47.54%	4.70%
o Federal Tax	20.10%	1.99%
o State Tax	5.97%	0.59%
o Property Tax	6.48%	0.64%
o A&G, Insurance	18.50%	1.83%
o Tax Adjustment for Salvage	-0.80%	-0.08%
Total	150.9%	14.9%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 20 Years
 o Book Salvage: -5.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	150% DB 20 Yrs	35.0%
o State Tax:	200% DB 30 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total	1.83%
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o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 370 Meters

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	5.3%	7.6%	3.1%	1.0%	1.0%	1.8%		19.8%	92.9%	18.4%
2 2011	5.3%	7.2%	3.0%	0.7%	1.0%	1.8%		18.9%	86.4%	34.8%
3 2012	5.3%	6.8%	2.8%	0.7%	0.9%	1.8%		18.3%	80.3%	49.5%
4 2013	5.3%	6.3%	2.6%	0.7%	0.9%	1.8%		17.6%	74.6%	62.6%
5 2014	5.3%	5.9%	2.5%	0.7%	0.8%	1.8%		16.9%	69.3%	74.3%
6 2015	5.3%	5.5%	2.3%	0.6%	0.8%	1.8%		16.3%	64.4%	84.8%
7 2016	5.3%	5.1%	2.1%	0.6%	0.7%	1.8%		15.6%	59.9%	94.1%
8 2017	5.3%	4.7%	2.0%	0.6%	0.6%	1.8%		15.0%	55.6%	102.5%
9 2018	5.3%	4.3%	1.8%	0.6%	0.6%	1.8%		14.4%	51.7%	109.9%
10 2019	5.3%	3.9%	1.7%	0.6%	0.5%	1.8%		13.8%	48.0%	116.6%
11 2020	5.3%	3.5%	1.5%	0.6%	0.5%	1.8%		13.2%	44.6%	122.5%
12 2021	5.3%	3.1%	1.4%	0.6%	0.4%	1.8%		12.6%	41.5%	127.7%
13 2022	5.3%	2.8%	1.2%	0.5%	0.4%	1.8%		12.0%	38.5%	132.3%
14 2023	5.3%	2.4%	1.1%	0.5%	0.3%	1.8%		11.4%	35.8%	136.4%
15 2024	5.3%	2.0%	0.9%	0.5%	0.3%	1.8%		10.8%	33.3%	140.0%
16 2025	5.3%	1.6%	0.8%	0.5%	0.2%	1.8%		10.2%	30.9%	143.1%
17 2026	5.3%	1.2%	0.6%	0.4%	0.2%	1.8%		9.5%	28.7%	145.9%
18 2027	5.3%	0.8%	0.5%	0.4%	0.1%	1.8%		8.9%	26.7%	148.2%
19 2028	5.3%	0.4%	0.3%	0.3%	0.1%	1.8%		8.3%	24.8%	150.3%
20 2029	5.3%	0.1%	0.2%	0.3%		1.8%	-3.4%	4.2%	23.1%	151.3%
21 2030				-0.2%				-0.2%	21.4%	151.2%
22 2031				-0.2%				-0.2%	19.9%	151.2%
23 2032				-0.2%				-0.2%	18.5%	151.1%
24 2033				-0.2%				-0.2%	17.2%	151.1%
25 2034				-0.2%				-0.2%	16.0%	151.0%
26 2035				-0.2%				-0.2%	14.9%	151.0%
27 2036				-0.2%				-0.2%	13.8%	151.0%
28 2037				-0.2%				-0.2%	12.8%	150.9%
29 2038				-0.2%				-0.2%	11.9%	150.9%
30 2039				-0.2%				-0.2%	11.1%	150.9%
31 2040				-0.1%				-0.1%	10.3%	150.9%
32 2041									9.6%	150.9%
33 2042									8.9%	150.9%
34 2043									8.3%	150.9%
35 2044									7.7%	150.9%
36 2045									7.1%	150.9%
37 2046									6.6%	150.9%
38 2047									6.2%	150.9%
39 2048									5.7%	150.9%
40 2049									5.3%	150.9%
41 2050									4.9%	150.9%
42 2051									4.6%	150.9%
43 2052									4.3%	150.9%
44 2053									4.0%	150.9%
45 2054									3.7%	150.9%
46 2055									3.4%	150.9%
47 2056									3.2%	150.9%
48 2057									3.0%	150.9%
49 2058									2.8%	150.9%
50 2059									2.6%	150.9%
51 2060									2.4%	150.9%
52 2061									2.2%	150.9%
53 2062									2.1%	150.9%

