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June 19, 2017

The Hon. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: San Diego Gas & Electric Company, Docket No. ER17-____-000
TO4 Formula Depreciation Rate Change for Non-Transmission Common Plant and Electric General Plant

Dear Ms. Bose:

Pursuant to Section 205 of the Federal Power Act,[1] Section 35.13 of the Federal Energy Regulatory Commission's (FERC or Commission) regulations,[2] and San Diego Gas & Electric Company's (SDG&E) fourth Transmission Owner (TO) Formula rate mechanism (TO4 Formula or TO4 Formula Rate),[3] SDG&E submits this "single-issue" depreciation rate filing (Filing). This Filing updates SDG&E's non-transmission depreciation rates for Common Plant and Electric General Plant contained in the TO4 Formula (Cycle 1)[4] to reflect the impact of changes to plant balances and related depreciation rates for 2016, the TO4 Cycle 5 Base Period.

The proposed impact of the revised non-transmission depreciation rates and its impact on the Base Transmission Revenue Requirements (BTRR) will be reflected in the TO4 Cycle 5

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1 16 U.S.C. § 824d (2015).

2 18 C.F.R. § 35.13.

3 The Commission approved the TO4 Offer of Settlement (Settlement) embodying the TO4 Formula in *San Diego Gas & Electric Company*, 147 FERC ¶ 61,150 (2014). Subsequently, in letter orders issued November 21, 2014 (Docket No. ER14-2984), October 14, 2015 (Docket No. ER15-2215), and June 29, 2016 (Docket No. ER-16-1604), the Commission accepted updated non-transmission depreciation rates for Common Plant and Electric General Plant, effective January 1, 2015, January 1, 2016, and January 1, 2017, respectively.

4 The term "Cycle" refers to the specific Informational Filing (or annual filing) submitted under the TO4 Formula. The term "TO4 Cycle 5" refers to the fifth Informational Filing submitted in the TO4 Formula. The capitalized terms have the meaning ascribed to them in SDG&E's TO Tariff or in this Filing.

Formula Rate Informational Filing, which will be filed on December 1, 2017, to become effective January 1, 2018.

As discussed more fully below, this Filing is required by SDG&E's TO4 Formula Rate Protocols.

I. NATURE AND PURPOSE OF FILING

SDG&E proposes to revise its Formula Rate,[5] set forth in SDG&E's Transmission Owner Tariff, FERC Electric Tariff, Volume No. 11 (TO Tariff), to reflect non-transmission depreciation rates for Common Plant and Electric General Plant for 2016, the Base Period for TO4, Cycle 5. This update is contemplated by SDG&E's TO4 Formula Rate Mechanism as outlined in Section D.5 of SDG&E's Rate Protocols. To reflect the changed non-transmission depreciation rates in its TO4 Cycle 5 Annual Informational Filing, SDG&E is required to make this single-issue depreciation rate filing to obtain Commission approval of the changed non-transmission depreciation rates for Common Plant and Electric General Plant.

II. LIST OF DOCUMENTS SUBMITTED

This Filing consists of the following items:

1. Transmittal Letter.

2. Exhibit No. SDG-1 -- Affidavit of Matthew Vanderbilt on behalf of San Diego Gas & Electric Company and the following:

    a. Appendix A – TO4 Cycle 4 Non-Transmission Depreciation Rates (2015 Common & Electric General Plant Depreciation Rates) (TO4 Cycle 4 Base Period – Statement AJ work papers);

    b. Appendix B – TO4 Cycle 5 Depreciation Rates for Electric General Plant and Common Plant (2016 Common and Electric General Plant Depreciation Rates including impact of using 2015 Electric General Plant and Common Plant Depreciation Rates in 2016) (TO4 Cycle 5 Base Period – Statement AJ work papers);

    c. Appendix C – 2016 CPUC Decision D.16-06-054 (2016 GRC Decision) (Relevant Excerpts);

[5] The TO4 Formula Rate is set forth in Appendix VIII of SDG&E's TO Tariff, Formula Rate Protocols and Formula Rate Spreadsheet.

d. Appendix D – SDG&E A.14-11-003 Exhibit SDG&E-28-R (Relevant Excerpts) (Direct Testimony of Bob Wieczorek on SDG&E's Depreciation).

III. PROPOSED DEPRECIATION RATE REVISIONS

SDG&E is making this Filing to request Commission approval to recalculate the non-transmission depreciation rates reflected in the TO4 Formula to reflect 2016 recorded depreciation, consistent with the CPUC's 2016 GRC Decision. SDG&E is proposing to revise only those aspects of the depreciation inputs that are necessary to reflect the 2016 GRC Decision.

Mr. Vanderbilt's Affidavit explains the basis for and recalculation of the 2016 non-transmission depreciation rates for Common Plant and Electric General Plant. For illustrative purposes, Mr. Vanderbilt also estimates the future impact of the proposed depreciation rate changes on SDG&E's currently-effective Base Transmission Revenue Requirement.

Mr. Vanderbilt also compares the 2015 Electric General Plant and Common Plant rates to the 2016 Electric General Plant and Common Plant rates. The comparison, which is for illustrative purposes only, applies 2015 and 2016 Electric General and Common Plant rates to a consistent depreciable base. Appendix B shows the overall change to Electric General Plant and Common Plant depreciation rates at $2.1 million, or approximately 4.4% increase to associated depreciation expense. After allocation, this results in a $361.5 thousand increase to Electric Transmission, comprised of $343.0 thousand from Electric General Plant and $18.5 thousand from Common Plant.

IV. EFFECTIVE DATE

Consistent with the normal operation of the TO4 Formula, SDG&E respectfully requests that the Commission permit this Filing to be reflected in SDG&E's TO4 Cycle 5 Informational Filing for the Rate Effective Period commencing January 1, 2018. Permitting the revised depreciation rates to be reflected as proposed (1) ensures consistency in the application of the CPUC-adopted depreciation rates for FERC-jurisdictional and CPUC-jurisdictional rates and (2) avoids any timing gap in effectuating consistent depreciation rates across the federal and state jurisdictions.

SDG&E believes that the information contained in this Filing provides a sufficient basis for acceptance. SDG&E requests, however, that, to the extent deemed necessary, the Commission waive any other filing requirements contained in Part 35 of its regulations to permit SDG&E to reflect the proposed non-transmission depreciation rates and impact on BTRRs in its TO4 Cycle 5 Informational Filing, effective January 1, 2018.

V. SERVICE

A copy of this Filing has been served on all parties to TO4 Formula Rate proceeding, Docket Nos. ER13-941 and ER16-1604. The CPUC, the California Independent System Operator (CAISO) and the CAISO Participating Transmission Owners have also been served.

VI. COMMUNICATIONS

SDG&E requests that all correspondence, pleadings and other communications concerning this filing be served upon the following individuals:

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Respectfully submitted,

/s/ Christopher M. Lyons
Christopher M. Lyons
Attorney for
San Diego Gas & Electric Company

CERTIFICATE OF SERVICE

I hereby certify that I have this day served an electronic copy of the foregoing document upon each person designated on the official service list compiled by the Secretary in Docket No. ER13-941-000 and ER16-1604-000. In addition, I certify that I have also caused the foregoing to be served by overnight delivery upon the following:

Arocles Aguilar (via Overnight Mail)
General Counsel
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Roger Collanton (via Overnight Mail)
General Counsel
California Independent System Operator Corporation
250 Outcropping Way
Folsom, CA 95630

Dated at San Diego, California, this 19th day of June, 2017.

/s/ *Jenny Norin*
Jenny Norin
8330 Century Park Court, CP32D
San Diego, CA 92123
(858) 654-1716

San Diego Gas & Electric Company

TO4 Formula Depreciation Rate Change for Non-Transmission Common Plant and Electric General Plant

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EXHIBIT NO. SDG-1

AFFIDAVIT OF MATTHEW C. VANDERBILT

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

San Diego Gas & Electric Company) Docket No. ER17-____-000

AFFIDAVIT OF MATTHEW C. VANDERBILT
FOR SAN DIEGO GAS & ELECTRIC COMPANY

I, Matthew C. Vanderbilt, being dully sworn, depose and state as follows:

I. INTRODUCTION

1. My name is Matthew C. Vanderbilt; my business address is 8335 Century Park Court, San Diego, California 92123. I am employed by San Diego Gas & Electric Company (SDG&E)[1] as a Principal Accountant in the Accounting Operations department within the Controller's division, where I have held varying responsibilities since 2009.

2. I am submitting this affidavit on behalf of SD&GE. The statements made herein are true and correct to the best of my knowledge and belief, and I adopt them as my sworn testimony in this proceeding.

3. I have worked at SDG&E for more than 17 years. My current responsibilities principally include the preparation of depreciation and amortization rates, analyses, estimation, and studies; monitoring of depreciation and amortization practices utilized at SDG&E; and special projects.

[1] Defined terms have the meanings ascribed to them herein or, absent such definition, that provided in SDG&E's Fourth Transmission Owner Tariff.

4. Since beginning work at SDG&E in 1999, I have held various financial and engineering-related positions covering Electric Reliability & Distribution Planning, Electric Distribution Operations, and Accounting Operations. My previous responsibilities have included analysis and reporting of electric outages; creation of mathematical and statistical simulations of equipment failures; applications development; financial analysis, reporting, and modeling; and plant, project, and cost-center accounting. I have also worked as a financial and operational auditor at Sempra Energy, the parent company of SDG&E.

5. I received Associate of Arts and Associate of General Studies degrees from Scottsdale Community College in 1995 and a Bachelor's of Science degree in Accountancy from National University in 2005. I am currently a member of the Society of Depreciation Professionals and American Society for Quality, and have previously been a member of the American Statistical Association and Institute of Internal Auditors.

6. I have not previously testified before the Federal Energy Regulatory Commission.

7. The purpose of my affidavit is to describe SDG&E's proposed revisions to the depreciation module of the formula transmission rate of SDG&E ("Formula Rate") necessary to put into effect the depreciation parameters[2] implemented from the California Public Utilities Commission ("CPUC") Decision ("D.") 16-06-054 ("Decision") on Application ("A.") 14-11-003, also known as the 2016 General Rate Case for SDG&E ("2016 GRC").

[2] "Depreciation parameters" or ("mortality characteristics") refer to the Iowa-type survivor curve (i.e. retirement dispersion), Average Service Life, Future Net Salvage rate, and Interim Retirement Rate, for asset depreciation groups.

8. My affidavit is organized as follows:

   a. In Section II, I provide background on the Formula Rate and the calculation of non-transmission depreciation expense thereto;

   b. In Section III, I describe the depreciation parameters adopted through SDG&E's 2016 GRC, the method of determination of non-transmission depreciation rates, and the proposed rates thereof;

   c. In Section IV, I describe the revisions to the depreciation module of the Formula Rate necessary to conform with SDG&E's 2016 GRC;

   d. In Section V, I present an illustrative quantification of the changed non-transmission depreciation rates.

