

## PUBLIC UTILITIES COMMISSION

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December 2, 2022

Daniel Skopec  
Senior Vice President – State Government Affairs & Chief Risk Officer  
San Diego Gas & Electric Company and Southern California Gas Company  
8330 Century Park Court, CP33C  
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VIA EMAIL: [DSkopec@semprautilities.com](mailto:DSkopec@semprautilities.com)

**SUBJECT: San Diego Gas & Electric Company and Southern California Gas Company  
2021 Risk Spending Accountability Report Review**

Dear Mr. Skopec:

Southern California Gas Company (SoCalGas) and San Diego Gas & Electric Company (SDG&E) (combined as Sempra or Utility) submitted their 2021 Risk Spending Accountability Report (RSAR) to the California Public Utilities Commission (CPUC) on July 29, 2022. Energy Division completed a review of this report and provides Sempra with recommendations for its 2022 report. The attachments provide background and details of staff's analysis on spending accountability and spending variances.

### CONCLUSIONS

This submittal represents Sempra's third RSAR under the Test Year 2019 GRC (Application 19-08-013). ED has reviewed the RSAR to determine compliance with the guidance in CPUC's Safety Model Assessment Proceeding (S-MAP) Decision, Decision (D.)19-04-020. Within the RSAR, the Utility presented imputed adopted, actual spending, and units for its reportable general rate case (GRC) programs related to safety, reliability and maintenance (SRM).

#### Program Selection

Sempra applied the selection criteria for its GRC programs according to D.19-04-020 and included the information required for programs selected for an explanation. Sempra provided reference and regulatory account information affecting authorized spending.

#### Variance

Overall, Sempra's 2021 RSAR showed a 35 percent overspend (\$1,200 million) on SRM programs, as shown in Table 1. It should be noted that Sempra reported a 29 percent overspend (\$915 million) in its 2020 RSAR.

**Table 1. 2021 Total RSAR Spending for SDG&E and SoCalGas**

	2021 Actuals (\$000)	2021 Imputed Authorized (\$000)	Variance (\$000)	% Variance
SDG&E TOTAL O&M	665,881	557,729	108,152	19%
SDG&E TOTAL Capital	1,218,592	673,784	544,807	81%
SoCalGas TOTAL O&M	1,017,050	1,001,825	15,226	2%
SoCalGas TOTAL Capital	1,605,343	1,106,755	498,589	45%
<b>TOTAL</b>	<b>4,507,018</b>	<b>3,340,093</b>	<b>1,166,925</b>	<b>35%</b>

The largest overspend by line of business was in SDG&E's Electric Distribution at \$270 million (65 percent), followed by SoCalGas' Gas Engineering capital at \$212 million (154 percent). The only significant underspend at the line of business level occurred in SoCalGas' Pipeline Safety Enhancement Program (PSEP) in both operation and maintenance (O&M) and capital. SoCalGas' PSEP O&M underspend was \$13 million (-20 percent) and PSEP capital underspend was \$81 million (-34 percent).

#### Comments

D.19-04-020 provides for a method for parties to comment on the report. No comments were received on the Sempra 2021 RSAR.

#### RECOMMENDATIONS

Sempra provided explanations and descriptions for the programs or projects in the report but should improve on their efforts to include authorized work units and lists of activities when work units are not available. Beyond this, and in keeping with the recommendations listed in the ED Review of Sempra's 2020 RSAR, Sempra should follow what the CPUC adopted in Ordering Instituting Rulemaking (R.)20-07-013, the Order Instituting Rulemaking to Further Develop a Risk-Based Decision-Making Framework for Electric and Gas Utilities<sup>1</sup>.

Sempra should refer to the framework in D.19-04-020, Ordering Paragraph 10 in preparing and submitting future RSARs. Sempra should also file and serve its 2022 RSAR in the most recent proceeding in which costs are imputed (A.17-10-007/A.17-10-008) as well as the 2021 Risk Assessment Mitigation Phase (RAMP, A.21-05-011 and A.21-05-014) with copies provided to CPUC's Safety Policy Division, Safety and Enforcement Division, and Public Advocates Office. The report should include information on how parties can file comments in the most recent open GRC/RAMP proceeding, with copies of the comments mailed to ED Tariff Unit. The report should request parties identify the submissions upon which they are commenting. All comments must follow the RSAR Filing and Review Schedule. Sempra should provide the 2022 RSAR to ED Tariff Unit by emailing the report to [edtariffunit@cpuc.ca.gov](mailto:edtariffunit@cpuc.ca.gov).

If you have any questions or comments, please contact Andrew Ngo at [andrew.ngo@cpuc.ca.gov](mailto:andrew.ngo@cpuc.ca.gov).

Sincerely,



For

Leuwam Tesfai  
Deputy Executive Director for Energy and Climate Policy/  
Director Energy Division

Enclosure: ATTACHMENT A – Staff Risk Spending Accountability Review  
ATTACHMENT B – Sempra RSAR Programs Ranked by Spending Variance

cc: Jamie York, Regulatory Case Manager, Sempra Utilities  
Kelly Hart, GRC Program Manager, Sempra Utilities  
Bruce Kaneshiro, Branch Manager, Energy Division Building Decarbonization & Gas Policy  
Elizabeth La Cour, Supervisor, Energy Division Gas & Oil Pipeline Costs & Rates Section  
Franz Cheng, Supervisor, Energy Division Electric Costs Section  
Service Lists for A.17-10-007, A.17-10-008, and consolidated A.15.-05-002, 003, 004, 005.

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<sup>1</sup> On October 6, 2022, the CPUC issued D.22-10-002 that contains a list of ED recommendations meant to improve and clarify the RSAR format. See <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M497/K538/497538476.PDF>

# ATTACHMENT A:

## Staff Risk Spending Accountability Review

The California Public Utilities Commission’s (CPUC) Energy Division (ED) reviewed the 2021 Risk Spending Accountability Report (RSAR) of the Southern California Gas Company (SoCalGas) and San Diego Gas & Electric Company (SDG&E) (combined as Sempra or Utility) filed on July 29, 2022. ED conducted a review to provide the CPUC and parties to the GRC with information that may be useful in the GRC and other proceedings and “alert the Commission and other parties about a utility’s risk mitigation activities and spending.”<sup>2</sup>

### BACKGROUND

In December 2014, the CPUC issued Decision (D.)14-12-025, which directed the investor-owned utilities under its jurisdiction to prepare annual reports comparing authorized and actual spending on risk mitigation projects and explain any discrepancies. Upon submission, ED Staff would review the reports and identify any spending patterns of concern with respect to the provision of safe and reliable gas and electric service.

In April 2019, the CPUC issued D.19-04-020, Phase Two Decision Adopting Risk Spending Accountability Report Requirements and Safety Performance Metrics for Investor-Owned Utilities and Adopting a Safety Model Approach for Small and Multi-Jurisdictional Utilities (Phase Two Decision) and provided the utilities with specific direction in complying with the reporting requirements of the new risk-based decision-making framework.

This 2021 RSAR addressed the second attrition year of the 2019 GRC cycle authorized in D.19-09-051<sup>3</sup> in the General Rate Case (GRC) Application (A.)17-10-007 and A.17-10-008. Sempra’s 2021 RSAR follows the reporting framework set forth in D.19-04-020.

### REPORTING REQUIREMENTS

D.19-04-020 directed utilities to provide descriptions and an explanation of any variance based upon set criteria.<sup>4</sup> This included identifying all risk mitigation and maintenance<sup>5</sup> programs, providing a “comparison of authorized versus actual spending above an appropriate Commission-determined dollar cut-off and a utility narrative explanation of any significant differences between the two.” Finally, the utilities are required to “group programs along general business lines” or categories.<sup>6</sup>

### REPORT NOTICING AND PARTY COMMENTS

Sempra submitted the RSAR report to the service list for five proceedings: their Test Year (TY) 2019 GRC A.17-10-007 and A.17-10-008, previous RAMPS (consolidated A.15.-05-002, 003, 004, 005). The Sempra RSAR is available on the Energy Division RSAR webpage.<sup>7</sup> The review schedule for RSARs was served on the latest Sempra General Rate Case proceedings and the Rulemaking to

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<sup>2</sup> D.19-04-020 p47

<sup>3</sup> <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M316/K704/316704666.PDF>

<sup>4</sup> D.19-04-020 p. 43, Variance Criteria

<sup>5</sup> In compliance with redirected spending requirements P.U. Code §591 D.19-04-020 (p37).

<sup>6</sup> D.19-04-020 pp 34-37; O.P. 10 and Attachment 2 for the full requirements. See also D.14-12-025 p44.

<sup>7</sup> [https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/risk-spending-accountability-reports/sdge\\_socalgas-2021-rsar-report-final.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/risk-spending-accountability-reports/sdge_socalgas-2021-rsar-report-final.pdf)

Further Develop a Risk-Based Decision-Making Framework for Electric and Gas Utilities (SMAP 2) R.20-07-013 on April 11, 2022.