54	2063									1.9%	150.9%
55	2064									1.8%	150.9%
56	2065									1.6%	150.9%
57	2066									1.5%	150.9%
58	2067									1.4%	150.9%
59	2068									1.3%	150.9%
60	2069									1.2%	150.9%
61	2070									1.1%	150.9%
62	2071									1.1%	150.9%
63	2072									1.0%	150.9%
64	2073									0.9%	150.9%
65	2074									0.9%	150.9%
66	2075									0.8%	150.9%
67	2076									0.7%	150.9%
68	2077									0.7%	150.9%
69	2078									0.6%	150.9%
70	2079									0.6%	150.9%
71	2080									0.5%	150.9%
72	2081									0.5%	150.9%
73	2082									0.5%	150.9%
74	2083									0.4%	150.9%
75	2084									0.4%	150.9%
76	2085									0.4%	150.9%
77	2086									0.4%	150.9%
78	2087									0.3%	150.9%
79	2088									0.3%	150.9%
80	2089									0.3%	150.9%
81	2090									0.3%	150.9%
PV		53.1%	47.5%	20.1%	6.0%	6.5%	18.5%	-0.8%	150.9%		
Levelized		5.25%	4.70%	1.99%	0.59%	0.64%	1.83%	-0.08%	14.92%		

CARRY NG CHARGE COMPONENTS & ASSUMPTIONS

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Street Lamps**COMPONENTS:**

	Present Val	Levelized
o Book Depreciation	40.44%	3.25%
o Return	45.11%	3.63%
o Federal Tax	22.69%	1.82%
o State Tax	2.23%	0.18%
o Property Tax	8.32%	0.67%
o A&G, Insurance	22.77%	1.83%
o Tax Adjustment for Salvage	-0.65%	-0.05%
Total	140.9%	11.3%

ASSUMPTIONS:

o In-service: 2016
 o Book Life or Economic Life: 40 Years
 o Book Salvage: -30.00%

o Calculation of Rate Base & Tax Base: in dollars

	Year	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	TOTAL
Cash Flow:		100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Rate Base:		103.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	103.8
Tax Base :		102.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	102.5

o Tax Base as % of Rate Base: 98.7% (for Fed. & St. Tax Depr, and Book-Tax Depr)

<u>Tax Depreciation</u>	<u>Income Tax Rate</u>
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o Federal Tax:	200% DDB 7 Yrs	35.0%
o State Tax:	200% DDB 9 Yrs	8.84%

Tax Rate In: 2016

o Property Tax Expense: Based on 1.280% of Assessed Value (Assessed Value= 0.8012 X HCLD)
 HCLD: Historical Cost Less Depreciation

o Overhead Expense: -- A&G 1.44%
 -- Insuranc 0.39%

Total	1.83%
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o Authorized Rate of Return:

	Capital Ratio	Cost	Weighted Cost
-- Debt	43.00%	4.98%	2.14%
-- Preferred	9.00%	5.82%	0.52%
-- Common Equity	48.00%	10.30%	4.94%
Total	100.00%		7.61%

o Discount Rate: 7.61%

- Notes: (1) Present Value is discounted to 2015
 (2) Present Value and Levelized Carrying Charge should only be applied to capital outlay: associated with regulated utility assets
 (3) Present Value and Levelized Carrying Charge should be applied to Total Rate Base including capitalized money costs incurred during construction period