II. BACKGROUND ON SDG&E'S FORMULA RATE

9. On February 15, 2013, SDG&E filed tariff revisions under Section 205 of the Federal Power Act ("FPA")[3] to implement its Fourth Transmission Owner ("TO4") Formula Rate mechanism ("TO4 Formula" or "Filing") to replace its then-effective Third TO Formula rate mechanism ("TO3 Formula"), which was due to terminate on August 31, 2013. The TO4 Formula became effective on September 1, 2013, upon Federal Energy Regulatory Commission ("FERC" or "Commission") approval of the Offer of Settlement and Settlement Agreement ("Settlement") on May 27, 2014.[4] Pursuant to the formula protocols, SDG&E submits an Information Filing to become effective on January 1st of the given calendar year and remain in effect through December

[3] 16 USC §824d (2006).
[4] *San Diego Gas & Electric Company*, 147 FERC ¶ 61,150 (2014)

31st of the applicable calendar year. Thus, the TO4 Cycle 5 Rate Effective Period is January 1, 2018, through December 31, 2018.

10. Pursuant to Section 1.6 of the Settlement and Section D.5 of the Formula Rate Protocols ("Protocols"), SDG&E may make a single-issue Section 205 filing to change the depreciation rates and/or amortization periods for Electric General Plant, Common Plant, and Intangible Plant, upon approval by the CPUC of revised depreciation rates and/or amortization periods for these plant categories.

11. This is the fourth single-issue Section 205 filing SDG&E has made under the TO4 Formula to change the depreciation rates for Electric General Plant and Common Plant

III. DEPRECIATION PARAMETERS ADOPTED FROM SDG&E'S 2016 GRC

12. CPUC D.16-06-054 on A.14-11-003 (SDG&E's 2016 GRC) was issued by the CPUC on July 1, 2016, and represented the final decision in SDG&E's 2016 GRC Phase I proceeding. The Decision adopted a revenue requirement for SDG&E's CPUC-jurisdictional assets to be effective on January 1, 2016.

13. Among other items, the Decision adopted for depreciation and amortization the agreed-upon test-year settlement amount of $432.059 million[5], which was reflective of the original and unmodified depreciation parameters and methodologies specified in A.14-11-003 Exhibit SDG&E-28-R ("SDG&E-28"), included with this exhibit as Appendix D. This adoption was inclusive of changes to the Electric General and Common rates that are utilized and specified in

[5] CPUC D.16-06-054 §6.13.1 (Page 165) shown as Exhibit No. SDG-1 Appendix C.

the Formula Rate. As discussed in SDG&E-28, composite expectancy[6] by asset depreciation group is calculated annually and depreciation rates are updated accordingly based on the specified depreciation parameters.

14. The Decision required no changes to the currently-effective Intangible Plant amortization periods and subsequent rates. Accordingly, this single-issue filing does not address amortization; it is limited solely to specifying and outlining changes to the depreciation rates for Electric General Plant and Common Plant.

15. Upon receipt of the Decision in July 2016, SDG&E recalculated all non-transmission depreciation rates effective January 1, 2016, using December 31, 2015, plant and reserve balances and asset cost-age distributions and the depreciation parameters specified in SDG&E-28.

16. The current single-issue Section 205 filing, which is applicable to TO4 Cycle 5, reflects the 2016 Electric General and Common Plant rates implemented effective January 1, 2016, for the entire calendar year. This update to the depreciation rates for Electric General Plant and Common Plant is the sole basis and reason for this filing.

17. As provided in Appendix D, statistical methodologies were applied in accordance with CPUC Standard Practice U-4, *Determination of Straight-Line Remaining Life Depreciation Accruals*, to determine depreciation parameters by asset depreciation group, as well as calculate expectancy and associated depreciation rates.

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[6] Expectancy, as used here in relation to depreciation, represents the cost-weighted, average, remaining life, calculated on actual plant cost-age distributions using specified Iowa-type survivor curves and average service lives.

IV. REVISIONS TO THE FORMULA RATE TO CONFORM WITH CPUC DECISION

18. The impact of the Decision on depreciation rates for Electric General Plant and Common Plant necessitates modifications to the Exhibit Nos. SDG-1-1, "Electric General Plant Depreciation Rates – 2015," and SDG-1-2, "Common Plant Depreciation Rates – 2015," included in the single-issue Section 205 filing to change the depreciation rates for Electric General Plant and Common Plant for TO4 Cycle 5. These two exhibits, which are provided in updated format in Appendix A, are replaced, effective January 1, 2016, with the single Appendix B included in this Affidavit.

19. Under SDG&E's Formula Rate Protocols, this single-issue Section 205 filing to change the depreciation rates for Electric General Plant and Common Plant does not result in a redetermination of the Base Transmission Revenue Requirements ("BTRR") and transmission rates. Any rate impact resulting from changes to these rates will be reflected in the SDG&E TO4 Cycle Informational Filing.

V. QUANTIFICATION OF DEPRECIATION RATE CHANGE IMPACT

20. While this filing does not result in a change in the BTRR and transmission rates, I have provided in Appendix B, for illustration purposes, a comparison of recorded depreciation expense for Electric General Plant and Common Plant to what it would be based upon the TO4 Cycle 4 rates.

21. As shown, the overall change to Electric General Plant and Common Plant depreciation rates resulted in a $2.1 million, or approximately 4.4%, increase to associated depreciation expense. Through allocations, this results in a $361.5 thousand increase to Electric Transmission,

comprised of $343.0 thousand from Electric General Plant and $18.5 thousand from Common Plant.

VI. CONCLUSION

22. My Affidavit demonstrates that the revisions SDG&E is proposing to the Formula Rate are necessary to properly reflect the CPUC Decision, including depreciation parameters associated therewith, as it pertains to the depreciation rates for Electric General Plant and Common Plant utilized in the Formula Rate Protocols. Such revisions are to become effective January 1, 2016, in accordance with SDG&E's Formula Rate Protocols.

EXHIBIT SDG-1 – APPENDIX A

TO4 CYCLE 4 NON-TRANSMISSION

DEPRECIATION RATES

SAN DIEGO GAS & ELECTRIC COMPANY
Common & Electric General Plant Depreciation Rates
for the 12-month period ended December 31, 2015

FERC Account / Depreciation Group	2015 Depreciable Base	2015 Depreciation Rates Life	Removal	Net	2015 Recorded Expense	2014 Net Depreciation Rates	Depreciation Expense at 2014 Rates	Impact of Rate Update
	(a)=(e)÷(c)	(b)	(c)	(d)=(b)+(c)	(e)	(f)	(g) = (a) * (f)	(h) = (e) - (g)
Common Plant								
C390.10-Struct & Imprv-Other	$ 319,401,298.83	3.532679%	0.353268%	3.885947%	$ 12,411,765.19	5.210000%	$ 16,640,807.67	$ (4,229,042.48)
C391.10-Offc Furn & Eq-Other	26,679,212.44	5.731357%	-	5.731357%	1,529,080.91	5.730000%	1,528,718.87	362.04
C391.20-Offc Furn & Eq-Cmptr	52,546,338.25	11.389338%	-	11.389338%	5,984,680.07	14.070000%	7,393,269.79	(1,408,589.72)
C392.10 - Trans Eq - Autos	-	-	-	-	-	-	-	-
C392.20-Transprtn Eq-Trailer	18,371.36	12.107651%	-	12.107651%	2,224.34	20.180000%	3,707.34	(1,483.00)
C393.10-Stores Equip-Other	70,924.15	10.607205%	-	10.607205%	7,523.07	8.720000%	6,184.59	1,338.48
C394.11-Portable Tools-Other	1,232,026.78	4.491029%	-	4.491029%	55,330.68	4.510000%	55,564.41	(233.73)
C394.21-Shop Equip - Other	213,460.75	4.824203%	-	4.824203%	10,297.78	4.860000%	10,374.19	(76.41)
C394.31-Garage Equip -Other	1,087,686.60	8.613756%	-	8.613756%	93,690.67	8.540000%	92,888.44	802.23
C395.10-Laboratory Eq -Other	2,001,826.03	4.239806%	-	4.239806%	84,873.54	4.220000%	84,477.06	396.48
C397.10-Commun Equip -Other	176,350,791.95	7.328475%	-	7.328475%	12,923,823.70	7.290000%	12,855,972.73	67,850.97
C398.10-Misc Equip - Other	2,295,884.56	9.437434%	-	9.437434%	216,672.59	9.320000%	213,976.44	2,696.15
	581,897,821.70				33,319,962.54		38,885,941.53	(5,565,978.99)
Electric General Plant								
E390.00-Struct. and Improv.	32,272,843.71	4.376610%	1.094152%	5.470762%	1,765,570.47	5.620000%	1,813,733.82	(48,163.35)
E392.10-Transprtn Eq-Autos	-	-	-	-	-	-	-	-
E392.20-Transprtn Eq-Trailer	58,146.93	4.433940%	-	4.433940%	2,578.20	4.460000%	2,593.35	(15.15)
E393.10-Stores Equip.-Other	15,420.14	0.450385%	-	0.450385%	69.45	1.590000%	245.18	(175.73)
E394.11-Portable Tools-Other	23,125,527.84	3.754458%	-	3.754458%	868,238.23	3.780000%	874,144.95	(5,906.72)
E394.20-Shop Equipment	341,135.04	4.724651%	-	4.724651%	16,117.44	4.770000%	16,272.14	(154.70)
E395.10-Laboratory Eq.-Other	2,401,586.29	5.190720%	-	5.190720%	124,659.62	7.410000%	177,957.54	(53,297.92)
E397.10-Commun. Equip.-Other	220,608,436.99	3.276401%	0.491460%	3.767861%	8,312,219.26	3.710000%	8,184,573.01	127,646.25
E397.20-Commun. Equip.-SWPL	6,807,477.31	2.538741%	0.380811%	2.919552%	198,747.84	2.950000%	200,820.58	(2,072.74)
E397.60-Commun. Equip.-SRPL	14,030,789.94	3.529329%	0.529399%	4.058728%	569,471.60	4.080000%	572,456.23	(2,984.63)
E397.70-Commun Dev - Telecom	-	-	-	-	-	-	-	-
E398.10-Misc. Equip. - Other	3,611,470.34	6.846198%	-	6.846198%	247,248.41	6.980000%	252,080.63	(4,832.22)
	303,272,834.53				12,104,920.52		12,094,877.43	10,043.09
	$ 885,170,656.23				$ 45,424,883.06		$ 50,980,818.96	$ (5,555,935.90)

	Labour Ratio	Impact of Rate Update	Allocation
Allocation of Common Plant Rate Update Impact to Electric	75.96%	$ (5,565,978.99)	$ (4,227,917.64)
Allocation of Electric Portion of Common Plant Rate Update Impact to Electric Transmission	16.95%	$ (4,227,917.64)	$ (716,632.04)
Allocation of Electric General Plant Rate Update Impact to Electric Transmission	16.95%	$ 10,043.09	$ 1,702.30

Exhibit No. SDG-1

EXHIBIT SDG-1 – APPENDIX B

TO4 CYCLE 5 DEPRECIATION RATES FOR ELECTRIC GENERAL PLANT AND COMMON PLANT

SAN DIEGO GAS & ELECTRIC COMPANY
Common & Electric General Plant Depreciation Rates
for the 12-month period ended December 31, 2016