The Schedule requested comments by October 17, 2022. No parties served comments.

## STAFF ANALYSIS

Sempra imputed authorized costs based on the GRC authorized cost and escalation for the second attrition year on reportable programs.<sup>8</sup> Sempra identified each GRC spending programs related to safety, reliability and maintenance. SDG&E identified 252 capital and 238 operation and maintenance (O&M) expense programs meeting the criteria of RSAR-related programs. SoCalGas identified 96 capital programs and 239 O&M programs.

Sempra complied with D.19-04-020, Ordering Paragraph 10, which requires utilities to describe how each project relates to safety, reliability and maintenance.<sup>9</sup>

### Lines of Business

Table A-1 presents RSAR-related programs along major lines of business and divided into O&M expense and capital programs. The variances of recorded costs to authorized costs show a general trend of overspending. Although SoCalGas total O&M shows an overspending of two percent (\$15.4 million), individual lines of business have significant underspending. Pipeline Safety Enhancement Program (PSEP) O&M and Underground Storage show an underspend of -20 percent (\$13.3 million) and -14 percent (\$9.5 million), respectively. This is offset by an overspend of 38 percent (\$49.0 million) in Gas Engineering.

SoCalGas total capital shows an overspending of 45 percent (\$489.6 million). This overspending is largely contributed by Gas Engineering and Gas Transmission, which showed an overspend of 154 percent (\$212.2 million) and 117 percent (\$147.6 million), respectively. The only underspending was in the SoCalGas' PSEP capital program with a \$109.9 million underspend (-46 percent). The 2019 PSEP O&M and capital program underspending was \$51.7 million (-85 percent) and \$65.0 million (-50 percent), respectively. For 2020, PSEP programs underspending was \$40.4 million (-65 percent) for O&M and \$88.6 million (-50 percent) for capital. The total PSEP O&M and capital underspending this GRC cycle thus far is \$105 million and \$264 million, respectively, with 2 years remaining.

SoCalGas explains the PSEP O&M underspend is due to deferral of four hydrotest projects to meet SoCalGas' obligation to maintain gas capacity to support system reliability, although the variance was partially offset by the execution of two previously deferred projects. Additional O&M underspend was due to a re-organization, which has moved some expenses to the company overhead or into individual projects. The underspend on capital is from deferred projects, partially offset by prior projects, which were completed in 2021 and the acceleration of projects initially planned for 2022.

SDG&E has the largest overspend of \$269.8 million (65 percent) in electric distribution capital followed by \$117.9 million (70 percent) in electric distribution O&M, as shown in Table A-1. The majority capital overspend is from the balanced programs for Overhead System Hardening (\$76.2 million), High Fire Threat District (HFTD) Undergrounding (\$69.5 million) and Local Engineering

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<sup>8</sup> D.19-04-020, p. 35 and 37; Program Definitions; section 5.1.1.

<sup>9</sup> D.19-04-020, pp. 36-37

Pool – Electric Distribution (\$60.5 million). The majority of O&M overspend (\$81.6 million<sup>10</sup>) is from the Wildfire Mitigation Program (WMP) balancing account.

**Table A-1: 2021 Authorized and Recorded Costs**

<b>GRC General Line of Business</b>	<b>2021 Actuals (\$ 000)</b>	<b>2021 Imputed Authorized (\$ 000)</b>	<b>\$ Variance (\$ 000)</b>	<b>% Variance</b>
<b>SoCalGas</b>	<b>2,622,545</b>	<b>2,108,579</b>	<b>513,966</b>	<b>24%</b>
Gas Distribution (incl Gas Control)	181,744	172,875	8,869	5%
Gas Engineering (incl TIMP/DIMP)	179,205	130,173	49,032	38%
Gas Transmission (incl GT, MP, GSI)	74,419	76,833	(2,413)	-3%
Underground Storage	58,175	67,651	(9,476)	-14%
PSEP	50,646	63,675	(13,030)	-20%
Gas Acquisition	5,075	4,839	236	5%
<b>Sub-Total Gas</b>	<b>549,264</b>	<b>516,046</b>	<b>33,217</b>	<b>6%</b>
<b>Sub-Total Other</b>	<b>467,938</b>	<b>485,779</b>	<b>(17,840)</b>	<b>-4%</b>
<b>SoCalGas TOTAL O&amp;M</b>	<b>1,017,202</b>	<b>1,001,825</b>	<b>15,377</b>	<b>2%</b>
Gas Distribution	374,031	331,747	42,284	13%
Gas Engineering	350,359	138,132	212,228	154%
Gas Transmission	273,519	125,887	147,631	117%
Underground Storage	274,469	147,418	127,051	86%
PSEP	158,513	239,396	(80,884)	-34%
<b>Sub-Total Gas</b>	<b>1,430,890</b>	<b>982,580</b>	<b>448,311</b>	<b>46%</b>
<b>Sub-Total Other</b>	<b>174,453</b>	<b>124,175</b>	<b>50,278</b>	<b>40%</b>
<b>SoCalGas TOTAL Capital</b>	<b>1,605,343</b>	<b>1,106,755</b>	<b>498,589</b>	<b>45%</b>
<b>SDG&amp;E</b>	<b>1,884,473</b>	<b>1,231,513</b>	<b>652,959</b>	<b>53%</b>
Electric & Fuel Procurement	8,644	9,834	(1,190)	-12%
Electric Distribution	286,574	168,661	117,913	70%
Electric Generation & SONGS	37,168	43,197	(6,029)	-14%
<b>Sub-Total Electric</b>	<b>332,386</b>	<b>221,692</b>	<b>110,694</b>	<b>50%</b>
Gas Distribution	36,414	33,112	3,303	10%
Gas Engineering (incl TIMP/DIMP)	10,934	12,367	(1,432)	-12%
Gas Transmission (incl Gas Sys Integ)	6,282	7,542	(1,260)	-17%
<b>Sub-Total Gas</b>	<b>53,631</b>	<b>53,020</b>	<b>610</b>	<b>1%</b>
<b>Sub-Total Other</b>	<b>279,864</b>	<b>283,017</b>	<b>(3,153)</b>	<b>-1%</b>
<b>SDG&amp;E TOTAL O&amp;M</b>	<b>665,881</b>	<b>557,729</b>	<b>108,152</b>	<b>19%</b>
Electric Distribution	684,915	415,143	269,772	65%
Electric Generation	43,664	15,828	27,836	176%
<b>Sub-Total Electric</b>	<b>728,579</b>	<b>430,971</b>	<b>297,608</b>	<b>69%</b>
Gas Distribution	140,005	66,185	73,820	112%
Gas Engineering (incl TIMP/DIMP)	61,486	28,282	33,204	117%
Gas Transmission	25,150	10,605	14,545	137%
<b>Sub-Total Gas</b>	<b>226,642</b>	<b>105,073</b>	<b>121,569</b>	<b>116%</b>
<b>Sub-Total Other</b>	<b>263,371</b>	<b>137,740</b>	<b>125,631</b>	<b>91%</b>
<b>SDG&amp;E TOTAL Capital</b>	<b>1,218,592</b>	<b>673,784</b>	<b>544,807</b>	<b>81%</b>
<b>TOTAL SoCalGas and SDG&amp;E</b>				

Tables A-2 and A-3, below, show the number of individual programs per major line of business used by Sempra along with the variances per major business line. SDG&E has a larger safety, maintenance and reliability spend (\$2.1 billion versus \$1.2 billion, see Table A-1) and a larger

<sup>10</sup> See Sempra 2021 RSAR p. A-120 for WMP balance account programs that make up the \$81.6 million in overspending.

percentage of programs with variances. Despite the smaller total spend and smaller percentage of programs with variances, SDG&E has a larger total dollar variance.

**Table A-2: SDG&E Programs by Major Business Lines with Variances**

Major Business Line	Number of Programs	Programs with Variance <sup>a</sup>	Percent Variance
<b>SDG&amp;E</b>	<b>490</b>	<b>191</b>	<b>39%</b>
CAPITAL	252	87	35%
Balanced Program Direct Capital Expenses	58	20	34%
Electric Distribution	117	27	23%
Electric Generation	9	2	22%
Gas Distribution	34	20	59%
Gas Engineering	5	0	0%
Gas Transmission	9	7	78%
Human Resources	1	1	100%
Information Technology & Cyber Security	8	6	75%
Support Services	11	4	36%
O&M	238	104	44%
Administrative & General	10	3	30%
Balanced Program Direct O&M Expenses	33	19	58%
Customer Services	24	11	46%
Electric & Fuel Procurement	3	2	67%
Electric Distribution	44	8	18%
Electric Generation	9	8	89%
Gas Distribution	28	11	39%
Gas System Integrity	5	3	60%
Gas Transmission	8	4	50%
Human Resources Dept, Safety, LTD & WC	15	2	13%
Information Technology & Cyber Security	47	25	53%
Support Services	12	8	67%

- a. Electric O&M Variance > \$5 million or >\$2.5 million and 20 percent;  
 Electric Capital Variance > \$10 million or >\$5 million and 20 percent;  
 Gas O&M Variance > \$2.5 million or >\$0.5 million and 20 percent;  
 Gas Capital Variance > \$5 million or >\$1 million and 20 percent; and  
 Unit Variance between adopted units and actual units >20 percent.