YEAR-BY-YEAR REVENUE REQUIREMENT
Account 373 Street Lamps

Year	Book Depreciation	Total Return	Federal Income Taxes	State Income Taxes	Property Tax	A&G & Insurance	Tax Adjusted for Salvage	Total	Discount Factor	Cum PV @ 7.6%
1 2010	3.3%	7.6%	3.4%	0.1%	1.0%	1.8%		17.2%	92.9%	16.0%
2 2011	3.3%	7.1%	3.1%	-0.8%	1.0%	1.8%		15.5%	86.4%	29.4%
3 2012	3.3%	6.2%	2.8%	-0.4%	1.0%	1.8%		14.6%	80.3%	41.1%
4 2013	3.3%	5.6%	2.6%	-0.2%	0.9%	1.8%		14.0%	74.6%	51.5%
5 2014	3.3%	5.1%	2.4%	0.0%	0.9%	1.8%		13.4%	69.3%	60.9%
6 2015	3.3%	4.7%	2.2%	0.2%	0.9%	1.8%		13.0%	64.4%	69.2%
7 2016	3.3%	4.2%	2.1%	0.1%	0.8%	1.8%		12.3%	59.9%	76.6%
8 2017	3.3%	3.8%	1.9%	0.1%	0.8%	1.8%		11.7%	55.6%	83.1%
9 2018	3.3%	3.5%	1.8%	0.0%	0.8%	1.8%		11.2%	51.7%	88.9%
10 2019	3.3%	3.3%	1.7%	0.4%	0.7%	1.8%		11.2%	48.0%	94.3%
11 2020	3.3%	3.2%	1.6%	0.7%	0.7%	1.8%		11.3%	44.6%	99.3%
12 2021	3.3%	3.0%	1.6%	0.7%	0.7%	1.8%		11.0%	41.5%	103.9%
13 2022	3.3%	2.8%	1.5%	0.7%	0.6%	1.8%		10.7%	38.5%	108.0%
14 2023	3.3%	2.6%	1.4%	0.6%	0.6%	1.8%		10.4%	35.8%	111.7%
15 2024	3.3%	2.4%	1.4%	0.6%	0.6%	1.8%		10.1%	33.3%	115.0%
16 2025	3.3%	2.3%	1.3%	0.6%	0.5%	1.8%		9.8%	30.9%	118.0%
17 2026	3.3%	2.1%	1.2%	0.6%	0.5%	1.8%		9.4%	28.7%	120.8%
18 2027	3.3%	1.9%	1.2%	0.6%	0.5%	1.8%		9.1%	26.7%	123.2%
19 2028	3.3%	1.7%	1.1%	0.5%	0.4%	1.8%		8.8%	24.8%	125.4%
20 2029	3.3%	1.5%	1.0%	0.5%	0.4%	1.8%		8.5%	23.1%	127.4%
21 2030	3.3%	1.3%	0.9%	0.5%	0.4%	1.8%		8.2%	21.4%	129.1%
22 2031	3.3%	1.2%	0.9%	0.5%	0.3%	1.8%		7.9%	19.9%	130.7%
23 2032	3.3%	1.0%	0.8%	0.5%	0.3%	1.8%		7.6%	18.5%	132.1%
24 2033	3.3%	0.8%	0.7%	0.4%	0.3%	1.8%		7.3%	17.2%	133.4%
25 2034	3.3%	0.6%	0.7%	0.4%	0.2%	1.8%		7.0%	16.0%	134.5%
26 2035	3.3%	0.4%	0.6%	0.4%	0.2%	1.8%		6.7%	14.9%	135.5%
27 2036	3.3%	0.3%	0.5%	0.4%	0.2%	1.8%		6.4%	13.8%	136.4%
28 2037	3.3%	0.1%	0.5%	0.4%	0.1%	1.8%		6.1%	12.8%	137.2%
29 2038	3.3%	-0.1%	0.4%	0.3%	0.1%	1.8%		5.8%	11.9%	137.9%
30 2039	3.3%	-0.3%	0.3%	0.3%	0.1%	1.8%		5.5%	11.1%	138.5%
31 2040	3.3%	-0.5%	0.2%	0.3%		1.8%		5.2%	10.3%	139.0%
32 2041	3.3%	-0.6%	0.2%	0.3%		1.8%		4.9%	9.6%	139.5%
33 2042	3.3%	-0.8%	0.1%	0.3%		1.8%		4.6%	8.9%	139.9%
34 2043	3.3%	-1.0%	0.0%	0.2%		1.8%		4.3%	8.3%	140.2%
35 2044	3.3%	-1.2%	0.0%	0.2%		1.8%		4.1%	7.7%	140.5%
36 2045	3.3%	-1.4%	-0.1%	0.2%		1.8%		3.8%	7.1%	140.8%
37 2046	3.3%	-1.6%	-0.2%	0.2%		1.8%		3.5%	6.6%	141.0%
38 2047	3.3%	-1.7%	-0.3%	0.2%		1.8%		3.3%	6.2%	141.3%
39 2048	3.3%	-1.9%	-0.3%	0.2%		1.8%		3.0%	5.7%	141.4%
40 2049	3.3%	-2.1%	-0.4%	0.1%		1.8%	-12.2%	-9.5%	5.3%	140.9%
41 2050									4.9%	140.9%
42 2051									4.6%	140.9%
43 2052									4.3%	140.9%
44 2053									4.0%	140.9%
45 2054									3.7%	140.9%
46 2055									3.4%	140.9%
47 2056									3.2%	140.9%
48 2057									3.0%	140.9%
49 2058									2.8%	140.9%
50 2059									2.6%	140.9%
51 2060									2.4%	140.9%
52 2061									2.2%	140.9%
53 2062									2.1%	140.9%