FERC Account / Depreciation Group	2016 Depreciable Base	2016 Depreciation Rates Life	Removal	Net	2016 Recorded Expense	2015 Net Depreciation Rates	Depreciation Expense at 2015 Rates	Impact of Rate Update
	(a)=(e)÷(c)	(b)	(c)	(d)=(b)+(c)	(e)	(f)	(g) = (a) * (f)	(h) = (e) - (g)
Common Plant								
C390.10-Struct & Imprv-Other	$ 345,204,077.45	2.826885%	0.502792%	3.329677%	$ 11,494,180.77	3.885947%	$ 13,414,447.49	$ (1,920,266.72)
C391.10-Offc Furn & Eq-Other	29,499,188.40	5.656702%	0.004337%	5.661039%	1,669,960.56	5.731357%	1,690,703.80	(20,743.24)
C391.20-Offc Furn & Eq-Cmptr	47,865,319.14	14.956691%	-	14.956691%	7,159,067.88	11.389338%	5,451,542.98	1,707,524.90
C392.10 - Trans Eq - Autos	233,851.40	19.265089%	-	19.265089%	45,051.68	-	-	45,051.68
C392.20-Transprtn Eq-Trailer	12,195.39	6.154787%	-	6.154787%	750.60	12.107651%	1,476.58	(725.98)
C393.10-Stores Equip-Other	59,463.72	1.989667%	-	1.989667%	1,183.13	10.607205%	6,307.44	(5,124.31)
C394.11-Portable Tools-Other	1,232,025.21	4.337882%	-	4.337882%	53,443.80	4.491029%	55,330.61	(1,886.81)
C394.21-Shop Equip - Other	192,291.00	1.762173%	-	1.762173%	3,388.50	4.824203%	9,276.51	(5,888.01)
C394.31-Garage Equip -Other	1,431,335.49	8.803602%	-	8.803602%	126,009.08	8.613756%	123,291.75	2,717.33
C395.10-Laboratory Eq -Other	2,039,726.96	4.441411%	0.005468%	4.446879%	90,704.19	4.239806%	86,480.47	4,223.72
C397.10-Commun Equip -Other	188,613,180.34	7.559260%	0.002941%	7.562201%	14,263,307.81	7.328475%	13,822,469.77	440,838.04
C398.10-Misc Equip - Other	1,913,474.81	3.910341%	-	3.910341%	74,823.39	9.437434%	180,582.92	(105,759.53)
	618,296,129.31				34,981,871.39		34,841,910.32	139,961.07
Electric General Plant								
E390.00-Struct. and Improv.	33,082,707.14	2.117024%	-	2.117024%	700,368.85	5.470762%	1,809,876.17	(1,109,507.32)
E392.10-Transprtn Eq-Autos	-	-	-	-	-	-	-	-
E392.20-Transprtn Eq-Trailer	58,144.97	4.431613%	-	4.431613%	2,576.76	4.433940%	2,578.11	(1.35)
E393.10-Stores Equip.-Other	8,542.89	1.689826%	-	1.689826%	144.36	0.450385%	38.48	105.88
E394.11-Portable Tools-Other	24,391,014.15	3.737343%	-	3.737343%	911,575.86	3.754458%	915,750.38	(4,174.52)
E394.20-Shop Equipment	341,137.47	3.089898%	-	3.089898%	10,540.80	4.724651%	16,117.55	(5,576.75)
E395.10-Laboratory Eq.-Other	5,152,916.42	4.641686%	-	4.641686%	239,182.20	5.190720%	267,473.46	(28,291.26)
E397.10-Commun. Equip.-Other	237,890,198.05	2.981608%	2.011682%	4.993290%	11,878,547.47	3.767861%	8,963,372.00	2,915,175.47
E397.20-Commun. Equip.-SWPL	6,917,454.28	2.217083%	2.705825%	4.922908%	340,539.91	2.919552%	201,958.67	138,581.24
E397.60-Commun. Equip.-SRPL	9,110,429.23	3.251208%	1.757348%	5.008556%	456,300.95	4.058728%	369,767.54	86,533.41
E397.70-Commun Dev - Telecom	24,835.94	3.330456%	1.684092%	5.014548%	1,245.41	-	-	1,245.41
E398.10-Misc. Equip. - Other	5,488,200.07	6.183553%	-	6.183553%	339,365.76	6.846198%	375,733.04	(36,367.28)
	322,465,580.61				14,880,388.33		12,922,665.40	1,957,722.93
	$ 940,761,709.92				$ 49,862,259.72		$ 47,764,575.72	$ 2,097,684.00

	Labour Ratio	Impact of Rate Update	Allocation
Allocation of Common Plant Rate Update Impact to Electric	75.31%	$ 139,961.07	$ 105,404.68
Allocation of Electric Portion of Common Plant Rate Update Impact to Electric Transmission	17.52%	$ 105,404.68	$ 18,466.90
Allocation of Electric General Plant Rate Update Impact to Electric Transmission	17.52%	$ 1,957,722.93	$ 342,993.06

Exhibit No. SDG-1

EXHIBIT SDG-1 – APPENDIX C

CPUC D.16-06-054 (2016 GRC DECISION)

(Relevant Excerpt(s))

ALJ/JSW/RL8/jt2 **Date of Issuance 7/1//2016**

Decision 16-06-054 June 23, 2016

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of San Diego Gas & Electric Company (U902M) for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2016.	Application 14-11-003 (Filed November 14, 2014)
And Related Matter.	Application 14-11-004

(See Appendix D for Service List)

DECISION ADDRESSING THE GENERAL RATE CASES OF SAN DIEGO GAS & ELECTRIC COMPANY AND SOUTHERN CALIFORNIA GAS COMPANY AND THE PROPOSED SETTLEMENTS

6.13.1. Depreciation and Amortization

In its updated testimony, SDG&E requested $439.813 million for depreciation and amortization.[58] The derivation of SDG&E's depreciation and amortization expense, and its accumulated reserve, is shown in Exhibit 295. According to SDG&E, the "purpose of depreciation and amortization expense is to provide for recovery of the original cost of plant (less estimated net salvage) over the used and useful life of the property by means of an equitable plan of charges to operating expenses." (Exhibit 295 at iii.)

In Exhibit 393, ORA reviewed SDG&E's derivation of the depreciation and amortization expense, and depreciation reserve. ORA did not recommend any changes to SDG&E's depreciation parameters. As shown in the combined summary of earnings table in the Attachment 1 settlement agreement, ORA recommends $423.822 million in depreciation and amortization expense. This amount of $423.822 million differs from SDG&E's original amount of $420.902 million because of the "difference in their respective capital expenditures forecasts for 2014-2016." (Exhibit 366 at 25.)

As reflected in the combined summary of earnings table in the Attachment 1 settlement agreement, the settling parties have agreed to a depreciation and amortization amount of $432.059 million ($374.980 million for electric operations, and $57.079 million for gas operations).

The agreed upon settlement amount of $432.059 million is reasonable, and should be adopted, as it reflects the changes made to the various capital

[58] In Exhibit 295 at page 1, SDG&E originally requested a total of $420.902 million for the 2016 depreciation and amortization.

expenditure forecasts that were agreed to by the settling parties in the Attachment 1 settlement agreement.

6.13.2. Income Taxes

6.13.2.1. Background

In this section of the decision, we address the income tax expense of SDG&E and SoCalGas. The issues pertaining to the income tax expense of both SDG&E and SoCalGas are the same.

Line 24 of the summary of earnings tables in the Attachment 1 Settlement Agreement of the SDG&E Settlement Motion reflects the income tax expense, which is composed of federal income tax, and the California Corporation Franchise Tax (CCFT). In SDG&E's update testimony, income taxes of $163.233 million were forecasted. The derivation of the income taxes for SDG&E is found in Exhibit 247, in which SDG&E originally forecasted $163.529 million.

In Exhibit 394, ORA agrees with SDG&E's use of the 35% rate for the federal income tax rate, and with SDG&E's use of the 8.84% rate for the CCFT. ORA's forecast of the income tax for TY 2016 amounts to $144.279 million. As ORA points out, its tax expense forecast is dependent on ORA's forecasts of the income, expenses, and plant balances.

In the Attachment 1 Settlement Agreement, the combined summary of earnings for SDG&E shows income taxes in the amount of $152.735 million. This amount reflects the other costs that the settling parties have agreed upon.[59]

In SoCalGas' update testimony, income taxes of $109.240 million were forecasted, as shown at line 22 of SoCalGas' summary of earnings table. The

[59] The income tax amount for each utility is calculated in the RO model based on the adopted levels of O&M expense and capital.

Exhibit No. SDG-1

EXHIBIT SDG-1 – APPENDIX D

SDG&E A.14-11-003 EXHIBIT SDG&E-28-R

(Relevant Excerpt(s))

Company: San Diego Gas & Electric Company (U 902 M)
Proceeding: 2016 General Rate Case
Application: A.14-11-003
Exhibit: SDG&E-28-R

REVISED

SDG&E

DIRECT TESTIMONY OF BOB J. WIECZOREK

(DEPRECIATION)

March 2015

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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SUMMARY

I sponsor the Test Year ("TY") 2016 depreciation and amortization expense and accumulated provision (reserve) of the Gas Plant depreciation area for the San Diego Gas & Electric Company ("SDG&E"). The purpose of depreciation and amortization expense is to provide for recovery of the original cost of plant (less estimated net salvage) over the used and useful life of the property by means of an equitable plan of charges to operating expenses. Tangible assets, usually referred to as plant, property and equipment, are depreciated. Intangible assets, such as software and rights-of-way, are amortized. The technical definition for depreciation and related terms is provided in Section II of my testimony. The cumulative depreciation costs recovered through depreciation rates is captured in the depreciation reserve. The reserve represents the return of the investment and provides an ongoing record of one of the major deductions from rate base. Rate base is sponsored in the testimony of Jesse Aragon (Ex. SDG&E-27-R). As discussed in detail below, SDG&E is requesting the adoption of proposed Iowa curves, average service lives, and net salvage rates which were developed in accordance with the Standard Practice U-4. SDG&E is also requesting approval of the resultant depreciation and amortization expense of $363.3 million for Electric and $57.6 million for Gas and an accumulated provision (reserve) of $3.589 billion for Electric and $1.080 billion for Gas.

SDG&E DIRECT TESTIMONY OF BOB J. WIECZOREK
(SDG&E DEPRECIATION)

I. INTRODUCTION

A. Summary of Proposals

The purpose of this testimony is to address the depreciation and amortization expense and accumulated reserve for depreciation and amortization of Electric Production Plant, Electric Distribution Plant, Gas Plant, and the related General and Common Plant of San Diego Gas & Electric Company ("SDG&E").

As shown in the Tables SDG&E-28-BW-1, depreciation and amortization expense for the Recorded Year 2013 is $267.1 million for Electric and $51.3 million for Gas, and for the Test Year ("TY") 2016 is $363.3 million for Electric and $57.6 million for Gas. As shown in the Tables SDG&E-28-BW-2, the accumulated provision (reserve) for depreciation and amortization at the end of the Recorded Year 2013 is $2.881 billion for Electric and $961 million for Gas, and for the TY 2016 it is $3.589 billion for Electric and $1.080 billion for Gas. (These tables are found in the appendix at the end of this testimony.)