**Table A-3: SoCalGas Programs by Major Business Lines with Variances**

Major Business Line	Number of Programs	Programs with variance <sup>a</sup>	Percent Variance
<b>SoCalGas</b>	<b>335</b>	<b>170</b>	<b>51%</b>
CAPITAL	96	55	57%
Advanced Meter	1	1	100%
Balanced Programs Direct Capital Expenses	10	7	70%
Gas Distribution	31	16	52%
Gas Engineering	3	1	33%
Gas Transmission	18	11	61%
Information Technology & Cyber Security	8	2	25%
Major Projects	2	1	50%
Pipeline Safety Enhancement Program	4	4	100%
Support Services	5	4	80%
Underground Storage	14	8	57%
O&M	239	115	48%
Administrative & General	10	4	40%
Balanced Program Direct O&M Expenses	7	4	57%
Customer Services	36	20	56%
Gas Acquisition	1	0	0%
Gas Control & System Operations	13	2	15%
Gas Distribution	32	12	38%
Gas Engineering	24	4	17%
Gas Major Projects	4	4	100%
Gas System Integrity	41	30	73%
Gas Transmission	14	4	29%
Human Resources Dept, Safety, LTD & WC	7	5	71%
Information Technology & Cyber Security	21	14	67%
Pipeline Safety Enhancement Plan	2	2	100%
Support Services	21	9	43%
Underground Storage	6	1	17%

- a. O&M Variance > \$5 million or >\$1 million and 20 percent;  
 Capital Variance > \$10 million or >\$2 million and 20 percent; and  
 Unit Variance between adopted units and actual units > 20 percent.

### Balancing Accounts

ED staff found the 2021 RSAR Report met requirements for cost recovery of actual expenditures for balancing or memorandum account related expenditures.<sup>11</sup> Table A-4 shows the overspend for the balancing or memorandum accounts totaled \$280 million as of 2021 for the 2019 to 2023 program cycle.

<sup>11</sup> D.19-04-020 p 37 and OP 10 p 66

**Table A-4: Memorandum and Balancing Accounts  
2021 Actual and Authorized Revenue Requirement**

	O&M Expense (\$000)	Capital (\$000)	Authorized (\$000)	Variance (\$000)
<b>SDG&amp;E</b>	<b>351,095</b>	<b>58,172</b>	<b>(250,960)</b>	<b>158,307</b>
DIMPBA <sup>a</sup>	3,431	10,244	(16,681)	(3,006)
TIMPBA <sup>b</sup>	11,561	1,009	(11,060)	1,510
Tree Trimming	52,167		(25,421)	26,746
Overhead Pools	169,637		(121,364)	48,273
Wildfire Mitigation Plan	114,299	46,919	(76,434)	84,784
<b>SoCalGas</b>	<b>182,469</b>	<b>97,817</b>	<b>158,137</b>	<b>122,149</b>
DIMPBA <sup>a</sup>	43,633	46,259	64,526	25,366
TIMPBA <sup>b</sup>	103,839	19,926	54,714	69,051
SIMPBA <sup>c</sup>	16,777	16,865	22,717	10,925
RD&D <sup>d</sup>	18,035		16,180	1,855
Gas Regulatory Accounts – L235MA	185		0	185
MROWMA <sup>e</sup>		12,700	0	12,700
PSEPMA <sup>f</sup>		2,067	0	2,067
<b>TOTAL</b>	<b>533,564</b>	<b>155,989</b>	<b>(92,823)</b>	<b>280,456</b>

- a. Distribution Integrity Management Program Balancing Account
- b. Transmission Integrity Management Program Balancing Account
- c. Storage Integrity Management Program Balancing Account
- d. Research Development and Demonstration Expense Account, to be addressed in the next GRC
- e. Morongo Rights of Way Memorandum Account, to be addressed in next GRC
- f. Pipeline Safety Enhancement Program Memorandum Account, to be addressed in the next GRC

Tree Trimming and Wildfire Mitigation Plan accounts make up more than half the O&M balance account spending. Wildfire Mitigation Plan and DIMPBA make up nearly two-thirds of the capital balance account spending. The SIMPBA account is under review as part of A.21-01-016. The MROWMA, PSEPMA and RDDEA will be addressed in in the next GRC, and the rest are recovered through an advice letter.



## ANALYSIS OF SELECTED PROGRAMS

CPUC Staff made data requests on programs when variance explanations appeared inadequate and made recommendations, such as explaining to the degree to which individual activities contributed to the variances for safety, reliability, or maintenance activities. The results of these inquiries may be found in the sections below.

### SDG&E Gas Distribution

#### Replacements of Main and Services - RAMP1: Early Vintage Steel Replacement (A-57)

Spending for this program was \$14.7 million compared to an imputed adopted cost of \$3.3 million, an **overexpenditure** of approximately 345 percent.

This work includes replacement of deteriorated Gas Distribution system pipelines to maintain public safety and system reliability, driven by compliance requirements for the elimination of potentially hazardous conditions due to leaking or deteriorated gas pipelines.

Work for this new program began after authorization in the TY 2019 GRC Decision. Due to the extensive time associated with various aspects of each project, costs were shifted to later in the GRC cycle. Aggregated across the 2019-2021 RSAR Filing Years, the overexpenditure in the program drops to 35 percent.

**Table 1 – RAMP1: Early Vintage Steel Replacement Program Spending (2019-2021)**

<b>RAMP 1: Early Vintage Steel Replacement</b>	<b>Actual Recorded</b>	<b>Imputed Authorized</b>	<b>Variance</b>	<b>Variance %</b>
RSAR Filing Year: 2019	\$ 1,795	\$ 8,356	\$ (6,561)	-79%
RSAR Filing Year: 2020	\$ 3,754	\$ 3,291	\$ 463	14%
RSAR Filing Year: 2021	\$ 14,712	\$ 3,343	\$ 11,369	340%
<b>Total:</b>	<b>\$ 20,261</b>	<b>\$ 14,990</b>	<b>\$ 5,271</b>	<b>35%</b>

Staff identifies this rationale as a reasonable explanation for the overexpenditure. While still overspent, the percent variance is significantly smaller over this 3-year period than the 345 percent presented for just the 2021 RSAR Filing Year.

#### Replacements of Main and Services - RAMP2: Early Vintage Threaded Main Removal (A-57)

Spending for this program was \$13.7 million compared to an imputed adopted cost of \$3.4 million, an **overexpenditure** of approximately 303 percent.

This work includes replacement of deteriorated Gas Distribution system pipelines to maintain public safety and system reliability, driven by compliance requirements for the elimination of potentially hazardous conditions due to leaking or deteriorated gas pipelines.

Work for this program began after authorization in the TY 2019 GRC Decision. Due to the extensive time associated with various aspects of each project, costs were shifted to later in the GRC cycle. Aggregated across the 2019-2021 RSAR Filing Years, the overexpenditure in the program drops to 2 percent.

**Table 2 – RAMP2: Early Vintage Threaded Main Removal Program Spending (2019-2021)**

<b>RAMP 2: Early Vintage Threaded Main Removal</b>	<b>Actual Recorded</b>	<b>Imputed Authorized</b>	<b>Variance</b>	<b>Variance %</b>
RSAR Filing Year: 2019	\$ -	\$ 8,356	\$ (8,356)	-100%
RSAR Filing Year: 2020	\$ 1,663	\$ 3,304	\$ (1,641)	-50%
RSAR Filing Year: 2021	\$ 13,682	\$ 3,356	\$ 10,326	308%
<b>Total:</b>	<b>\$ 15,345</b>	<b>\$ 15,016</b>	<b>\$ 329</b>	<b>2%</b>

Staff identifies this rationale as a reasonable explanation for the overexpenditure. Across the 3-year period, there is very little variance in program spending.

## **SDG&E Gas Transmission**

### **Compressor Stations (BC 415): Non-RAMP (A-79)**

Spending for this program was \$10.3 million compared to an imputed adopted cost of \$2.0 million, an **overexpenditure** of approximately 415 percent.

This work includes maintenance and replacement of key engine components and controls required to maintain the reliability and safety of the facility.

