

Application No. A.14-04-____
Exhibit No.: _____
Witness: Jonathan B. Atun

Application of SAN DIEGO GAS & ELECTRIC)
COMPANY (U 902 E) For Approval of its)
Electric Vehicle-Grid Integration Pilot Program.)
_____)

Application No. 14-04-____
(Filed April 11, 2014)

**PREPARED DIRECT TESTIMONY OF
JONATHAN B. ATUN
CHAPTER 4
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

April 11, 2014



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1 **PREPARED DIRECT TESTIMONY OF**

2 **JONATHAN B. ATUN**

3 **CHAPTER 4**

4 **I. PURPOSE AND SUMMARY**

5 The purpose of my testimony is to: (1) identify the costs associated with San Diego
6 Gas & Electric Company's (SDG&E's) proposed Vehicle-Grid Integration (VGI) Pilot
7 Program, (2) describe the methodology used by SDG&E in determining the revenue
8 requirements for the VGI Pilot Program, and (3) identify the resulting annual revenue
9 requirement. Since the VGI Pilot Program proposes services and capital costs above and
10 beyond those authorized by the Commission in SDG&E's most recent general rate case
11 (GRC),¹ all costs associated with the VGI Pilot Program are incremental, and thus additive
12 to any currently authorized levels of revenue requirement.

13 **II. VGI PILOT PROGRAM COSTS**

14 **A. Capital Costs**

15 Table JBA-1 below identifies the capital costs² for the VGI Pilot Program, prior to
16 adjustment for overhead and escalation factors.

Table JBA-1 Capital Costs (excludes escalation and loaders; includes sales tax)							
(in \$000)	2015	2016	2017	2018	2019	2020 - 2037	Total
Engineering Design and Permitting	\$ 143	\$ 287	\$ 574	\$ 574	\$ -	\$ -	\$ 1,578
New Electric Service	902	1,804	3,608	3,608	-	-	9,922
Transformer Installation	88	176	353	353	-	-	970
EVSE and Control Equipment Installation	3,739	7,478	14,957	14,957	-	-	41,132
Billing System Integration	1,475	-	-	-	-	-	1,475
Billing System Hardware	89	-	-	-	-	-	89
Total Capital Costs	\$ 6,437	\$ 9,746	\$ 19,491	\$ 19,491	\$ -	\$ -	\$ 55,165

17 Differences due to rounding for Table JBA-1 and all other tables in Chapter IV

¹ Decision (D.)13-05-010.

² As provided by witness Randy Schimka in Chapter 2. Appendix A converts the per-installation costs provided by Mr. Schimka to the total capital costs in Table JBA-1.

1 **B. Operation and Maintenance (O&M) Costs**

2 Table JBA-2 below identifies the O&M costs³ for the VGI Pilot Program, prior to
3 any adjustment factors. O&M consists of ongoing services and replacement costs which
4 will be provided by third party vendors (for the service, maintenance, and upkeep of the
5 charging stations and software) and SDG&E (for sales and marketing, customer support,
6 billing system integration, and pricing signals analysis).

(in \$000)	2015	2016	2017	2018	2019	2020 - 2037	Total
Charging Equipment Replacement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22,982	\$ 22,982
Access Control Fees	53	158	370	581	581	10,454	12,197
Transformer Installation O&M	10	20	39	39	-	-	108
SDG&E Internal Labor	275	275	275	275	90	1,620	2,810
Contract Labor	225	225	225	425	-	-	1,100
Customer Engagement Support	83	83	33	33	-	-	230
Total O&M Costs	<u>\$ 645</u>	<u>\$ 761</u>	<u>\$ 941</u>	<u>\$ 1,353</u>	<u>\$ 671</u>	<u>\$ 35,056</u>	<u>\$ 39,426</u>

7
8 **C. Adjustments to Capital and O&M Costs**

9 **1. Overhead Loaders**

10 Overhead loaders are used to allocate undistributed company overhead costs across
11 capital projects and O&M. Overhead costs are those activities and services that are
12 associated with direct costs, such as payroll taxes and pension and benefits, or are costs that
13 cannot be economically direct-charged, such as administrative and general overheads.
14 Overhead loader values for the VGI Pilot Program adhere to the methodology proposed by
15 the Federal Energy Regulatory Commission (FERC)⁴ and were derived using the same
16 methodology used in SDG&E's most recent GRC filing.