B. Overview of Process

I am responsible for the preparation of the depreciation study for SDG&E. This includes coordination of data collection, ensuring reasonableness of the data and any accounting adjustments over time. I am responsible for capturing and displaying the statistical analyses needed in the preparation of the schedules that detail, reflect and support the results of this depreciation showing.

While my depreciation study is based on available history, it is also based on other factors, including, but not limited to, the following: field input, engineering input, changes in technology (historical and future), labor patterns, and past/future removal assessments. The importance of informed judgment and proposed projections as to the future cannot be over emphasized, knowing that depreciation accrual rates need to be set for the near-term future and not the past.

Many utilities continue to use the well-known Simulated Plant Records ("SPR") methodology because specific ongoing infrastructure history was not meticulously captured over time for and by each vintage year. At SDG&E, the effort to capture this specific historical detail has been part of our culture for years and that has allowed this utility to incorporate the more

definitive actuarial methodology when gathering history and applying that within our detailed depreciation studies. In simple terms, the data will represent actual occurrences/patterns as opposed to any simulation or theoretical forecast. Many utilities are attempting to move in this direction and will initiate the switch to the actuarial methodology when their specific historical data becomes available.

The proposed Iowa curves represented in my SDG&E proposals are also a result of the data derived from these actuarial analyses. The actuarial analyses are excellent in identifying these best curve choices along with the suggested Average Service Life ("ASL")[1] and the corresponding remaining life based on the actual vintage year pattern over time. These Iowa curves were developed in the 1930's at Iowa State University and are published empirical curves.[2] These tools will link the historical pattern to the future, specifying Average Service Life, age, and remaining life for those SDG&E Federal Energy Regulatory Commission ("FERC") accounts using the actuarial method. Iowa curves are widely accepted in the industry and will identify the appropriate depreciation parameters needed to complete the final analyses for each FERC account. For those SDG&E infrastructure assets that don't lend themselves to this actuarial methodology, forecasted judgment and proven end-lives, similar to those authorized for other California Utilities, are incorporated in my proposals.

Finally, detail is being provided related to SDG&E's past General Rate Cases ("GRCs") to show how patterns evolve where judgment is used. Each SDG&E FERC account is identified with its unique proposal for Average Service Life, Iowa curve, and where appropriate, Future Net Salvage.[3] These then are incorporated in the GRC models used to display the proposed SDG&E accruals by FERC account for the Test Year 2016.

C. Support To/ From others

As noted above, discussions took place with appropriate personnel to review my proposals and findings, confirming the proposed SDG&E direction noted for each FERC account. The intent of this effort is to confirm the proposed direction in this Application.

[1] Mathematical and Statistical models are used to estimate the life span (retirements and survivors) of infrastructure assets. The result is identified in the Industry as the Average Service Life ("ASL").
[2] See Supplemental Work Papers Ex. SDG&E-28-R-CWP.
[3] Future Net Salvage ("FNS") is defined as the positive salvage less any cost to remove an asset from the infrastructure. Many external pressures tend to increase this negative net salvage value over time.

II. OVERVIEW

A. Definitions

The FERC defines "depreciation" in the Code of Federal Regulations 18, Parts 101 and 201:

> *Depreciation*, as applied to depreciable electric (gas) plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric (gas) plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities.

The FERC further defines service value: "Service value means the difference between original cost and net salvage value of electric (gas) plant." And the FERC defines net salvage value: "Net salvage value means the salvage value of property retired less the cost of removal."

The following are definitions of certain terms contained in the FERC Uniform System of Accounts ("USoA") related to depreciation:

1. *Service value* means the difference between original cost and net salvage value of utility plant.
2. *Original cost*, as applied to utility plant, means the cost of such property to the person first devoting it to public service, as previously mentioned.
3. *Net salvage value* means the salvage value of property retired less the cost of removal.
4. *Salvage value* means the amount received from property retired, less any expenses incurred in connection with the sale or in preparing the property for sale; or, if retained, the amount at which the material recoverable is chargeable to materials and supplies, or other appropriate accounts.
5. *Cost of removal* means the cost of demolishing, dismantling, tearing down or otherwise removing utility plant, including the cost of transportation and handling incidental thereto.
6. *Service life* means the time between the date utility plant is includible in utility plant in service, or utility plant leased to others, and the date of its

retirement. If depreciation is accounted for on a production basis rather than on a time basis, then service life should be measured in terms of the appropriate unit of production.

These definitions are ordered so that the depreciation concepts flow from one to the next. Service value is specifically linked to original cost. Depreciation accounting is the recovery of the original cost of assets and not the economic, market, or any other non-original cost measures of value. Under current practice, regulatory definitions (Standard Practice U-4) require that salvage and cost of removal be considered.

This Standard Practice U-4 has been prepared to assist engineers of the Utilities Division of the Commission staff and others in determining proper annual depreciation expense accruals. The practice was originally issued on April 9, 1952 with revisions in 1953, 1954, 1961, 1985, and 1986.[4] Over time, minor changes have been made including an expansion on the interim retirement determination and an enlargement of the material relating to typical average service lives. All essential material necessary to determine depreciation expenses by the straight-line remaining life method has been carried forward from the former issues.

In the continuing duties of the California Public Utilities Commission ("CPUC" or "Commission") in the fixing of rates and the supervision of accounts of utilities under its jurisdiction, a basic depreciation goal is that of recovering the original cost of fixed capital (less estimated net salvage) over the useful life of the property by means of an equitable plan of charges to operating expenses or clearing accounts. The straight-line remaining life method presented herein and used as standard procedure by the staff meets this objective.

More importantly, the regulatory definitions are specific in their requirement that salvage and cost of removal be included at the amounts expected to be received or incurred, i.e., at the price level expected at the time of receipt or incurrence. This is evident in the wording of the definitions. "Amount received" is stated in the salvage value definition and "cost of" in the cost of removal definition. The definition implies future amounts, not current price levels or present values.

[4] Determination of Straight-Line Remaining Life Depreciation Accruals – Standard Practice U-4, January 1986.

B. Methodology

A depreciation study was conducted in preparation for this SDG&E 2016 GRC. The methods used to calculate the mortality characteristics (service lives, retirement dispersions, and net salvage rates) and to calculate the straight-line remaining life depreciation rates are consistent with Standard Practice U-4, Determination of Straight-Line Remaining Life Depreciation Accruals ("Standard Practice U-4"). The Commission issued this standard practice in 1961 as a guide for determining proper depreciation accruals, and has consistently upheld its use[5] by the California utilities in computing service lives, retirement dispersions, and net salvage rates.

During the course of the depreciation study, results were reviewed and validated through a process which involved consulting the historical data for the assets as well as interacting with various operation departments to consider their observations and evaluations regarding SDG&E's capital assets and infrastructure. This process re-affirmed the study detail showing that existing infrastructure is lasting longer, resulting in the lengthening of lives in certain accounts.

Future net salvage has increased for some accounts, while others show a decrease. In some cases the physical removal is requested and/or mandated in lieu of abandonment. Mandated environmental constraints can also add to the costs to remove assets from the infrastructure. Then the historical pattern of positive salvage for removed assets have sometimes reversed course with expensive disposal costs. In addition, factors such as new technology, continued heightened focus on safety, and the need for increased reliability of the SDG&E system will have impacts to the Average Service Lives and Future Net Salvage of assets, which are either reflected in this GRC or are anticipated to have impacts which will be reflected in future cases.

For example, new technology can have the effect of either extending or reducing the lives of various assets. Technology can influence the study detail and that will be identified and discussed within the individual FERC account summaries. Future depreciation studies will continue to be conducted to weigh that influence and evaluate those effects on utility assets.

[5] D.13-05-010 (page 926) The Commission and the DRA have recognized the Standard Practice U-4 as the appropriate guide to determine ASLs and FNS rates.

The depreciation expense shown for Recorded Year 2013 directly results from the application of depreciation parameters[6] authorized by the Commission in SDG&E's TY 2012 GRC decision.[7] Beginning in TY 2016, SDG&E proposes depreciation expense as shown in Appendix A in the two tables for SDG&E-28-BW-1 (Electric and Gas), which were calculated using the updated depreciation rates per the current depreciation studies. These studies used historical data to analyze and adjust, where indicated, the assigned mortality characteristics of the plant accounts. The total TY 2016 depreciation expense increase of $102.5 million is due to plant growth from 2013 to 2016 and the impact of the proposed depreciation rates as a result of updating the three parameters (ASLs, Iowa Curves, and FNS). The depreciable plant growth and the investments for the Recorded Year 2013 through the TY 2016 are addressed in the Rate Base testimony of Jesse Aragon (Ex SDG&E-27-R).

III. DEPRECIABLE LIVES FOR TY 2016

Depreciable lives were studied for two categories of plant accounts: (1) mortality accounts and (2) forecast accounts. Mortality accounts, generally referred to as mass accounts, maintain records for related types of property grouped by vintage year without regard to specific location. Two examples of mass accounts for electric property types would be poles (FERC account E364) and service connections (FERC account E369). Two examples for gas property would be distribution mains (FERC account G376) and services (FERC account G380).

Utilities (including the California utilities PG&E and SCE) often apply the mass-asset convention of accounting known as the "group"[8] method, as defined by the National Association of Regulatory Utility Commissioners ("NARUC"), to certain fixed assets such as utility poles and other components of their transmission and distribution systems. Assets housed within these FERC accounts are too numerous to track on an individual basis given the small relative value of each individual asset. The group method is distinct from the convention of accounting known as the "unitary" method in that the unitary method considers each individual asset, regardless of size.

[6] "Depreciation parameters" (or "mortality characteristics") refer to the Average Service Life, retirement dispersion (i.e., Iowa curve), and Future Net Salvage rate for a group of assets.
[7] D.13-05-010, May 9, 2013 - see Pages 928 and 936 where ASLs, Iowa Curves, and FNS parameters were approved.
[8] Also, see U-4 Standard Practice (January 1986), Chapter 3 Asset Grouping Procedures, pages 11-14.

In addition, utilities often utilize a "composite" convention of accounting for component parts of larger assets such as electric generating stations, which also contain numerous components and parts which again are impractical to separately track. As opposed to the unitary convention of accounting for fixed assets, generally neither the group nor composite convention of accounting result in the recognition of a gain or loss upon the retirement of an asset. Rather, any difference between the net book value of the assets and the value realized at retirement (salvage proceeds less removal and disposal costs) are embedded in accumulated depreciation and considered in the determination of prospective depreciation rates.

Mortality characteristics were reviewed for the mortality accounts using historical data through 2013. Each of these accounts has been assigned a representative Iowa-type survivor curve[9] combined with an average service life. SDG&E's review indicated the need to modify the Average Service Lives for 39 (33 longer and 6 shorter) of the FERC accounts, while all others continue to exhibit the lives approved and authorized in SDG&E's 2012 GRC Decision. The lengthening of Average Service Lives ("ASL") has been the general trend for SDG&E assets.

There have been and will continue to be extensive technological improvements and changes that will directly affect Average Service Life and Future Net Salvage including the pattern suggested by proposed Iowa curves. To arbitrarily assume that lives will continue to lengthen, is irresponsible both to current and future ratepayers. Technology is and can allow "existing" infrastructure to reach longer lives, but that same infrastructure may show a pattern of being replaced with newer technological advancements that, in themselves, could see shorter and shorter lives as refreshment of new ideas continue to evolve.