The variance is attributed to the completion of two projects in 2021 initially anticipated to be completed in other years. Firstly, the Unit 10 Combustion Modification Project was scheduled for completion before 2021 but was completed in 2021 due to a delay in construction drawings. Secondly, the Cooper Selective Catalyst Reduction Project was scheduled for completion in 2022 but was accelerated to 2021 in order to meet a compliance deadline.

Staff identifies this rationale as a reasonable explanation for overexpenditure in the program. However, more information on the projected costs and actual costs associated with the two projects is necessary to determine if the extent of the overexpenditure is justified.

### **Compressor Stations (BC 435): Non-RAMP (A-80)**

Spending for this program was \$38,000 compared to an imputed adopted cost of \$3.1 million, an **underexpenditure** of approximately 99 percent.

Work for this program includes the upgrading and replacement of outdated control technology necessary for efficient station operations.

The variance is attributed to integrity assessments that determined that the full replacement of discharge piping initially planned for the Cooper Discharge Piping Relocation Project was unnecessary. Instead, the scope of the project was changed to an upgrade of the pipeline coating.

Staff finds this rationale as a reasonable explanation for the underspending in the activity.

## **SDG&E Balanced Programs Direct O&M Costs**

### **Wildfire Mitigation Program: Drone Inspection Program (A-119)**

Spending for this program was \$33.0 million, despite an imputed adopted cost of \$0.

Work for this program includes the performing drone flights for the purpose of capturing images of utility assets, assessing the images, performing minor repairs, and maintenance to continue running machine learning models that review the images for infractions.

The variance is attributed to the program being submitted in a Wildfire Mitigation Plan required by SB 901 after SDG&E had filed its TY 2019 GRC Application. SDG&E credits the program with accelerating the typical 5-year inspection cycle to 4 years in Tier 2 and Tier 3 HFTD, as well as in some Wildland Urban Interface areas. SDG&E also attributes the program with improving inspectors' ability to identify damages beyond what would be possible using traditional inspection techniques.

Staff identifies this rationale as a reasonable explanation for variance in the activity. However, to adequately determine if the costs associated are appropriate, SDG&E must provide assessments of expected costs if these same areas were to be inspected using traditional methods to establish a baseline against which to compare.

## SDG&E Balanced Programs Direct Capital Costs

### Overhead System Hardening: System Hardening (A-133)

Spending for this program was \$132.7 million compared to an imputed adopted cost of \$56.5 million, an **overexpenditure** of approximately 135 percent. This contrasts with an increase of only 22 percent in hardened circuit miles.

Work for this program includes addressing aged conductor, aged splices, overloaded poles, and other conditions known to pose a risk in fire-prone areas. These projects replace this equipment with hardware designed and constructed in accordance to updated regulatory requirements seeking to reduce fire risk.

SDG&E attributes the variance to the consolidation of multiple fire hardening programs, namely Traditional Hardening and Covered Conductor, into a single program. SDG&E also explains the discrepancy between the overexpenditure and the smaller increase in hardened circuit miles as being driven by engineering, design, surveying, and project management costs included in the 2021 actuals that is necessary for projects that will see construction in following years.

At this time, staff is unable to determine if the rationale provided for the overexpenditure is reasonable. Given the explanation that the variance is driven by work on circuit miles that were not completed in 2021, SDG&E should provide a breakdown showing the costs associated with work on circuit miles that were completed in 2021, as well as costs associated with work on circuit miles that will be completed in following years, along with the projected circuit miles associated with this preparatory work.

### Local Engineering Pool – Substation: Non-RAMP (A-135)

Spending for this program was \$3.3 million compared to an imputed adopted cost of \$23.6 million, an **underexpenditure** of approximately 86 percent.

This program consists of the pool of planners, designers and engineers, and support personnel who address the engineering needs for substation projects. The pool also includes costs that will be allocated to electric distribution and transmission substation capital activities.

The variance is attributed to the overhead pools program being collectively balanced across the four electric distribution pools over the 2019-2021 cycle, as demonstrated in the table below.

**Table 3 – Overhead Pools Program Spending (2019-2021)**

WP Activity Description	RSAR Filing Year	Actual Recorded	Imputed Authorized	Variance
Local Engineering Pool – Electric Distribution	2021	143,736	84,060	59,676
Local Engineering Pool - Substation	2021	3,296	23,598	(20,302)
Department Overhead Pool	2021	18,306	5,605	12,701
Contract Admin Pool	2021	13,177	8,101	5,076
<b>2021 Total</b>		<b>178,515</b>	<b>121,364</b>	<b>57,151</b>
Local Engineering Pool – Electric Distribution	2020	96,978	81,447	15,531
Local Engineering Pool - Substation	2020	3,621	22,864	(19,243)
Department Overhead Pool	2020	10,390	5,431	4,959
Contract Admin Pool	2020	18,787	4,218	14,569
<b>2020 Total</b>		<b>129,776</b>	<b>113,960</b>	<b>15,816</b>
Local Engineering Pool – Electric Distribution	2019	92,587	103,574	(10,987)
Local Engineering Pool - Substation	2019	2,328	51,296	(48,968)
Department Overhead Pool	2019	10,924	7,594	3,330
Contract Admin Pool	2019	16,029	9,942	6,087
<b>2019 Total</b>		<b>121,868</b>	<b>172,406</b>	<b>(50,538)</b>
<b>GRC Cycle Total</b>		<b>430,159</b>	<b>407,730</b>	<b>22,429</b>

Staff identifies this rationale as a reasonable explanation for the underexpenditure in the activity. When aggregated across the four listed Overhead Pools Program the total variance for the 2019-2021 period is 5.5 percent.

## SoCalGas Gas Distribution

### Field Capital Support: Non-RAMP (B-14)

Spending for this program was \$99.1 million compared to an imputed adopted cost of \$70.9 million, an **overexpenditure** of approximately 40 percent.

Work in this program includes project planning, local engineering, clerical support, field dispatch, field management and supervision, and off-production time for support personnel and field crews who install Gas Distribution capital assets.

SoCalGas attributes the variance to higher than anticipated expenditures in the areas described above.

Staff does not find the rationale to be a sufficient explanation for the overexpenditure in the program. The variance explanation provided does not provide any useful information beyond repeating the fact that the program had an overexpenditure. It does not provide a description of the factors that caused the overexpenditure. When asked for clarification regarding what factors contributed to the higher than anticipated expenditures, SoCalGas did not provide any additional detail.

## SoCalGas Gas Transmission

### GT M&R Stations: Non-RAMP (B-65)

Spending for this program was \$50.5 million compared to an imputed adopted cost of \$18.2 million, an **overexpenditure** of approximately 177 percent.

Work in this program includes installing and rebuilding large meter set assemblies (MSAs) for transmission-served customers and pressure limiting stations on the gas transmission system. This sustains reliable operation of critical transmission assets.

The variance is attributed primarily due to overpressure protection upgrade projects at pressure limiting stations and Meter Set Assemblies in response to aging valves that required repairs and upgrades.

While staff identifies this rationale as a reasonable explanation for overexpenditure in the activity, further clarification is required from SoCalGas regarding the nature of the projects described in the variance explanation. Information such as the number of projects, the costs of these projects, whether these projects were included in the imputed adopted costs or found to be necessary after the 2019 TY GRC Decision, and what those imputed costs were if they were included in the imputed adopted costs will be necessary to determine if the extent of the overexpenditure is reasonable.

### GT Replacement Pipelines – RAMP: Gas Transmission (B-66)

Spending for this program was \$55.0 million compared to an imputed adopted cost of \$18.8 million, an **overexpenditure** of approximately 193 percent.

Work in this program includes the cost to plan, design, permit, acquire materials, construct, commission, and mitigate impacts for the replacement of pipelines fittings, valves, and associated pressure regulating stations and service lines. This program also includes projects to replace pipelines due to class location changes.

The variance is attributed to an increase in pipeline leak and exposure projects that address the potential of catastrophic pipeline failure. SoCalGas provided a cost breakdown of the 22 projects performed for the program, however it did not provide any units of measurement associated with the projects as it found that the variety of activities made doing so infeasible.

Staff is unable to determine if the rationale provided for the overexpenditure in the program is reasonable given the information provided. SoCalGas should provide further documentation explaining which projects were anticipated and which weren't, as well as what each anticipated project contributed to the imputed adopted cost.

## SoCalGas Pipeline Safety Enhancement Program (PSEP)

### PSEP Valve Projects – RAMP: Approved PSEP program to test or replace High Consequence Area High Pressure pipelines (B-80)

Spending for this program was \$42.9 million compared to an imputed adopted cost of \$74.3 M, and **underexpenditure** of approximately 42 percent.

Work in this program includes continued implementation of the Valve Enhancement Plan included in the overall PSEP approved by the Commission in D.14-06-007.

The underexpenditure is attributed to the cancellation of projects, as well as the acceleration or deferral of projects to years before or after 2021, respectively. The majority of cancellations were driven either by the pipeline segment no longer meeting PSEP requirements for automation, or else already having valves installed that fulfilled PSEP criteria.