³ As provided by witness Randy Schimka in Chapter 2. Appendix A converts the O&M costs provided by Mr. Schimka to the total O&M costs in Table JBA-2.

⁴ FERC guidelines reference the Statement of Federal Financial Accounting Standards 4: Managerial Cost Accounting Standards and Concepts.

1 **2. Escalation of Future Costs**

2 Cost escalation factors are used to reflect the effect of inflation on SDG&E's costs.
3 SDG&E's escalation costs were derived using 2013 Global Insight forecast indices. No
4 escalation factors were applied to third-party vendor costs associated with ongoing O&M
5 because SDG&E intends to enter into fixed-price contractual agreements with these vendors.
6 SDG&E also assumes no change to the pricing of Electric Vehicle Supply Equipment
7 (EVSE) component costs. This assumption is supported by current and historical charging
8 station prices provided by Clipper Creek, Inc.⁵

9 Tables JBA-3 and JBA-4 show the capital and O&M costs adjusted for SDG&E
10 overhead loaders and cost escalation.⁶

11

(in \$000)	2015	2016	2017	2018	2019	2020 - 2037	Total
Engineering Design and Permitting	\$ 151	\$ 302	\$ 605	\$ 605	\$ -	\$ -	\$ 1,663
New Electric Service	951	1,902	3,804	3,804	-	-	10,460
Transformer Installation	187	382	782	804	-	-	2,155
EVSE and Control Equipment Installation	3,942	7,884	15,768	15,768	-	-	43,361
Billing System Integration	1,485	-	-	-	-	-	1,485
Billing System Hardware	94	-	-	-	-	-	94
Total Capital Costs	<u>\$ 6,810</u>	<u>\$ 10,470</u>	<u>\$ 20,958</u>	<u>\$ 20,980</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 59,218</u>

12

13

⁵ Clipper Creek, Inc. is a leading manufacturer of EVSE.

⁶ No allowance for funds used during construction (AFUDC) is included, as payments will only be made when the VGI Pilot Program work is complete and placed in service.

<i>(in \$000)</i>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020 - 2037</u>	<u>Total</u>
Charging Equipment Replacement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,195	\$ 23,195
Access Control Fees	53	160	373	586	586	10,552	12,310
Transformer Installation O&M	23	47	96	98	-	-	264
SDG&E Internal Labor	508	519	531	544	182	4,083	6,367
Contract Labor	229	234	240	464	-	-	1,167
Customer Engagement Support	83	83	33	33	-	-	232
Total O&M Costs	\$ 897	\$ 1,043	\$ 1,272	\$ 1,725	\$ 768	\$ 37,830	\$ 43,536

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D. Total Costs

After updating the capital and O&M costs with the appropriate adjustment factors noted above, the total VGI Pilot Program costs for purposes of calculating the revenue requirement are shown in Table JBA-5 below.

<i>(in \$000)</i>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020 - 2037</u>	<u>Total</u>
Capital	\$ 6,810	\$ 10,470	\$ 20,958	\$ 20,980	\$ -	\$ -	\$ 59,218
O&M	\$ 897	\$ 1,043	\$ 1,272	\$ 1,725	\$ 768	\$ 37,830	\$ 43,536
Total	\$ 7,706	\$ 11,513	\$ 22,230	\$ 22,706	\$ 768	\$ 37,830	\$ 102,753

7

III. REVENUE REQUIREMENT

The revenue requirement represents the total dollars that need to be collected each year in order to cover the costs and returns associated with the VGI Pilot Program. Specifically, the components that make up the revenue requirement are: return of capital (via depreciation), O&M costs, debt and equity returns, federal and state taxes, franchise fees, and uncollectible revenue. The projected revenue requirements are broken out by component and presented in Appendix B. A more detailed description of the components of the revenue requirement is presented in the sections that follow.

15

1 **A. Return of Capital**

2 The return of capital is equal to annual book depreciation, which uses the straight-
3 line remaining life method.⁷ Consistent with the FERC Code of Federal Regulations,
4 SDG&E assumes the following useful lives for each asset category as presented in Table
5 JBA-6.