Forecast accounts are those for which accounting records are maintained by specific locations that will normally be retired as a single unit, have service lives which are directly estimated individually, and then a composite rate is used for the total plant account. An example of a forecast account is FERC account C390 that includes utility-owned structures and the improvements on leased property. In addition, service lives of the forecast accounts were

[9]Iowa-type survivor curves plot the percent surviving (from an original asset placement group) versus the age of the group. The age is typically expressed as a percentage of average service life. The Iowa curves were developed from empirical industrial data, and are the most widely-used standardized survivor curves in the utility industry. See additional Iowa Curve detail in the supplemental section of my work papers (Ex. SDG&E-28-R-CWP).

reviewed in accordance with the revised estimates of interim retirement rates[10] which is an additional ongoing factor that has an effect on Average Service Lives.

Again as noted above, technology related to "existing" forecast infrastructure may have the short term effect of lengthening lives but can quickly retreat as new technological advances are applied and are required (environmental, safety, compliance testing, customer needs, system reliability) with the result of shortening those very same lengthened Average Service Lives.

A. Retirement Rate Method of Actuarial Analysis (Actuarial Method)

Retirement rate actuarial analysis was used as a primary determinant of average service lives for the mortality accounts. Aged retirement data (i.e., the transaction year and the original vintage year) and exposures to retirement are required for this analysis. The retirements of a specified range of vintages (placement band) within a specified band of transactional calendar years (experience band) are identified, along with the age of each retirement. The retirements occurring at like-age intervals are grouped, with the same being done for the amounts exposed to retirements at the beginning of each age interval. These "exposures" also include adjustments for any major transfers between accounts.

A survival rate is calculated for each age group by first dividing the retirements by the beginning exposures for a given age interval (to get a retirement rate) and then subtracting that rate from one (1). The survival rates (which represent the conditional probability of surviving the entire age interval) are multiplied successively, beginning with 100% at age zero, to arrive at percent surviving for the beginning of each age interval.

These percentages are plotted and matched to standard survivor curves (Iowa-type survivor curves). The use of standard curves provides a good means of extrapolating incomplete survivor curves (known as "stub" or "truncated curves"). Average service lives are represented by the area under the survivor curve divided by the ordinate at age zero (100%). Vintage remaining lives are calculated by dividing the area under the survivor curve to the right of its age by the ordinate at that age[11].

[10] Forecast accounts will have their Average Service Life adjusted when large retirements occur during its useful life. In simple terms, specific focused retirements that occur prior to a forecasted asset's end-life are referred to as an interim retirement.

[11] NARUC's, August 1996 Publication, defines SPR (pages 92-109) and Actuarial (pages 111-129) methodologies.

More precise record-keeping is required to initiate and continue the use of this actuarial methodology. SDG&E painstakingly undertook this transition many years ago and has been consistently maintaining their system to accommodate going forward. The average remaining life for each FERC account was calculated by weighting the remaining life of each vintage year with its surviving plant balance as of December 31, 2013.

B. Forecast Method of Analysis (Forecast Method)

This forecast and/or life span method for specific assets in this grouping and/or FERC account will concurrently retire at a forecasted year in the future (i.e., assets for a specific location have same end life). There may be associated interim retirements being experienced by certain assets, however, all plant will eventually be subject to final retirement. Many times the groupings within the account have individual forecasted end lives by location. There can be a multiple number of groupings of different sizes, such as a structure or other building. In simple terms, forecast accounts contain various categories of property, each uniquely having its own identifiable final retirement at some future date. Examples of these types of assets that many utilities have are buildings, substations, switching stations, and gas compressor stations.

An example of an interim retirement that can affect a forecasted account's ongoing remaining life balance would be a full roof replacement on a building. In that case, retirement of the previous roof would occur prior to the final building retirement. Likewise, the original building foundation would seldom be replaced and would typically be retired at its end life. For those forecast accounts that have them, the remaining life calculation will include the effect of these interim retirements. Contracts can also have a substantial effect on a particular location's remaining life (i.e., shorter or longer dependent on current extensions). Essentially, the individual end-life for assets in a particular forecasted account is blended and/or composited to arrive at a single remaining life for that FERC account.

C. End of Life (Life Span Method) - Electric Generation Assets

The "End of Life" method (basically a forecast method as identified above), and often referred to as the Life Span Method, is the least complex means of computing service life of property for depreciation purposes. A life span unit/group contains assets that are forecasted to concurrently retire in a specific number of years after placement. For these life span units, there can be interim additions and retirements; however, all plant will be subject to a final retirement. SDG&E has the following power generating plants designated with this Life Span concept:

Palomar, Desert Star, and the smaller units housed at Miramar and Cuyamaca. Other power plants can be acquired over time and subsequently included on this list. These will be discussed later in testimony by specific FERC account association.

Life Span property generally has the following characteristics:

1. Large individual units;
2. Forecasted overall life or estimated retirement date;
3. Units can be experiencing interim retirements; and
4. Future additions are an integral part of initial installation.

Essentially these units can contain various categories of property which have the common event of final retirement at the same forecasted date. Property studied using the Life Span method will usually have additions after the initial placement of the asset and retirements prior to the final retirement date of that same asset. Some interim additions may remain in service to the final retirement date, whereas others may be retired prior to this date. Appropriate estimates must be made for such interim retirements; however, interim additions are not considered in the depreciation base or rate until they occur. The concept here is to capture the appropriate costs during the asset's "used and useful" life.

Also, the general characteristic of property studied using the life span method is the gradual increase in the depreciation rate as the property ages. Costs for plant additions subsequent to the initial placement/acquisition usually exceed the interim retirements, even though the additions may replace plant retired, because they are made at a higher cost than the plant retired. The result is a shorter average service life of the life span property and the subsequent remaining life. This shortening of the average service life demonstrates the importance of frequent reviews of classes of property studied using the Life Span method. In simple terms, the definition of a final retirement using the Life Span method is the retirement of a major structural unit in its entirety.

IV. NET SALVAGE RATES FOR TY 2016

Salvage and cost of removal analysis involves the determination of salvage and cost of removal as a percentage of the cost of the retired property. The techniques employed depend upon the type of property being studied and the type of data available. These techniques can involve analysis of history, the anticipated future, or both. The procedures in general use have the ability to measure the salvage and cost of removal of the original installations, but rarely do

so because of data and timing limitations. If this situation is not recognized and compensated for, selected net salvage factors will be inconsistent with selected average service lives.

As stated in the NARUC publication, *Public Utility Depreciation Practices*:

> Historically, most regulatory commissions have required that both gross salvage and the cost of removal be reflected in depreciation rates. The theory behind this requirement is that, since most physical plant placed in service will have some residual value at the time of its retirement, the original cost recovered through depreciation should be reduced by that amount. Closely associated with this reasoning is the accounting principle that revenues be matched with costs and the regulatory principle that utility customers who benefit from the consumption of plant pay for the cost of that plant, as well as the concept of intergenerational equity, which assigns removal costs for assets to the customers who have been served by those assets, no more, no less. The application of the latter principles also requires that the estimated cost of removal of plant be recovered over its life.[12]

NARUC also adds that when property is retired, the effect of both salvage and removal costs are involved.[13] The net salvage gives consideration to both of these items and represents the salvage less the removal costs. If the salvage exceeds the removal costs, the net salvage is considered positive. When the removal costs exceed the salvage, the net salvage is negative. The effect of net salvage, whether positive or negative, must be considered in the calculation of depreciation.

In this depreciation study, estimated net salvage rates (equal to gross salvage less cost of removal as a percentage of retired plant cost) for SDG&E were determined after analyzing data for the past 15 years (1999 through 2013). SDG&E has also retained the historical patterns utilized during the 2008 and 2012 GRCs. Viewing this entire historical spectrum reinforces the proposed direction in this 2016 GRC. The analysis indicated the need to change and/or initiate the net salvage rates for 32 FERC accounts (sixteen(16) proposed increases, five(5) proposed decreases, and eleven(11) new), while results for the remainder of the accounts are still consistent with those approved and authorized in SDG&E's TY 2012 GRC decision. The method of analysis used is based on that specified in the Standard Practice U-4.

The prevailing trend of recent SDG&E studies is towards more negative net salvage rates. Generally, a change in net salvage rates is related to the change in service lives (which are generally lengthening at SDG&E) and has an offsetting impact on depreciation rates and

[12] Public Utility Depreciation Practices, NARUC, August 1996, p. 157.
[13] Public Utility Depreciation Practices, NARUC, August 1996, p. 18, "Salvage Considerations."

expense. For example, when asset lives are lengthened, positive salvage values decline or become negative as the physical item continues to deteriorate and cost to dispose of that item increases. Also, since the asset's vintage year reflects the original acquisition costs, the continually increasing cost of removal affects the ratio. Since the future net salvage estimate is expressed as a percentage of the original historical cost[14] of the associated retirement (a constant), the result can be a more negative net salvage rate. Thus, while a lengthening life decreases annual depreciation expense (extending additional years), the resulting more negative net salvage rate will typically increase the expense.

The specific TY 2016 GRC proposals for each FERC asset account's net salvage are included in the account-by-account detail included in my testimony, as well as in my work papers (Ex. SDG&E-28-R-CWP). For the generation assets, the decommission studies performed by Sargent & Lundy ("S&L")[15] addressed and estimated the end-life costs for Palomar ("PA") and Miramar ("MMI" & "MMII") as well as the Desert Star Energy Center ("DSEC"). The smaller peaker plants have been also linked to the appropriate Sargent & Lundy decommission study. Where it's appropriate, these estimated end-life costs have been escalated using the Global Insight wage/employment percentages with the result being allocated by FERC account and identified as the proposed negative net salvage. The expectation is that additional decommission studies will be coordinated during the remaining lives of these generation units.

V. DEPRECIATION RATE CALCULATION

Regulators are challenged by short-run and long-run interests affecting both the ratepayer and the Company. If the depreciation rates prescribed are too low, the revenue requirement in the short-run may be lower. These rates can be so low that revenue fails to recoup the capital invested by the end of the asset's end life, placing a burden on future ratepayers for assets that never served their interest. The situation can be reversed by placing more of the burden inappropriately on current ratepayers, while future costs are minimal or non-existent.

The objective of computing depreciation then is to allocate the cost or depreciation base over the property's service life by charging the appropriate portion of the consumption of plant

[14] The future net salvage parameter is expressed as a percentage of the original historical cost because the ultimate depreciation rate is applied to the historical cost of surviving plant. All values (plant cost, cost of removal, gross salvage, and reserve) used in the depreciation rate computations are nominal dollars.
[15] Sargent and Lundy were solicited to perform decommission studies and those are supplied in Work Papers.

taking place during each accounting period. The different depreciation methods incorporated by SDG&E achieve this objective. As these methods are applied, two estimates are required, one for Average Service Life and the other for Future Net Salvage. All proposed Average Service Lives will be assigned an Iowa curve that best fits the current retirement pattern as confirmed by the appropriate depreciation methodology.