Staff identifies this rationale as a reasonable explanation for the underexpenditure in the activity.

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

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Sempra RSAR Programs Ranked by Spending Variance

Rank	Company	Capital or O&M	GRC General Line of Business	WP Activity Description	RAMP Mitigation Activity	2021 Actuals (\$000)	2021 Imputed Authorized (\$000)	\$ Variance (\$000)	% Variance
1	SCG	Capital	4.B. Balanced Programs Direct Capital Expenses	DIMP	DIMP Programs - Medium Pressure Risk	207,827	45,853	161,974	353%
2	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Overhead System Hardening	System Hardening	132,705	56,516	76,189	135%
3	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	HFTD Undergrounding	Strategic Undergrounding	69,538	0	69,538	100%
4	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Local Engineering Pool - Electric Distribution	Non-RAMP	143,736	83,220	60,516	73%
5	SCG	Capital	4.B. Balanced Programs Direct Capital Expenses	TIMP - Trans	ILI & ECDA - cleaning and assessing internal conditions of high-pressure pipelines	104,401	49,756	54,645	110%
6	SCG	O&M	3.A. Balanced Program Direct O&M Expenses	TIMP	ILI & ECDA - cleaning and assessing internal conditions of high-pressure pipelines	103,841	50,258	53,583	107%
7	SCG	Capital	4.B. Balanced Programs Direct Capital Expenses	SIMP Total	Well Integrity Management inclusive of inspection of wells, plugging and abandonment, data management, etc.	87,231	41,057	46,175	112%
8	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	DIMP	DIMP DREAMS	58,261	19,435	38,825	200%
9	SDG&E	Capital	3.B. Information Technology & Cyber Security	IT - Enterprise - Application	Non-RAMP	44,124	6,681	37,443	560%
10	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IT WMP - Balanced	LTE Communication Network	49,902	13,509	36,392	269%
11	SCG	Capital	1.F. Gas Transmission	GT Replacement Pipelines - RAMP	Gas Transmission	55,042	18,840	36,202	192%
12	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Drone Inspection Program	33,048	0	33,048	100%
13	SCG	Capital	1.F. Gas Transmission	GT M&R Stations	Non-RAMP	50,482	18,176	32,306	178%
14	SCG	Capital	2.C. Support Services	Infrastructure & Improvements	Non-RAMP	52,327	21,815	30,512	140%
15	SCG	Capital	4.B. Balanced Programs Direct Capital Expenses	PSEP Memorandum Account	Approved PSEP program to test or replace High Consequence Area High Pressure pipelines	29,174	0	29,174	100%
16	SCG	Capital	4.B. Balanced Programs Direct Capital Expenses	PSEP Total	Approved PSEP program to test or replace High Consequence Area High Pressure pipelines	29,022	0	29,022	100%
17	SCG	Capital	1.A. Gas Distribution	Field Capital Support	Non-RAMP	99,115	70,862	28,253	40%
18	SCG	Capital	1.G. Underground Storage	GS Pipelines	Non-RAMP	33,902	6,320	27,582	436%
19	SCG	Capital	1.G. Underground Storage	GS Wells - RAMP Base - C1	Well replacements	46,923	19,530	27,393	140%
20	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Vegetation Management (Tree Trimming)	Programs to inspect and maintain trees in SDG&E's service territory that have the potential to encroach within the minimum required compliance distance between vegetation and overhead power lines.	52,195	25,420	26,775	105%
21	SDG&E	O&M	3.D. Administrative & General	SECC Outside Services Employees - F923.1	Non-RAMP	72,466	50,005	22,461	45%
22	SDG&E	Capital	1.B. Electric Generation	Palomar Adv Gas Path Overhaul	Non-RAMP	22,323	0	22,323	100%
23	SCG	Capital	1.F. Gas Transmission	GT M&R Stations - RAMP Base	Valve Maintenance and Installation	22,214	0	22,214	100%
24	SCG	Capital	1.G. Underground Storage	GS Auxiliary Equipment	Non-RAMP	37,358	18,594	18,763	101%
25	SDG&E	Capital	3.B. Information Technology & Cyber Security	IT - Enterprise - Infrastructure	Non-RAMP	23,662	5,649	18,013	319%
26	SCG	Capital	1.F. Gas Transmission	GT Compressor Stations (BC 335)	Non-RAMP	57,818	40,611	17,208	42%
27	SCG	Capital	1.A. Gas Distribution	Service Replacements	Non-RAMP	45,709	29,971	15,738	53%
28	SCG	Capital	1.A. Gas Distribution	New Business Construction	Non-RAMP	57,732	42,379	15,353	36%
29	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IT - Enterprise - Application	Centralized Repository for Data	15,071	0	15,071	100%
30	SCG	Capital	1.C. Gas Engineering	Supervision & Engineering Overhead Pool	Non-RAMP	19,463	4,828	14,635	303%
31	SCG	Capital	1.F. Gas Transmission	GT Compressor Stations (BC 315)	Non-RAMP	25,429	11,440	13,989	122%
32	SDG&E	Capital	1.A. Electric Distribution	Overhead Public Safety	Overhead distribution modernization and hardening	13,130	0	13,130	100%
33	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Backup Power for Resiliency	Microgrids	13,053	0	13,053	100%
34	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Department Overhead Pool	Non-RAMP	18,306	5,605	12,701	227%
35	SCG	Capital	1.A. Gas Distribution	Capital Tools & Equipment	Non-RAMP	19,870	7,196	12,673	176%
36	SCG	O&M	2.D. Administrative & General	SECC Outside Services Employees - F923.1	Non-RAMP	72,177	59,611	12,565	21%
37	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Drone Investigation Assessment And Repair	Distribution System Inspection Drone Inspections	12,386	0	12,386	100%



Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

38	SCG	Capital	1.F. Gas Transmission	Ventura Compressor Station Modernization	Non-RAMP	12,339	0	12,339	100%
39	SDG&E	Capital	2.A. Gas Distribution	GD Local Engineering Pool	Non-RAMP	13,746	1,498	12,248	818%
40	SCG	Capital	2.B. Information Technology & Cyber Security	IT Enterprise Infrastructure	Non-RAMP	48,320	36,899	11,421	31%
41	SDG&E	Capital	2.A. Gas Distribution	Replacements of Mains and Services - RAMP1	Early Vintage Steel Replacement	14,712	3,343	11,369	340%
42	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	AVIATION FIREFIGHTING PROGRAM	Grid Operations & Operating Protocols	10,461	0	10,461	100%
43	SDG&E	Capital	2.A. Gas Distribution	Replacements of Mains and Services - RAMP2	Early Vintage Threaded Main Removal	13,682	3,356	10,326	308%
44	SCG	O&M	1.A. Gas Distribution	Main Maintenance	Non-RAMP	27,402	17,571	9,832	56%
45	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Wildfire Communications	9,702	278	9,424	3394%
46	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Standby Power Programs	8,934	0	8,934	100%
47	SDG&E	Capital	2.A. Gas Distribution	Replacements of Mains and Services - RAMP4	Leak Repair	10,083	1,188	8,894	749%
48	SDG&E	Capital	2.A. Gas Distribution	Gas Contract Admin Pool	Non-RAMP	8,719	0	8,719	100%
49	SDG&E	Capital	2.D. Gas Transmission	Compressor Stations (BC 415)	Non-RAMP	10,299	2,006	8,293	413%
50	SCG	Capital	1.F. Gas Transmission	Gas Transmission Cathodic Protection - RAMP	Requirements for corrosion control	12,495	4,370	8,125	186%
51	SDG&E	Capital	2.A. Gas Distribution	Gas Department Overhead Pool	Non-RAMP	8,099	0	8,099	100%
52	SDG&E	Capital	2.D. Gas Transmission	Moreno Modernization Project	Non-RAMP	8,044	0	8,044	100%
53	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Resiliency Grant Programs	7,892	0	7,892	100%
54	SDG&E	Capital	3.B. Information Technology & Cyber Security	IT - Enterprise - Cyber - RAMP	Cybersecurity	10,976	3,229	7,747	240%
55	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Emergency Prep Trainings	9,165	1,776	7,389	416%
56	SDG&E	Capital	1.A. Electric Distribution	RAMP Base - DOE Switch/Manhole Replacement	Distribution Switch Maintenance Program	14,228	7,035	7,193	102%
57	SCG	Capital	1.G. Underground Storage	GS Wells - RAMP Base - C2	Well plug & abandon	25,327	18,331	6,996	38%
58	SDG&E	Capital	1.A. Electric Distribution	Fiber Optic for Relay Protect & Telecom	Non-RAMP	7,075	131	6,944	5305%
59	SCG	Capital	1.D. Major Projects	Distribution Operations Control Center (DOCC)	Gas Control Operation	11,603	4,902	6,701	137%
60	SDG&E	Capital	3.C. Support Services	Infrastructure & Reliability	Non-RAMP	12,558	5,861	6,697	114%
61	SDG&E	O&M	1.A. Electric Distribution	Electric Distribution Operations	Non-RAMP	26,111	19,500	6,612	34%
62	SCG	Capital	2.B. Information Technology & Cyber Security	IT Utility Operations Applications - RAMP	Employee, Contractor, Customer, and Public Safety	6,687	200	6,487	3240%
63	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Trans Fiber Links HFTD	LTE Communication Network	6,642	196	6,446	3283%
64	SDG&E	Capital	3.C. Support Services	Structures and Improvements	Non-RAMP	10,878	4,534	6,344	140%
65	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	HFTD Fuse Replacements	Expulsion Fuse Replacements	6,053	0	6,053	100%
66	SDG&E	Capital	1.B. Electric Generation	Desert Star Energy Ctr Oper. Enhance	Non-RAMP	9,879	3,966	5,913	149%
67	SDG&E	Capital	3.B. Information Technology & Cyber Security	IT - Enterprise - Application	Records Management	15,122	9,683	5,440	56%
68	SDG&E	Capital	1.A. Electric Distribution	RAMP Base — Annual Pole Reinforcement (Non-WMP)	GO165: Distribution Inspect and Repair program	12,709	7,419	5,289	71%
69	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Contract Admin Pool - RAMP Base	Administration of Projects performed by Contractors	13,177	8,101	5,076	63%
70	SDG&E	Capital	1.A. Electric Distribution	Planned Investments	Non-RAMP	4,907	0	4,907	100%
71	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Strategic Undergrounding	4,812	0	4,812	100%
72	SCG	O&M	2.E. Human Resources Dept, Safety, LTD & WC	SCG Director HR Services	Non-RAMP	7,914	3,235	4,680	145%
73	SDG&E	Capital	3.B. Information Technology & Cyber Security	IT - Enterprise - Application	Electric Infrastructure Integrity	4,580	0	4,580	100%
74	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Customer Services	Stakeholder Cooperation & Community Engagement	4,488	0	4,488	100%
75	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Fuels Management	4,416	0	4,416	100%
76	SCG	Capital	1.A. Gas Distribution	Regulator Stations - RAMP	Systems are in place to monitor and manage compliance activity schedules related to medium pressure.	4,184	35	4,149	11719%
77	SCG	O&M	3.A. Customer Services	Customer Services Field - Dispatch	Non-RAMP	14,066	9,948	4,117	41%
78	SCG	Capital	2.C. Support Services	Infrastructure & Improvements - RAMP	Physical Security	4,413	334	4,078	1220%
79	SDG&E	Capital	1.A. Electric Distribution	Management of Overhead Distribution Service	Management of Overhead Distribution Service (Non- CMP)	11,768	7,711	4,057	53%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