<u>Asset Category</u>	<u>FERC Useful Life (Years)</u>
Kiosk, Pedestal, Chargers	19
New Electric Service to EVSE	50
Transformers & Install Costs	33
Billing System Integration	5
Design, Permits, & Meters	19
Servers & Hardware	5

6

7 **B. O&M Costs**

8 O&M costs represent the total costs required to ensure the ongoing successful
9 operation of the VGI Pilot Program. O&M costs are included in the revenue requirement
10 and treated as a pass-through item.

11 **C. Return**

12 The current authorized annual return components of the revenue requirement for the
13 VGI Pilot Program consist of return on debt (5.00 percent), return on preferred stock (6.22
14 percent), and return on equity (10.30 percent).⁸ These values are then weighted by their

⁷ This method is consistent with Standard Practice U-4, Determination of Straight-Line Remaining Life Depreciation Accruals. The CPUC issued this standard practice in 1961 as a guide for determining proper depreciation accruals.

⁸ As adopted in D.12-12-034.

1 authorized capital allocation percentages and multiplied by the average rate base⁹ to
 2 determine the revenue requirement for each return component. The authorized¹⁰ weighted
 3 returns are listed in Table JBA-7 below.

Table JBA-7
SDG&E Rate of Return (ROR) Calculation

	<u>Capital Ratio %</u>	<u>Cost</u>	<u>Authorized Weighed Cost</u>
Long-Term Debt	45.25%	5.00%	2.26%
Preferred Equity	2.75%	6.22%	0.17%
Common Equity	<u>52.00%</u>	<u>10.30%</u>	<u>5.36%</u>
	100.00%		7.79%

5

6 **D. Tax**

7 **1. Property Tax**

8 The annual property tax expense for the VGI Pilot Program is calculated by
 9 multiplying the period ending rate base by SDG&E's effective property tax rate of 1.328
 10 percent.¹¹

11

⁹ Rate base represents the amount of capital on which shareholders are allowed to earn a return. The calculation of rate base for this filing is consistent with the methodology used in SDG&E's 2012 General Rate Case filing.

¹⁰ As adopted in D.12-12-034.

¹¹ Consistent with previous filings, SDG&E's effective property tax rate is calculated by dividing the total property taxes due by county (per SDG&E property tax bills) by the total assessed value by county.

1 **2. Federal and State Income Tax**

2 **a. Federal Income Tax**

3 Federal income tax expense is calculated by multiplying federal Earnings Before
4 Income Tax (EBIT)¹² by the current corporate federal income tax rate of 35 percent. In
5 accordance with established Commission policy,¹³ federal income taxes are computed on a
6 normalized basis for utility ratemaking purposes.¹⁴ An annual breakout of the federal tax
7 component of the revenue requirement is provided in Appendix B.

8 **b. State Income Tax**

9 State income tax expense is calculated by multiplying state EBIT¹⁵ by the current
10 California Corporation Franchise Tax rate of 8.84 percent. State income taxes are not
11 normalized, but instead are calculated on a flow-through basis.¹⁶

12 **E. Franchise Fees and Uncollectibles**

13 Franchise Fees and Uncollectibles (FF&U) are the final calculated components of the
14 revenue requirement. Franchise fees cover the payments made to counties and incorporated
15 cities pursuant to local ordinances granting a franchise to the company to place utility
16 property in the public rights of way. Uncollectibles represent the estimated uncollectible
17 expenses incurred by SDG&E. FF&U is calculated by multiplying the sum of all other

¹² For ratemaking purposes, federal EBIT is calculated as the sum of Common and Preferred Stock Returns minus prior year state taxes, multiplied by a tax gross-up factor. The tax gross-up factor is mathematically required to compute a pre-tax earnings number that, once taxes are applied, results in SDG&E's achievement of its authorized rate of return.

¹³ See the direct testimony of Randall Rose, SDG&E General Rate Case proceeding (A.10-12-005).

¹⁴ Normalization requires that any tax adjustments for deferred taxes (due to accelerated federal tax depreciation methods) are not included when calculating the annual required taxes due from ratepayers through the revenue requirement.

¹⁵ For ratemaking purposes, state EBIT is calculated as the sum of Common and Preferred Stock Returns minus any deferred state income tax, multiplied by a tax gross-up factor. The tax gross-up factor is mathematically required to compute a pre-tax earnings number that, once taxes are applied, results in SDG&E's achievement of its authorized rate of return.