The SDG&E depreciation rates are calculated in accordance with Standard Practice U-4, using the straight-line method, broad group procedure, and remaining life technique. The straight-line method prorates the recovery of service value in equal annual amounts. The broad group procedure (the most widely used[16] in the utility industry) groups assets in categories (typically plant accounts and/or subaccounts) and depreciates all assets as if they all had identical mortality characteristics, while using a single depreciation rate for the entire category. The broad group procedure also assumes that under-accruals resulting from early retirements are offset by over-accruals on assets that outlive the average service life. The remaining life technique accrues unrecovered service value over the average remaining life of the group. The remaining life annual accruals are calculated for each plant account as follows:

(plant balance - future net salvage - reserve) / (average remaining life)

Plant balance is the original installed cost of the assets less any contributions in aid of construction. The future net salvage is the projected gross salvage for recovered materials less costs associated with retiring the assets. The future net salvage is calculated by applying the net salvage rate to the surviving plant balance (that plant yet to be retired). The reserve is the accumulation, since the inception of the plant account, of the following booked entries: depreciation accruals, plus salvage, less cost of removal, less the retirements, plus or minus any transfers in or out as provided by the FERC Uniform System of Accounts.

The annual depreciation rates were calculated based on recorded information as of December 31, 2013, for each FERC plant account by dividing the depreciation accrual by the plant balance. These remaining life rates are self-correcting for prior over- and under-accruals as the depreciation parameters are updated in accordance with each GRC study.

The proposed depreciation parameters generate the accrual identified for each FERC account established under the CPUC jurisdiction for this SDG&E GRC 2016 TY. Then, each

[16] CPUC- Standard Practice U-4, January 1961, chapter 3.6.b. In group accounting all units having like mortality characteristics or all units of an account are considered together . . . . It is the more generally used base among electric, gas, telephone and water utilities.

FERC account rate is determined by applying that individual accrual against each FERC accounts' recorded 2013 plant balance. Those individual rates are then composited as an overall rate stated below. One needs to be cognizant of the fact that this identified expense and rate is based on recorded 2013 year end plant balances, only. The calculation does not incorporate any additional forecasted and/or proposed 2014-2015-2016 additions/changes to 2013 plant balances. Knowing this, the CPUC-jurisdictional composite depreciation rate, on a total plant-in-service basis resulting from the new depreciation study, is 3.96% for the 2016 TY, compared to a rate of 3.36% for the 2013 Recorded Year.

Note that this 3.36% recorded 2013 depreciation rate was adjusted by and reflects the rate approved in SDG&E's 2012 GRC Decision (D.13-05-010) issued on May 9, 2013. A $26,848,480 depreciation expense reduction that occurred in May 2013 reflected the 2012 mandated changes as prescribed in D.13-05-010, which needed to be reflected in that current year (2013). Rebuilding the depreciation expense for the 2013 recorded year by extracting the influence of that 2012 $26,848,480 depreciation adjustment, results in a 3.69% rate.

VI. ACCOUNT BY ACCOUNT DETAIL FOR PROPOSED AVERAGE SERVICE LIVES AND FUTURE NET SALVAGE PERCENTAGES

The following account by account detail summarizes the proposed Average Service Lives, Iowa curves, and Future Net Salvage for each FERC account covered in this GRC. The method utilized in determining each FERC account's updated and proposed life is also specified.

Within the summary for each account, it will be noted whether the Actuarial or Forecast method (and/or Life Span) was used in the analysis. For those specific FERC accounts where the Actuarial method was used as a primary determinant of average service lives, aged retirement data and exposures to retirement were required. As described earlier, the retirements of a specified range of vintages (placement band) within a specified band of transactional calendar years (experience band) were identified, along with the age of each retirement. The retirements occurring at like-age intervals are grouped, with the same being done for the amounts exposed to retirements at the beginning of each age. The work papers identify the authorized and proposed service life, remaining life, and the calculation of the depreciation rate (Ex. SDG&E-28-R-CWP).

For those specific FERC accounts using the Forecast method, the forecast, Life Span, or end-life method of life analysis was applied for the remaining life calculation. This method is outlined in Standard Practice U-4. Interim retirements are incorporated in the study, when

applicable. Then, the composite remaining life for the account is obtained by direct weighting with the dollars for each unit. The average service life weighting is often only appropriate in situations where only a few items occur in an account and there is a long time interval existing between probable retirement dates.

An updated 15-year historical future net salvage analysis was also completed for these FERC accounts. This analysis was conducted in accordance with the Standard Practice U-4 methodology. In addition, being cognizant of the previous 2012 GRC Decision and the 2008 GRC Settlement was incorporated in arriving at the future net salvage rates being proposed in this 2016 GRC case.

A. Electric Generation Accounts – Steam Production

1. Palomar Facility – PA

In operation since 2006, SDG&E operates a steam generation plant at Palomar. Palomar is located at the Palomar Energy Center, in northern San Diego County, Escondido, California, and consists of two GE Frame 7FA combustion turbine-generators ("CT") and a single steam turbine-generator ("ST"). The full-load continuous rating of a generator under specified conditions as designated by the manufacturer of Palomar is 550 megawatt ("MW"). Palomar is configured so that it may operate using either of the combustion turbines alone, or one combustion turbine and the steam turbine. The configuration is referred to as a "combined cycle" plant, and is typical of modern high-efficiency plant installations of this capacity in use by utilities and merchant generators throughout the U.S. and abroad.

The Life Span-Forecast method was used for Palomar and the assets in these groupings and/or FERC accounts will retire at a specific year in the future. The forecasted life for the Palomar generation unit was authorized during the 2008 GRC and re-confirmed in the 2012 GRC decision. The majority of these types of assets typically reflect a 30 year life in the utility industry. Because it is still early in its life cycle, historical information is not available that would deviate from the current authorized direction. Thus, SDG&E recommends that the end-life for these accounts and assets remain as currently authorized, forecasted for the year 2036 with an SQ Iowa curve.

<u>Account E311 – Structures and Improvements - PA</u>

This account includes structures and improvements used in connection with steam-power generation, specifically at the Palomar site. As supported in the previous 2012 GRC proceeding

Account E373.2 – Street Lighting and Signal Systems

This account shall include the cost installed of equipment used wholly for Public Street and highway lighting or traffic, fire alarm, police, and other signal systems. Items can include armored conductors, automatic control equipment, conductors, lamps, ornamental lamp posts, relays, time clocks, switches, and transformers. The authorized life and Iowa curve resulting from the 2012 GRC is currently 32 L0. Based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 36 L0 life/curve. A change in the Iowa curve type is not being proposed, but the average service life is increasing four (4) years.

SDG&E is requesting a change from the currently authorized net salvage rate of <70%> to <85%>. The Standard Practice U-4 method of net salvage analysis results in a computed net salvage rate of <138%> (15 year history). More specifically, for the last six years, the percent net salvage rate has been more negative than the requested <85%> level. Since less than 17% of the current plant balance is reflected in retirements for the past 15 years, SDG&E is being conservative in proposing a moderate change to the current authorized future net salvage value for this FERC account.

E. Electric FERC Accounts – Electric General

The Actuarial method was used as a primary determinant of the average service life for the following Electric General Mortality accounts, with the exception of utilizing the Forecast methodology for FERC account E390 Structures and Improvements. The average remaining life for these FERC accounts is calculated by weighting the remaining life of each vintage year with its surviving plant balance as of December 31, 2013.

Many of the Electric General FERC accounts below have historically been assigned the SQ Iowa Curve, suggesting a similar end-life for all assets within that FERC account. If the current Life/Iowa curve studies reflect a needed departure from that SQ Iowa curve, SDG&E is responsibly reflecting and proposing that change, which in many cases extends the remaining life of those FERC accounts.

Account E390 – Structures and Improvements

This account for structures and improvements shall include the cost of all buildings and facilities to house, support, or safeguard property or persons, including all fixtures permanently attached to and made a part of buildings and which cannot be removed therefrom without cutting into the walls, ceilings, or floors, or without in some way impairing the buildings, and

improvements of a permanent character on or to land. Also include those costs incurred in connection with the first clearing and grading of land and rights-of-way and the damage costs associated with construction and installation of plant.

The Forecast method was used for this FERC account. Assets in this grouping and/or FERC account will retire at a forecasted year in the future. There is no associated interim retirement ratio being experienced by this account at this time. This account has an individually forecasted end-life using a composite from all its locations. Recorded Year 2013 plant record balances were used for this account in the depreciation study, which updated historical plant additions, transfers, and retirements. The work papers detail the authorized and proposed average service life, remaining life, and the calculation of the depreciation rate. The change in the remaining life from the prior 2012 GRC study is influenced by the additional historical years of plant additions and retirements (2010 through 2013) being added to the database. The 2012 GRC authorized life/curve was 30 SQ. For this 2016 GRC, a minimal number of retirements are reflected during the last four years and thus, SDG&E is recommending an extension of the forecasted life to 34 years. Note that, historical records show 3% of the plant balance with vintages greater than 34 years and with that knowledge, a change in the Iowa curve to S4 reflects and accommodates this perspective. SDG&E is now proposing a 34 S4 life/curve for this 2016 GRC. A change in the Iowa curve type is being proposed and the average service life is increasing four (4) years.

The historical negative net salvage in this account has not increased over time as confirmed by the 15 years of statistical data, specifically the last four years since the 2012 GRC. The current 15 year statistical future net salvage study supports a change in negative net salvage for this account downward to <10%> from <25%>. SDG&E proposes this negative net salvage of <10%>.

Account E392 – Transportation Equipment – Trailers

This account includes transportation vehicles used for utility purposes. Items can include automobiles, electrical vehicles, repair cars or trucks, tractors and trailers. The authorized life and Iowa curve resulting from the 2012 GRC is currently 27 SQ. Based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the current authorized life at 27 years but with a new proposed Iowa curve L5 extending the remaining life.

The current net salvage study does not reflect a change in net salvage. Thus, SDG&E requests that net salvage remain at 0% for this FERC account.

Account E393 – Stores Equipment – Other

This account includes equipment used for the receiving, shipping, handling, and storage of materials and supplies. Items can include chain falls, counters, cranes (portable), elevating and stacking equipment (portable), hoists, scales, shelving, storage bins, hand and power driven equipment. The authorized life and Iowa curve resulting from the 2012 GRC is currently 25 SQ and based on additional historic 2010 through 2013 recorded plant account activity. The 2016 study supports the proposed 25 S5 life/curve. While the average service life remains at 25 years, a change in the Iowa curve type is being proposed extending the remaining life.

The current net salvage study does not reflect a change in net salvage. SDG&E requests that net salvage remain at 0% for this FERC account.

Account E394.11 – Portable Tools – Other

This account includes tools, implements, and equipment used in construction, repair work, general shops and garages and not specifically provided for or included in other accounts. Items include air compressors, cable pulling equipment, and concrete mixers. The authorized life and Iowa curve resulting from the 2012 GRC is currently 27 SQ. Based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 27 S6 life/curve. While a change in the Iowa curve type is proposed extending the remaining life, the average service life remains at 27 years.

The current net salvage study does not reflect a change in net salvage. SDG&E requests that net salvage remain at 0% for this FERC account.