80	SDG&E	Capital	2.D. Gas Transmission	GT Replacements	Non-RAMP	4,052	0	4,052	100%
81	SCG	Capital	1.A. Gas Distribution	Meter Guards	Non-RAMP	7,046	3,069	3,976	130%
82	SCG	Capital	2.C. Support Services	Facility Energy Management Systems	Non-RAMP	4,017	84	3,933	4693%
83	SCG	O&M	2.C. Support Services	Facility Operations	Non-RAMP	22,170	18,241	3,930	22%
84	SDG&E	O&M	1.A. Electric Distribution	Service Order Team (SOT)	Non-RAMP	4,060	182	3,878	2130%
85	SDG&E	Capital	1.B. Electric Generation	Palomar Plant Operational Improvements	Non-RAMP	8,862	5,005	3,858	77%
86	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Wildfire Mitigation Personnel	3,823	0	3,823	100%
87	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Emergency Management Operations (PSPS)	3,793	0	3,793	100%
88	SCG	Capital	1.F. Gas Transmission	GT Auxiliary Equipment	Non-RAMP	7,446	3,670	3,776	103%
89	SCG	O&M	1.C. Gas Engineering	Gas Engineering Analysis Center, NGV and Electrical Field	Non-RAMP	10,653	6,934	3,719	54%
90	SDG&E	Capital	1.A. Electric Distribution	Electric Meters & Regulators	Non-RAMP	7,613	3,913	3,700	95%
91	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IT - Enterprise - Application	Data Governance (BC 208910)	3,691	0	3,691	100%
92	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Hotline Clamps	3,648	0	3,648	100%
93	SCG	Capital	1.G. Underground Storage	GS Pipelines - RAMP Base	Combat land movement through ground stabilization projects in both Gas Transmission and Gas Storage.	8,079	4,490	3,590	80%
94	SDG&E	Capital	3.E. Human Resources	Contractor Field Safety Management Pool	Field Safety Oversight	3,428	0	3,428	100%
95	SCG	Capital	1.A. Gas Distribution	Other Distribution Capital Projects	Non-RAMP	7,218	3,862	3,356	87%
96	SDG&E	Capital	1.A. Electric Distribution	SF6 Switch Replacement	Replace with new technology	6,958	3,606	3,352	93%
97	SCG	O&M	1.F. Gas Transmission	Technical Services	ROW - Maintenance & Routine	5,015	1,693	3,322	196%
98	SCG	Capital	1.A. Gas Distribution	Pipeline Relocations - Franchise	Non-RAMP	24,398	21,133	3,265	15%
99	SCG	Capital	4.B. Balanced Programs Direct Capital Expenses	TIMP	TIMP Programs & records management	4,578	1,386	3,192	230%
100	SDG&E	Capital	1.A. Electric Distribution	RAMP Incremental - 4 kV Modernization - Distribution	Overhead distribution modernization and hardening	4,698	1,523	3,175	208%
101	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IT - Enterprise - Application	Emergency Management Operations	3,140	0	3,140	100%
102	SCG	O&M	1.F. Gas Transmission	Pipeline Operations	Maintenance - Valve, Meters, Pipe, PLS, Regulators, etc.	7,710	4,576	3,133	68%
103	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	TIMP	Assessments of transmission pipelines in High Consequence Areas (49 CFR Part 192 Subpart O) to evaluate and remediate threats and minimize risk.	8,682	5,613	3,069	55%
104	SCG	O&M	1.A. Gas Distribution	Tools Fittings & Materials	Non-RAMP	12,029	8,962	3,067	34%
105	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Locate & Mark	Training Locate & Mark Activities Prevention and Improvements	7,112	4,060	3,052	75%
106	SDG&E	Capital	2.A. Gas Distribution	Cathodic Protection	Non-RAMP	4,410	1,550	2,859	184%
107	SCG	O&M	3.A. Customer Services	MSA Inspection Program	Non-RAMP	10,173	7,412	2,761	37%
108	SDG&E	Capital	1.A. Electric Distribution	Elect Transmission Line Reliability Projects	Non-RAMP	3,136	377	2,759	731%
109	SDG&E	Capital	2.A. Gas Distribution	Replacements of Mains and Services - RAMP5	EPOCH Planned Replacement of Pipe	4,208	1,528	2,679	175%
110	SCG	O&M	1.A. Gas Distribution	Field Support	Non-RAMP	17,267	14,606	2,661	18%
111	SCG	Capital	1.A. Gas Distribution	Main & Service Abandonments	Non-RAMP	11,898	9,279	2,619	28%
112	SDG&E	Capital	2.A. Gas Distribution	GD Local Engineering Pool	Operational QA/QC	2,865	258	2,607	1010%
113	SCG	Capital	1.G. Underground Storage	GS Wells - RAMP Base - C4	Well workovers	7,382	4,818	2,564	53%
114	SDG&E	Capital	1.A. Electric Distribution	Substation Mod to Support FLISR	Substation Modification To Support FLISR	2,511	0	2,511	100%
115	SDG&E	O&M	1.A. Electric Distribution	Substation C&O	Non-RAMP	7,575	5,071	2,504	49%
116	SDG&E	Capital	1.A. Electric Distribution	Orange County Long Range Plan - SOCRE	Non-RAMP	5,068	2,588	2,481	96%
117	SDG&E	Capital	1.A. Electric Distribution	Tee Modernization Program	Non-RAMP	4,584	2,104	2,480	118%
118	SCG	O&M	1.A. Gas Distribution	Field Support	Qualifications of Pipeline Personnel	4,994	2,677	2,317	87%
119	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL692 Horno Pulgas (Camp Pend)	Inspection Repair Maintenance & Replacement Programs	2,225	0	2,225	100%
120	SCG	O&M	3.B. Information Technology & Cyber Security	Identity & Access Management	Firewall Admin	2,195	0	2,195	100%
121	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TwinEngine Med Lift Helicopter	Aviation Firefighting Program	2,182	0	2,182	100%
122	SCG	O&M	3.B. Information Technology & Cyber Security	IT & Operational Technology Systems	Internal Defenses	2,061	0	2,061	100%
123	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	RAMP Base - Annual Pole Reinforcement (WMP)	GO165: Distribution Inspect and Repair program	13,180	11,129	2,051	18%
124	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IT - Enterprise - Application	Asset Management	2,047	0	2,047	100%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