¹⁶ Consistent with Commission policy, flow-through accounting treats temporary differences between recognition of expenses for book purposes and their tax return treatment as current adjustments to the revenue requirement.

1 revenue requirement components by the authorized multipliers¹⁷ for franchise fees and
2 uncollectibles.

3 **IV. CONCLUSION**

4 The final revenue requirement for the VGI Pilot Program, broken out by component,
5 is summarized in Appendix B. This concludes my direct testimony.

6

¹⁷ FF&U multipliers used for the VGI Pilot Program revenue requirement are consistent with those supported in D.13-05-010.

1 **V. STATEMENT OF QUALIFICATIONS**

2 My name is Jonathan Atun. My business address is 8330 Century Park Court, San
3 Diego, California 92123. I am employed by SDG&E as the Financial and Strategic Analysis
4 Manager. In my current role, I am responsible for managing, directing and coordinating the
5 financial analysis of SDG&E projects.

6 I received a Bachelor of Science degree from San Diego State University in Business
7 Administration with an emphasis in Accounting in 1988. I received a Master of Science
8 degree from San Diego State University in Business Administration with an emphasis in
9 Information Systems. I am licensed as a Certified Public Accountant by the State of
10 California. I also hold a Certified Fraud Examiner Credential from the Association of
11 Certified Fraud Examiners.

12 Prior to being employed by SDG&E, I was a financial analyst, forensic accountant
13 and expert witness. My work involved analyzing and quantifying economic losses in
14 business disputes and testifying in civil courts. I also provided general business consulting
15 and services.

16 I have not previously testified before this Commission.

APPENDIX A

CAPITAL AND O&M BREAKDOWN

VGI Pilot Program Capital Breakdown								
(in dollars)								
Capital Category	Single Installation Cost	2015	2016	2017	2018	2019	2020 - 2037	Total
		x 50	x 100	x 200	x 200			x 550
Engineering Design and Permitting	2,869	\$ 143,440	\$ 286,880	\$ 573,760	\$ 573,760	\$ -	\$ -	\$ 1,577,840
New Electric Service	18,040	902,000	1,804,000	3,608,000	3,608,000	-	-	9,922,000
Transformer Installation	1,764	88,175	176,350	352,700	352,700	-	-	969,926
EVSE and Control Equipment Installation								
Electric Vehicle Supply Equipment & Install	21,571							
Access Control Equipment & Installation	47,702							
ADA, Parking Modifications and Signage	5,512							
(Subtotal) EVSE and Control Equipment Installation	74,785	3,739,230	7,478,460	14,956,920	14,956,920	-	-	41,131,530
Billing System Integration								
Software Development	1,296,768							
VGI Phone and Web Applications	178,200							
(Subtotal) Billing System Integration*	1,474,968	1,474,968	-	-	-	-	-	1,474,968
Billing System Hardware*	89,100	89,100	-	-	-	-	-	89,100
Total Capital		\$6,436,913	\$9,745,690	\$19,491,380	\$19,491,380	\$ -	\$ -	\$55,165,364

*One time cost

VGI Pilot Program O&M Breakdown									
(in dollars)									
O&M Category	Cost	Frequency	2015	2016	2017	2018	2019	2020 - 2037	Total
Charging Equipment Replacement									
Replacement EVSE Equipment	\$21,571	x 550							
Replacement Access Control Equipment	14,702	x 550							
Replacement ADA Costs	5,512	x 550							
(Subtotal) Charging Equipment Replacement			\$ -	\$ -	\$ -	\$ -	\$ -	\$22,981,530	\$22,981,530
Access Control Fees	1,056	annually/unit	52,800	158,400	369,600	580,800	580,800	10,454,400	12,196,800
Transformer Installation O&M	197		9,833	19,665	39,330	39,330	-	-	108,158
SDG&E Internal Labor									
Customer Engagement Internal labor	90,000	years: 1-4							
Billing System Integration Internal Labor	95,000	years: 1-4							
Rates/Dst. Circuit Modeling Labor	90,000	years: 1-23							
(Subtotal) SDG&E Internal Labor			275,000	275,000	275,000	275,000	90,000	1,620,000	2,810,000
Contract Labor									
Customer Engagement Contractor Labor	75,000	years: 1-4							
Customer Engagement Contractor Labor	75,000	years: 3-4							
Billing System Integration Contractor Labor	75,000	years: 1-2							
Cust. Support and Integration Svcs Contractor Labor	75,000	years: 1-4							
Evaluation of VGI Program Contract Labor	200,000	years: 4 only							
(Subtotal) Contract Labor			225,000	225,000	225,000	425,000	-	-	1,100,000
Customer Engagement Support									
Education and Outreach	200,000	total over 4 years							
Marketing Material	30,000	total over 4 years							
(Subtotal) Customer Engagement Support			82,500	82,500	32,500	32,500	-	-	230,000
Total O&M			\$ 645,133	\$ 760,565	\$ 941,430	\$ 1,352,630	\$ 670,800	\$35,055,930	\$39,426,488