Account E394.2 – Shop Equipment

This account includes tools, implements, and equipment used in construction, repair work, general shops and garages and not specifically provided for or included in other accounts. Items include automobile repair shop equipment, battery charging equipment, belts, shafts and countershafts and drill presses. The authorized life and Iowa curve resulting from the 2012 GRC is currently 24 SQ. Based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 26 L4 life/curve. A change in the Iowa curve type is proposed and the average service life increases by two (2) years to 26.

Salvage activity is minimal for this account as reflected in the 15 years of historical data. SDG&E proposes no change in net salvage from the authorized 0% for this FERC account.

Account E395.1 – Laboratory Equipment

This account includes installed laboratory equipment used for general laboratory purposes and not specifically provided for or included in other departmental or functional plant accounts. Items such as ammeters, small batteries, frequency changers, galvanometers, meter-testing equipment, testing panels, voltmeters and other testing, laboratory, or research equipment not provided for elsewhere. The authorized life and Iowa curve resulting from the 2012 GRC is currently 20 SQ. Based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports a change to the proposed 22 L3 life/curve. Thus, a change in the Iowa curve type is proposed, as well as an increase of two (2) years to the proposed average service life of 22 years.

Salvage activity is minimal for this account as reflected in the 15 years of historical data. SDG&E proposes to remain at the current authorized net salvage of 0% for this FERC account.

Account E397.1 – Communication Equipment – Other

This account includes installed other infrastructure assets namely, telephone, telegraph, and wireless equipment for general use in connection with poles and fixtures used wholly for telephone or telegraph wire. Items can include radio transmitting and receiving sets, remote control equipment and lines, small storage batteries, telephone and telegraph circuits, testing instruments, and underground conduit used wholly for telephone or telegraph wires and cable wires. The authorized life and Iowa curve resulting from the 2012 GRC is currently 28 R2. Based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 30 R2 life/curve. No change in the Iowa curve type is proposed, but the proposed average service life extends two (2) years.

The historical negative net salvage in this account is increasing over time as confirmed by the 15 years of statistical historical data. The 2012 GRC authorized amount is a negative net salvage of <15%>. The current 15 year statistical study supports a change in negative net salvage for this account to at least <50%>. Note that nine out of the last eleven years, this proposed level has been exceeded and that the oldest 1999 data is skewing the numbers lower. SDG&E proposes a lesser change (proposed at <50%>) than that currently reflected in the historical study which is reflecting a higher <61%> future net salvage for this FERC account. Though this

proposed future net salvage increase exceeds the conservative limitations as reflected in other FERC accounts, SDG&E has responsibly weighed current and future ratepayer considerations in its proposal for this FERC account.

Account E397.2 – Communication Equipment – SWPL[25]

This account includes installed assets for the Southwest Pipeline ("SWPL") namely, telephone, telegraph, and wireless equipment for general use in connection with poles and fixtures used wholly for telephone or telegraph wire. Items can include radio transmitting and receiving sets, remote control equipment and lines, storage batteries, telephone and telegraph circuits, testing instruments, and underground conduit used wholly for telephone or telegraph wires and cable wires.

The life pattern in this FERC account E397.2 matches closely to that experienced in E397.1 above. While not being able to utilize the actuarial method for this subaccount, its life and curve will be established the same as E397.1. The average remaining life for this account was calculated by weighting the remaining life of each vintage year with its surviving plant balance as of December 31, 2013. The authorized life and Iowa curve resulting from the 2012 GRC is currently 28 R2. Based on the detail presented for E397.1 above, SDG&E proposes the same 30 R2 life/curve. No change in the Iowa curve type is proposed, but the average service life is extending two (2) years.

Again, the historical negative net salvage in this account is increasing over time as confirmed by the 15 years of statistical historical data summarized for both FERC 397 subaccounts. The 2012 GRC authorized amount is a negative net salvage of <15%>. The current 15 year statistical future net salvage value study (combining both E397.1 and E397.2) does support a change in negative net salvage to at least <50%>. Note that nine out of the last eleven years, this proposed level has been exceeded and that the oldest 1999 data is skewing the numbers lower. SDG&E proposes a lesser change (proposed at <50%>) than that currently reflected in the historical study which is reflecting a higher future net salvage value of <61%> for this FERC account. Though this proposed future net salvage increase exceeds the conservative limitations as reflected in other FERC accounts, SDG&E has responsibly weighed current and future ratepayer considerations in its proposal for this FERC account.

[25] SWPL – Southwest Pipeline (Electric Transmission).

Account E397.6 – Communication Equipment – SRPL (Sunrise)[26]

This account includes installed assets for the Sunrise Pipeline ("SRPL") project, namely telephone, telegraph, and wireless equipment for general use in connection with poles and fixtures used wholly for telephone or telegraph wire. Items can include radio transmitting and receiving sets, remote control equipment and lines, small storage batteries, telephone and telegraph circuits, testing instruments, and underground conduit used wholly for telephone or telegraph wires and cable wires.

A recent addition to SDG&E infrastructure with limited history, the life pattern in this FERC account E397.6 is matched to that proposed for E397.1 and E397.2 above. For the 2016 GRC, this Sunrise FERC account will reflect the same proposed 30 R2 life/curve. The average remaining life for this account was calculated by weighting the remaining life of each vintage year with its surviving plant balance as of December 31, 2013.

Though history shows the trend in future net salvage value for both E397.1 and E397.2, there is no current historical data for this subaccount E397.6 to establish either positive or negative salvage. SDG&E is proposing 0% future net salvage for this subaccount in this current 2016 GRC.

Account E398.1 – Miscellaneous Equipment

This account can typically include hospital and infirmary equipment, kitchen equipment, recreation equipment, radios, food service equipment, furnishings, other miscellaneous equipment, and apparatus used in the utility operations, which is not included in any other account as identified in the FERC system of accounts. The authorized life and Iowa curve resulting from the 2012 GRC is currently 15 SQ. Based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 16 L4 life/curve. A change in the Iowa curve type is proposed extending the remaining life, and the average service life increases one (1) year to 16.

Salvage activity is very minimal for this account as reflected in the 15 years of historical data. SDG&E requests that net salvage remain at 0% for this account.

[26] SRPL – Sunrise Pipeline (Electric Transmission).

Account E398.6 – Miscellaneous Equipment – SRPL (Sunrise)

This account includes Sunrise equipment and apparatus used in the utility operations (similar to E398.1 above), which is not included in any other account as identified in the FERC system of accounts.

The life pattern in this FERC account E398.6 will be matched to that proposed for E398.1 above. For the 2016 GRC, this Sunrise account will reflect the same proposed 16 L4 life/curve. Though currently without a plant balance at December 2013, eventually the average remaining life for this account will be calculated by weighting the remaining life of each vintage year with its surviving plant balance.

There is no current historical data for this subaccount E398.6 to establish either positive or negative salvage. SDG&E is proposing 0% future net salvage for this subaccount in the current 2016 GRC.

F. Gas FERC Account – Liquefied Natural Gas ("LNG") Storage

Account G363.6 – LNG Distribution Storage Equipment

This account includes installed equipment used to receive, hold, and re-gasify liquefied natural gas for delivery into the utility's transmission or distribution system. Items can include after-coolers, air compressors, air coolers, alarm systems, blowers, cold box, condensers and control apparatus.

The Forecast method was used for this FERC account. Assets in this grouping and/or FERC account will retire at a forecasted year in the future. There is no current associated interim retirement ratio being experienced by this account. This account has an individually forecasted end life using a composite from all its locations. Recorded Year 2013 plant record balances were used for this account in the depreciation study which updated historical plant additions, transfers, and retirements. The 2012 GRC authorized life/curve was 20 SQ, and the 2016 study continues to forecast the same life at 20 years but SDG&E proposes a change in the Iowa curve to S4 extending the remaining life.

Salvage activity is very minimal for this account as reflected in the 15 years of historical data. SDG&E requests that net salvage remain at 0% for this account.

G. Gas FERC Accounts – Transmission

The Forecast method was used for these FERC accounts. Assets in these groupings and/or FERC accounts will retire at a forecasted year in the future. There is no current associated

Salvage activity is minimal for this account as reflected in the 15 years of historical data. SDG&E proposes that net salvage be authorized at 0% for this FERC account.

Account G397 – Communication Equipment

This account includes installed telephone, telegraph, and wireless equipment for general use in connection with poles and fixtures used wholly for telephone or telegraph wire. Items can include radio transmitting and receiving sets, remote control equipment and lines, small storage batteries, telephone and telegraph circuits, testing instruments, underground conduit used wholly for telephone or telegraph wires and cable wires. These assets are needed to relay gas infrastructure performance and activity. The authorized life and Iowa curve resulting from the 2012 GRC is currently 15 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 15 S6 life/curve. The proposed change in the Iowa curve type extends the remaining life while the average service life remains at the current authorized 15 years.

Salvage activity is minimal for this account as reflected in the 15 years of historical data. SDG&E requests that net salvage remain at 0% for this FERC account.

Account G398 – Miscellaneous Equipment

This account includes medical emergency equipment, kitchen equipment, recreation equipment, radios, food processing equipment, furnishings, other miscellaneous equipment, and apparatus used in the utility operations, which is not included in any other account as identified in the FERC system of accounts. The authorized life and Iowa curve resulting from the 2012 GRC is currently 19 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 19 R2.5 life/ curve. A change in the Iowa curve type is proposed extending the remaining life while the average service life remains at 19 years.

Salvage activity is minimal for this account as reflected in the 15 years of historical data. SDG&E requests that net salvage remain at 0% for this FERC account.

I. Common FERC Accounts

Unless noted differently within each FERC account discussion below, the Actuarial method was used as a primary determinant of the average service life for these mortality accounts. The average remaining life for these accounts was calculated by weighting the remaining life of each vintage year with its surviving plant balance as of December 31, 2013.

Account C390 – Structures and Improvements

This account includes structures and improvements used in connection with both electric and gas operations.

The Forecast method not actuarial was used for this FERC account. Assets in this grouping and/or FERC account will retire at a forecasted year in the future. There is an associated interim retirement ratio being experienced by this account. This account has an individually forecasted end life using a composite from all its locations. Recorded Year 2013 plant record balances were used for this account in the depreciation study which updated historical plant additions, transfers, and retirements. The change in the remaining life from the 2012 GRC study is influenced by more years of plant additions and retirements (2010 through 2013) being added to the database. At the same time, there are quite a few existing contracts with limited horizons pulling both the forecasted average service life and remaining life lower. The overall effect has the effect of substantiating yet limiting the extension in the composite average service life (4 years), while at the same time, the proposed Iowa curve also extends the remaining life. The 2012 GRC authorized life/curve was 26 SQ, and based on the 2016 study, SDG&E proposes a change to 30 S1 for this FERC account.

The 15 year historical pattern in this account is reflecting an increase in negative net salvage at <24%>. While not a strong trend, the last four years since the 2012 GRC is reflecting <22%>. SDG&E requests a conservative change from the currently authorized net salvage rate from <10%> to a proposed <15%> for this FERC account. Though this proposed future net salvage increase exceeds the conservative limitations as reflected in other FERC accounts, SDG&E has responsibly weighed current and future ratepayer considerations in its proposal for this FERC account. SDG&E needs to be less conservative (i.e. less focused on current ratepayer) and more cognizant of intergenerational equity in proposing a more moderate change to the current authorized future net salvage value for this FERC account. Thus, SDG&E is increasing the future net salvage beyond the limit suggested for other FERC accounts to essentially protect the future ratepayer.