125	SCG	Capital	1.F. Gas Transmission	Gas Transmission Relocations	Non-RAMP	10,741	8,696	2,044	24%
126	SCG	O&M	2.D. Administrative & General	Director of Risk	Non-RAMP	2,014	0	2,014	100%
127	SCG	O&M	3.A. Customer Services	Policy & Environmental Solutions NSS	Non-RAMP	3,034	1,025	2,009	196%
128	SCG	Capital	4.B. Balanced Programs Direct Capital Expenses	DIMP	DIMP Programs & records management	4,214	2,211	2,003	91%
129	SDG&E	Capital	2.A. Gas Distribution	Code Compliance	RAMP	3,197	1,220	1,977	162%
130	SCG	O&M	3.A. Customer Services	Business Strategy and Development	Non-RAMP	3,662	1,699	1,963	116%
131	SCG	Capital	1.F. Gas Transmission	GT Auxiliary Equipment - RAMP	Physical security measures put in place for the security/safety of employees and infrastructure	2,960	1,016	1,944	191%
132	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	PSPS Engineering Enhancements	PSPS Sectionalizing	1,904	0	1,904	100%
133	SCG	O&M	3.B. Information Technology & Cyber Security	CI Compute Provisioning SCG	Non-RAMP	2,596	723	1,873	259%
134	SDG&E	O&M	3.B. Information Technology & Cyber Security	Network/Telecom Services - SDG&E	Non-RAMP	8,556	6,683	1,873	28%
135	SDG&E	Capital	1.A. Electric Distribution	High Risk Switch Replacement Project	Distribution Overhead Switch Replacement Program	1,872	0	1,872	100%
136	SCG	Capital	1.A. Gas Distribution	Capital Tools & Equipment - RAMP	Confined space air monitoring system for field personnel	2,130	272	1,858	682%
137	SCG	O&M	3.A. Balanced Program Direct O&M Expenses	Research Development and Demonstration (RD&D) Technology Dev	Non-RAMP	18,037	16,181	1,856	11%
138	SCG	Capital	2.B. Information Technology & Cyber Security	IT Utility Operations Applications	Non-RAMP	3,070	1,243	1,828	147%
139	SCG	O&M	3.A. Customer Services	CI-Customer Segment Services	Non-RAMP	13,216	11,391	1,825	16%
140	SCG	O&M	3.A. Customer Services	MSA Inspection Program	Gas Facility and Pipeline Inspections	15,146	13,335	1,811	14%
141	SDG&E	O&M	3.B. Information Technology & Cyber Security	Director IT Infrastructure	Non-RAMP	3,038	1,234	1,804	146%
142	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Lightning Arrestor Replacement Program	Inspection Repair Maintenance & Replacement Programs	1,795	0	1,795	100%
143	SCG	O&M	1.A. Gas Distribution	Locate & Mark	Non-RAMP	1,789	43	1,746	4019%
144	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Supervision & Training	Non-RAMP	3,609	1,878	1,732	92%
145	SCG	O&M	1.A. Gas Distribution	Locate & Mark	QA Job Observations Field Rides and Job Monitoring	3,481	1,783	1,698	95%
146	SCG	Capital	1.A. Gas Distribution	Main Replacements - RAMP	Contracting for Traffic Control Delineation materials	4,169	2,473	1,696	69%
147	SDG&E	Capital	3.C. Support Services	Environmental/Safety Blanket	Non-RAMP	1,835	165	1,670	1012%
148	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Fire Science & Climate Adaptation	6,028	4,420	1,608	36%
149	SCG	O&M	3.A. Balanced Program Direct O&M Expenses	DIMP	DIMP Programs (e.g., DREAMS, GIPP)	45,056	43,490	1,565	4%
150	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Service Maintenance	Emergent Leak Repair	1,557	0	1,557	100%
151	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Safety, Wellness & Disability Services	Non-RAMP	1,550	0	1,550	100%
152	SCG	O&M	2.E. Human Resources Dept, Safety, LTD & WC	SCG CEO President & COO and Chief of Human Resources & CAO	Non-RAMP	3,402	1,861	1,541	83%
153	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL6926 Rincon to Valley Center Fire Hardening	OH Trans Fire Hardening Dist Underbuild	1,536	0	1,536	100%
154	SDG&E	Capital	2.A. Gas Distribution	GD Local Engineering Pool	RAMP Geographic Information System Group	1,533	0	1,533	100%
155	SDG&E	Capital	2.A. Gas Distribution	Regulator Station Improvements and Other - RAMP3	Improvements	2,925	1,398	1,527	109%
156	SDG&E	Capital	2.A. Gas Distribution	Tools and Equipment	Non-RAMP	3,469	1,957	1,512	77%
157	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Microgrids	1,492	0	1,492	100%
158	SCG	O&M	1.D. Gas Major Projects	Project & Construction Management	Non-RAMP	1,679	228	1,451	637%
159	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Meteorology - Fire Science Enhancements	WRRM - OPS	1,446	0	1,446	100%
160	SDG&E	Capital	1.A. Electric Distribution	Power Quality Program	Power Quality Monitor Deployment and Replacement	1,446	0	1,446	100%
161	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Vegetation Management (Pole Brushing)	Safety Policies & Programs	5,555	4,155	1,400	34%
162	SDG&E	Capital	2.A. Gas Distribution	New Business	New Business: Field and Public Safety - CSF Orders related to Public Safety	1,365	0	1,365	100%
163	SDG&E	Capital	1.A. Electric Distribution	Borrego Microgrid 3.0	Non-RAMP	2,450	1,090	1,360	125%
164	SCG	O&M	1.A. Gas Distribution	Operations And Management	Non-RAMP	8,621	7,333	1,288	18%
165	SDG&E	O&M	3.C. Support Services	SDG&E Rents & Maintenance	Non-RAMP	19,707	18,420	1,287	7%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