54	2063									1.9%	140.9%
55	2064									1.8%	140.9%
56	2065									1.6%	140.9%
57	2066									1.5%	140.9%
58	2067									1.4%	140.9%
59	2068									1.3%	140.9%
60	2069									1.2%	140.9%
61	2070									1.1%	140.9%
62	2071									1.1%	140.9%
63	2072									1.0%	140.9%
64	2073									0.9%	140.9%
65	2074									0.9%	140.9%
66	2075									0.8%	140.9%
67	2076									0.7%	140.9%
68	2077									0.7%	140.9%
69	2078									0.6%	140.9%
70	2079									0.6%	140.9%
71	2080									0.5%	140.9%
72	2081									0.5%	140.9%
73	2082									0.5%	140.9%
74	2083									0.4%	140.9%
75	2084									0.4%	140.9%
76	2085									0.4%	140.9%
77	2086									0.4%	140.9%
78	2087									0.3%	140.9%
79	2088									0.3%	140.9%
80	2089									0.3%	140.9%
81	2090									0.3%	140.9%
PV		40.4%	45.1%	22.7%	2.2%	8.3%	22.8%	-0.7%	140.9%		
Levelized		3.25%	3.63%	1.82%	0.18%	0.67%	1.83%	-0.05%	11.32%		

ANNUAL CARRYING CHARGE FOR LAND
FERC Accounts 350 & 360

The carrying charge for land includes the components of return, income taxes, Administrative and General (A&G), and Ad Valorem Taxes. Other components such as book depreciation, federal & state tax depreciation, and insurance are not applicable.

The annual carrying charge for land, which is the same fore every year, is derived below:

$$\text{Annual Carrying Charge} = \text{Return} + \text{Income Taxes} + \text{A\&G} + \text{Ad Valorem Taxes}$$

$$\begin{aligned} \text{where} \quad \text{FIT} &= \text{Federal Income Tax} \\ &= (\text{FT}/(1-\text{FT})) * (\text{Return} - (\text{PD} * \text{CD})) \\ \text{SIT} &= \text{State Income Tax} \\ &= (\text{ST}/(1-\text{ST})) * (\text{Return} - (\text{PD} * \text{CD}) + \text{FIT}) \end{aligned}$$

Return : Incremental Cost of Capital
PD : Percent of Debt in Capital Structure
CD : Cost of Debt
FT : Federal Income Tax Rate
ST : State Income Tax Rate

For 2013 Operation Date:

Return	=	7.61%	Authorized Rate of Return
PD	=	43.00%	
CD	=	4.98%	
ST	=	8.84%	
FT	=	35.00%	
A&G	=	1.44%	
Ad Valorem	=	1.28%	of Assesed Value
			(Assessed Value = 0.8012 x HCLD)
			HCLD : Historical Cost Less Depreciation
(Ad Valorem	=	1.28%	x 80.12% x HCLD)
then			
PD*CD	=	2.14%	
FIT	=	2.94%	
SIT	=	0.82%	
Ad.Val.	=	1.03%	
Annual Carrying Charge	=	Return + FIT + SIT + A&G + Ad Valorem Taxes	
	=	7.61% + 2.94% + 0.82% + 1.44% + 1.03%	
	=	13.83%	
Present Value	=	13.83 / 9.20%	= 150.4