APPENDIX B

ANNUAL REVENUE REQUIREMENT

San Diego Gas & Electric Vehicle Grid Integration						
<i>(in \$000)</i>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Depreciation:	278	796	1,517	2,479	2,960	2,802
O&M:	897	1,043	1,272	1,725	768	1,019
Return On Debt:	75	257	584	1,006	1,169	1,095
Return on Preferred:	6	19	44	76	88	83
Return on Common:	178	608	1,382	2,380	2,767	2,591
Property Taxes:	44	150	342	589	684	641
Federal Taxes:	(617)	632	952	1,532	1,708	1,493
State Taxes:	(163)	124	206	335	392	361
FF&U:	29	132	233	376	392	376
Revenue Requirement	\$ 727	\$ 3,761	\$ 6,532	\$10,497	\$10,928	\$10,461

<i>(in \$000)</i>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
Depreciation:	2,644	2,644	2,644	2,644	2,644	2,644
O&M:	1,691	3,030	4,722	5,429	5,188	4,525
Return On Debt:	1,028	964	901	841	781	722
Return on Preferred:	78	73	68	64	59	55
Return on Common:	2,433	2,281	2,134	1,990	1,849	1,709
Property Taxes:	602	564	528	492	457	422
Federal Taxes:	1,339	1,266	1,183	1,103	1,024	946
State Taxes:	336	334	329	324	318	311
FF&U:	379	417	468	482	460	424
Revenue Requirement	\$ 10,529	\$ 11,573	\$12,977	\$13,369	\$12,781	\$11,756

<i>(in \$000)</i>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>
Depreciation:	2,644	2,644	2,644	2,644	2,644	2,644
O&M:	3,194	1,512	814	819	824	830
Return On Debt:	662	603	544	485	425	366
Return on Preferred:	50	46	41	37	32	28
Return on Common:	1,568	1,428	1,288	1,147	1,007	867
Property Taxes:	387	353	318	283	248	214
Federal Taxes:	867	789	710	632	553	474
State Taxes:	303	295	285	275	263	250
FF&U:	362	287	248	236	224	212
Revenue Requirement	\$ 10,039	\$ 7,956	\$ 6,893	\$ 6,558	\$ 6,223	\$ 5,885

<i>(in \$000)</i>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>
Depreciation:	2,644	2,536	2,213	1,567	705
O&M:	835	841	847	853	859
Return On Debt:	307	248	193	146	116
Return on Preferred:	23	19	15	11	9
Return on Common:	727	587	457	346	274
Property Taxes:	179	144	112	85	67
Federal Taxes:	395	310	225	149	101
State Taxes:	233	202	150	69	(27)
FF&U:	200	183	157	121	79
Revenue Requirement	\$ 5,543	\$ 5,071	\$ 4,369	\$ 3,346	\$ 2,182

<i>(in \$000)</i>	<u>Remainder</u>	<u>Total</u>
Depreciation:	6,989	59,218
O&M:	-	43,536
Return On Debt:	1,407	14,924
Return on Preferred:	106	1,128
Return on Common:	3,330	35,329
Property Taxes:	823	8,729
Federal Taxes:	1,877	19,644
State Taxes:	(115)	5,390
FF&U:	539	7,014
Revenue Requirement	\$ 14,956	\$194,910

APPENDIX C

GLOSSARY OF ACRONYMS AND DEFINED TERMS

ACRONYM	TERM
AFUDC	Allowance for funds used during construction
EBIT	Earnings before income tax
EVSE	Electric vehicle supply equipment
FF&U	Franchise fees and Uncollectibles
GRC	General rate case
O&M	Operations and maintenance
ROR	Rate of return
VGI	Vehicle-grid integration