Account C391.10 – Office Furniture and Equipment

The authorized life and Iowa curve resulting from the 2012 GRC is currently 18 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study

supports the proposed 18 S6 life/curve. A change in the Iowa curve type is proposed extending the remaining life while the average service life remains at 18 years.

The 15 year historical pattern in this account is reflecting minimal positive net salvage. SDG&E does not request a change from the currently authorized net salvage rate of 0%.

Account C391.20 – Office Furniture, Equipment, and Computers

The authorized life and Iowa curve resulting from the 2012 GRC is currently 5 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 5 S6 life/curve. A change in the Iowa curve type is proposed extending the remaining life while the average service life remains at 5 years.

The 15 year historical pattern in this account is reflecting minimal positive net salvage. SDG&E does not request a change from the currently authorized net salvage rate of 0%.

Account C392.20 – Transportation Equipment -Trailers

The authorized life and Iowa curve resulting from the 2012 GRC is currently 20 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 20 L0 life/curve. A change in the Iowa curve type is proposed extending the remaining life while the average service life remains at 20 years.

The 15 year historical pattern in this account is reflecting minimal positive net salvage. SDG&E does not request a change from the currently authorized net salvage rate of 0%.

Account C393.10 – Stores Equipment

Items can include chain falls, counters, cranes (portable), elevating and stacking equipment (portable), hoists, lockers, scales, shelving, storage bins, trucks, hand and power driven, & wheelbarrows. The authorized life and Iowa curve resulting from the 2012 GRC is currently 20 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 19 L0 life/curve. A change in the Iowa curve type is proposed, and the average service life is reduced by one (1) year to 19 years.

The 15 year historical pattern in this account is reflecting minimal positive net salvage. SDG&E does not request a change from the currently authorized net salvage rate of 0%.

Account C394.11 – Portable Tools

Items can include (not an exhaustive list) air compressors, cable pulling equipment, concrete mixers, ladders, pneumatic tools, and riveters. The authorized life and Iowa curve resulting from the 2012 GRC is currently 23 SQ and based on additional historic 2010 through

2013 recorded plant account activity, the 2016 study supports the proposed 23 R2.5 life/curve. A change in the Iowa curve type is proposed extending the remaining life while the average service life remains at 23 years.

The 15 year historical pattern in this account continues to reflect minimal salvage activity. SDG&E is not proposing a change from the currently authorized net salvage rate of 0%.

Account C394.21 – Shop Equipment

Items can include (not an exhaustive list) anvils, drill presses, forges, lathes, machine tools, pipe threading and cutting tools, blacksmith equipment, tool racks, vises, and welding apparatus. The authorized life and Iowa curve resulting from the 2012 GRC is currently 29 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 35 L1.5 life/ curve. A change in the Iowa curve type is proposed, and the average service life increases six (6) years to 35 years both extending the remaining life.

The 15 year historical pattern in this account continues to reflect minimal salvage activity. SDG&E is not proposing a change from the currently authorized net salvage rate of 0%.

Account C394.31 – Garage Equipment

Items can include (not an exhaustive list) auto repair equipment, battery chargers, pumps, tanks, hoists, floor jacks, and greasing equipment. The authorized life and Iowa curve resulting from the 2012 GRC is currently 21 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 19 R3 life/curve. A change in the Iowa curve type is proposed, and the average service life is reduced two (2) years to 19 years.

The 15 year historical pattern in this account continues to reflect minimal salvage activity. SDG&E is not proposing a change from the currently authorized net salvage rate of 0%.

Account C395.1 – Laboratory Equipment

Items can include balances and scales, barometers, calorimeters-bomb, flow, recording types, etc., electric furnaces, gas burning equipment, gauges, glassware, beakers, burettes, etc., humidity testing apparatus, laboratory hoods, laboratory tables and cabinets, muffles, oil analysis apparatus, piping, specific gravity apparatus, standard bottles for meter prover testing, stills, sulphur and ammonia apparatus, tar analysis apparatus, and thermometers—indicating and recording. The authorized life and Iowa curve resulting from the 2012 GRC is currently 26 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016

study supports the proposed 25 R5 life/curve. A change in the Iowa curve type is proposed, and the average service life is reduced one (1) year to 25 years.

The 15 year historical pattern in this account continues to reflect minimal salvage activity. SDG&E is not proposing a change from the currently authorized net salvage rate of 0%.

Account C397.1 – Communication Equipment

This account includes installed telephone, telegraph, and wireless equipment for general use in connection with poles and fixtures used wholly for telephone or telegraph wire. Items can include radio transmitting and receiving sets, remote control equipment and lines, small storage batteries, telephone and telegraph circuits, testing instruments, underground conduit used wholly for telephone or telegraph wires and cable wires. The authorized life and Iowa curve resulting from the 2012 GRC is currently 13 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 13 S6 life/curve. A change in the Iowa curve type is proposed extending the remaining life while the average service life remains at 13 years.

The 15 year historical pattern in this account continues to reflect minimal salvage activity. SDG&E is not proposing a change from the currently authorized net salvage rate of 0%.

Account C398.1 – Miscellaneous Equipment

This account includes medical emergency equipment, kitchen equipment, recreation equipment, radios, food processing equipment, furnishings, other miscellaneous equipment, and apparatus used in the utility operations, which is not included in any other account as identified in the FERC system of accounts. The authorized life and Iowa curve resulting from the 2012 GRC is currently 14 SQ and based on additional historic 2010 through 2013 recorded plant account activity, the 2016 study supports the proposed 13 R0.5 life/curve. A change in the Iowa curve type is proposed, and the average service life is reduced by one (1) year to 13 years.

The 15 year historical pattern in this account is reflecting positive net salvage. SDG&E is not requesting a change from the currently authorized positive net salvage rate of +10%.

VIII. GENERAL AND COMMON PLANT

The Tables SDG&E-28-BW-1 and SDG&E-28-BW-2, below, include the expense and reserve amounts for General Plant and Common Plant, which are allocated to related Electric Production/Distribution Plant or Gas Plant. These expense and reserve amounts were allocated

in a manner entirely consistent with treatment of gross plant using allocation methods described in the Rate Base testimony of Mr. Aragon (Ex. SDG&E-27-R).

For TY 2016, the Electric Distribution-related General Plant Depreciation Expense is estimated to be $10.6 million with an Electric Distribution-related Common Plant Depreciation Expense of $22.8 million; Gas Plant Depreciation Expense includes $9.2 million for Gas-related Common Plant. Again for TY 2016, the Electric Distribution-related General Plant Depreciation Reserve is estimated to be $107.3 million with an Electric Distribution-related Common Plant Depreciation Reserve of $153.8 million; and the Gas Plant Depreciation Reserve includes $62 million for Gas-related Common Plant.

IX. AMORTIZATIONS

Tables SDG&E-28-BW-1 and SDG&E-28-BW-2 also show Recorded Year 2013 and TY 2016 amortization expenses and reserves for land rights and software. These amortization expenses are calculated on a straight-line basis. For 2016, the amortization expense is estimated to be $56.4 million for Electric Plant and $11.2 million for Gas Plant. The 2013 recorded amortization reserve is $34.5 million for Electric Plant and $9.7 million for Gas Plant.

Computer Software

There are two main categories of computer software; systems software and applications software. SDG&E capitalizes all software to FERC Plant Account 303, an Intangible Asset account. As of January 1, 2004, all software acquired or internally developed by SDG&E for use within the company has been capitalized when the software costs exceed the $500,000 threshold, consistent with the current capitalization guidelines set forth in the Financial Accounting Standards Board ("FASB") ASC 350-40.

While SDG&E does not specifically identify nor differentiate software lives for their products within the capitalization policy, the majority of current capitalized SDG&E software products reflect a five (5) year amortization life. Because of ever changing technological issues, and as additional software products are introduced and capitalized, internal and external factors will play an even larger role in determining and identifying the proper forecasted amortization period, be it five (5) years, seven (7) years, ten (10) years, or longer. There may even be situations where software products could have shorter lives based upon a product's specific technological and forecasted obsolescent end-life. Because of the growing influence of technology on SDG&E infrastructure and the costs associated with that technology, it becomes

more appropriate to assign an amortization life that will reflect and support the useful life, thereby ensuring intergenerational equity. The identified options above regarding software lives were presented, proposed, and eventually authorized with the final decision in the 2012 GRC filing. This 2016 GRC filing again proposes those same authorized software life parameters.

X. SUMMARY OF ESTIMATED EXPENSES AND RESERVES

The total of the estimated TY 2016 Electric Plant depreciation and amortization expense is $363.3 million. The total of the estimated TY 2016 Gas Plant depreciation and amortization expense is $57.6 million. These amounts include the related expense for General and Common Plant and are shown on Table SDG&E-28-BW-1in Appendix A. The total Electric and Gas Plant depreciation and amortization expense has increased from Recorded Year 2013 to TY 2016 by $102.5 million. As discussed earlier, this increase results from the combined impact of the net additions to plant and the proposed lower depreciation rates.

The total estimated December 31, 2016, Electric Plant depreciation and amortization reserve is $3.589 billion. The total estimated December 31, 2016, Gas Plant depreciation and amortization reserve is $1.080 billion. These amounts include the related reserves for General and Common Plant shown on Table SDG&E-28-BW-2, below.

Account-level details for the proposed underlying depreciation rates are included in my work papers (Ex. SDG&E-28-R-CWP). These proposed rates have been developed in accordance with Standard Practice U-4.

XI. CONCLUSION

The resulting depreciation expense and reserves as displayed in Appendix A, Table SDG&E-28-BW-1 and Appendix B, Table SDG&E-28-BW-2 should be approved by the CPUC for use in TY 2016 for determination of revenue requirements. Appendix C contains a helpful glossary of terms used in my testimony.

This concludes my revised prepared direct testimony.

XII. WITNESS QUALIFICATIONS

My name is Bob Wieczorek. My business address is 8335 Century Park Court, San Diego, California 92123. I am employed by San Diego Gas & Electric Company ("SDG&E") as a Principal Accountant in the Accounting Operations Department. I have held this position since 2007. My principal duties include the preparation of depreciation estimates and special depreciation-related studies, and the monitoring of depreciation and valuation practices used by San Diego Gas & Electric.

I received an AA degree in Mathematics from Glendale College in 1970, a Bachelor of Science degree in Accounting from Northridge ("CSUN") in 1979, and an MBA from National University in 2002. I have been a member of the Society of Depreciation Professionals.

Prior to assuming my current position, my work experience at SoCalGas ("SCG"), Sempra, & SDG&E has involved physical gas field work, field accounting, depreciation accounting, various staff positions at Gas Transmission and Distribution, Organization and Compensation, Regulatory, and Human Resources.

I previously testified for both SCG and SDG&E on depreciation matters during the 2012 GRC proceedings held before the California Public Utilities Commission.

VERIFICATION PURSUANT TO 18 C.F.R. § 385.2005

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Matthew C. Vanderbilt

Executed this 14th day of June, 2017.