166	SDG&E	Capital	1.A. Electric Distribution	Artesian 230kV Substation Expansion	Substation Reliability For Distribution Components - Proactive	1,264	0	1,264	100%
167	SDG&E	Capital	1.A. Electric Distribution	Mission 12kV Replacements	Mission 12kV Replacements	1,241	0	1,241	100%
168	SDG&E	Capital	1.B. Electric Generation	Palomar Green Hydrogen Systems	Non-RAMP	1,224	0	1,224	100%
169	SDG&E	Capital	1.A. Electric Distribution	Emergency Substation Equipment	Emergency Transformer and Switchgear	1,728	505	1,222	242%
170	SCG	Capital	1.D. Major Projects	Distribution Operations Control Center (DOCC)	Non-RAMP	4,131	2,935	1,196	41%
171	SDG&E	Capital	2.D. Gas Transmission	GT M&R Stations	Non-RAMP	1,756	564	1,192	212%
172	SCG	O&M	1.A. Gas Distribution	Tools Fittings & Materials	PPE and Safety Equipment - Company wide purchases of personal protective equipment (PPE)	1,913	750	1,163	155%
173	SCG	O&M	1.F. Gas Transmission	Technical Services	Non-RAMP	1,488	330	1,158	351%
174	SDG&E	Capital	1.A. Electric Distribution	Electric Distribution Easements	Non-RAMP	2,766	1,612	1,154	72%
175	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	LIDAR Flights	1,151	0	1,151	100%
176	SDG&E	Capital	2.A. Gas Distribution	Regulator Station Improvements and Other - RAMP1	Improvements	3,935	2,796	1,139	41%
177	SDG&E	Capital	1.A. Electric Distribution	Poway Substation Rebuild	Poway 69kV Substation Rebuild	1,382	252	1,130	449%
178	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	WMP AFN Customer Support	1,127	0	1,127	100%
179	SDG&E	O&M	3.B. Information Technology & Cyber Security	Network Communication Services Director	Non-RAMP	1,157	38	1,119	2955%
180	SCG	Capital	1.A. Gas Distribution	New Business - RAMP	MSA Inspections- Customer Service Initial Turn-Ons	3,318	2,210	1,108	50%
181	SDG&E	O&M	1.A. Electric Distribution	Distribution and Engineering	Safety Policies & Programs	1,999	913	1,086	119%
182	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IT - Enterprise - Application	Communication Practices	1,083	0	1,083	100%
183	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Data Governance	1,082	0	1,082	100%
184	SDG&E	O&M	3.B. Information Technology & Cyber Security	Middleware and Internet Engineering	Non-RAMP	1,716	640	1,077	168%
185	SCG	O&M	1.E. Gas System Integrity	Business Process Enterprise System Support (ESS) Implementation and ESS Mobile Solution	Information Management System	1,198	125	1,073	858%
186	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Main Maintenance	Emergent RAMP (GED)	1,017	0	1,017	100%
187	SCG	O&M	1.A. Gas Distribution	Cathodic Protection	Gas Facility and Pipeline Inspections	2,018	1,002	1,016	101%
188	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Service Maintenance	Emergent RAMP (GED)	1,014	0	1,014	100%
189	SDG&E	Capital	2.A. Gas Distribution	System Minor Additions, Relocations, & Retirements	Non-RAMP	5,409	4,395	1,014	23%
190	SCG	Capital	1.A. Gas Distribution	Field Capital Support - RAMP	Systems are in place to monitor and manage compliance activity schedules	1,103	95	1,008	1055%
191	SDG&E	O&M	3.B. Information Technology & Cyber Security	Service Delivery - NCS	Non-RAMP	1,861	862	999	116%
192	SCG	O&M	1.E. Gas System Integrity	Gas Operations Training & Development	Qualifications of Pipeline Personnel - HP	1,130	135	995	738%
193	SCG	O&M	1.A. Gas Distribution	Asset Management	Non-RAMP	8,960	7,965	995	12%
194	SDG&E	Capital	1.A. Electric Distribution	12kV Substation Reliability	Non-RAMP	995	0	995	100%
195	SCG	O&M	1.E. Gas System Integrity	Gas Operations Training & Development	Locate & Mark Activities	1,150	160	990	620%
196	SDG&E	O&M	1.A. Electric Distribution	System Protection	Non-RAMP	3,037	2,051	986	48%
197	SCG	O&M	1.E. Gas System Integrity	Business Process Enterprise System Support (ESS) Implementation and ESS Mobile Solution	Non-RAMP	1,200	217	983	453%
198	SCG	O&M	1.E. Gas System Integrity	Gas Operations Training & Development	Employee Skills Training	2,800	1,817	983	54%
199	SCG	O&M	1.E. Gas System Integrity	Gas Operations Training & Development	Qualifications of Pipeline Personnel - MP	2,500	1,533	967	63%
200	SDG&E	O&M	1.C. Electric & Fuel Procurement	Mid and Back Office	Non-RAMP	4,919	3,964	955	24%
201	SDG&E	O&M	3.B. Information Technology & Cyber Security	Security Operations	Cybersecurity risk and vulnerability	2,918	1,974	944	48%
202	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Asset Management & Inspections	938	0	938	100%
203	SDG&E	O&M	3.B. Information Technology & Cyber Security	Critical Infrastructure Protection	Cybersecurity risk and vulnerability	4,017	3,103	914	29%
204	SCG	O&M	3.B. Information Technology & Cyber Security	IT Information Security SCG	Firewall Admin	1,703	802	901	112%
205	SDG&E	Capital	3.C. Support Services	Security Systems	Physical Security Systems	5,061	4,185	876	21%
206	SDG&E	O&M	3.B. Information Technology & Cyber Security	Security Engineering	Cybersecurity risk and vulnerability	2,487	1,611	875	54%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

207	SCG	O&M	3.A. Customer Services	Customer Services Field - Support	Employee Skills Training and QA inspections	4,838	3,980	858	22%
208	SCG	O&M	1.E. Gas System Integrity	Asset Management	Operational Compliance and Oversight	1,200	353	847	240%
209	SCG	O&M	1.D. Gas Major Projects	Project Controls And Estimating	Non-RAMP	982	142	840	594%
210	SCG	O&M	1.G. Underground Storage	Underground Storage	Maintenance of high-pressure storage lines	3,942	3,125	817	26%
211	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Helicopter HD/IR Cameras	Aviation Firefighting Program	817	0	817	100%
212	SDG&E	Capital	2.A. Gas Distribution	GD Local Engineering Pool	Local Engineering overhead costs associated with large RAMP proposed projects	4,729	3,920	809	21%
213	SDG&E	Capital	2.A. Gas Distribution	Meters and Regulator Materials	Non-RAMP	8,375	7,568	806	11%
214	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Supervision & Training	Improvements	1,167	364	803	221%
215	SDG&E	Capital	1.A. Electric Distribution	Vista Fuel Cell	Non-RAMP	782	0	782	100%
216	SCG	O&M	2.C. Support Services	Facility Operations	Physical Security	794	18	776	4346%
217	SDG&E	O&M	1.A. Electric Distribution	Electric Distribution Operations	Records Management	3,051	2,279	773	34%
218	SDG&E	Capital	1.A. Electric Distribution	Advanced Energy Storage	Non-RAMP	7,038	6,284	754	12%
219	SCG	O&M	1.E. Gas System Integrity	Gas Operations Training & Development	Non-RAMP	2,192	1,447	745	52%
220	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Resiliency Assistance Programs	745	0	745	100%
221	SDG&E	Capital	1.A. Electric Distribution	TL600 - Reliability Pole Replacements	Non-RAMP	741	0	741	100%
222	SDG&E	O&M	2.D. Gas Transmission	Pipeline Operations	M&R (Maint. & Insp.)	747	8	739	8779%
223	SDG&E	O&M	2.D. Gas Transmission	Pipeline Operations	Pipeline Patrol & Maintenance	750	22	728	3297%
224	SCG	O&M	3.A. Customer Services	CI-Customer Strategy and Engagement -	Non-RAMP	8,763	8,043	721	9%
225	SDG&E	Capital	1.A. Electric Distribution	12KV Substation Reliability	Torrey Pines 12KV Breaker Replacements	720	0	720	100%
226	SDG&E	O&M	3.B. Information Technology & Cyber Security	Identity & Access Management	Cybersecurity risk and vulnerability	719	0	719	100%
227	SDG&E	Capital	2.D. Gas Transmission	GT Cathodic Protection	Requirements for corrosion control.	961	242	719	297%
228	SCG	Capital	2.B. Information Technology & Cyber Security	Customer Services	Non-RAMP	1,730	1,016	714	70%
229	SCG	O&M	1.E. Gas System Integrity	ESS Production Support	Information Management Systems	808	114	694	612%
230	SCG	Capital	1.A. Gas Distribution	Other Distribution Capital Projects - RAMP	Systems are in place to monitor and manage compliance activity schedules- Maintenance and Inspection of Medium Pressure Valves	682	9	673	7518%
231	SDG&E	Capital	1.A. Electric Distribution	Proactive Dead Front Terminator Deploy	Replacement of Live Front Equipment - Proactive	648	0	648	100%
232	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Risk Assessment & Mapping	608	0	608	100%
233	SCG	Capital	2.C. Support Services	Safety/Environmental	Non-RAMP	2,196	1,589	606	38%
234	SCG	O&M	1.E. Gas System Integrity	Policy Quality Assurance Cntl Effective	Non-RAMP	592	0	592	100%
235	SDG&E	Capital	1.A. Electric Distribution	Streamview 69/12KV Sub Rebuild-Pre Eng	Non-RAMP	616	33	583	1757%
236	SCG	O&M	3.B. Information Technology & Cyber Security	Enterprise Monitoring	Non-RAMP	565	0	565	100%
237	SCG	O&M	1.F. Gas Transmission	Pipeline Operations	Corrosion Control Operation - Cathodic Protection	850	285	565	198%
238	SDG&E	O&M	1.A. Electric Distribution	Major Projects	Non-RAMP	660	117	542	462%
239	SDG&E	Capital	2.A. Gas Distribution	GD Local Engineering Pool	Gas Handling Plans RAMP	540	0	540	100%
240	SDG&E	Capital	3.C. Support Services	Misc. Equipment Blanket	Non-RAMP	2,335	1,796	540	30%
241	SDG&E	O&M	3.A. Customer Services	Customer Services Field - Operations	CSF Emergency Orders - include carbon monoxide, fumigation and hazardous and non hazardous gas leaks and atmospheric corrosion orders	5,766	5,231	535	10%
242	SDG&E	Capital	2.A. Gas Distribution	Cathodic Protection System Enhancement - RAMP	Cathodic Protection	2,919	2,385	534	22%
243	SDG&E	Capital	1.A. Electric Distribution	Urban Substation Rebuild	Substation Reliability For Distribution Components - Proactive	533	0	533	100%
244	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	PSPP Enhancements	Communication Practices	528	0	528	100%
245	SDG&E	O&M	3.C. Support Services	RE Planning-Mac	Non-RAMP	539	13	526	4146%
246	SDG&E	O&M	3.B. Information Technology & Cyber Security	Security Policy and Awareness	Cybersecurity risk and vulnerability	1,599	1,075	523	49%
247	SCG	O&M	3.B. Information Technology & Cyber Security	CI Standards	Non-RAMP	1,098	579	518	89%
248	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Covered Conductor	518	0	518	100%
249	SDG&E	O&M	1.A. Electric Distribution	Distribution and Engineering	Non-RAMP	949	433	515	119%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

250	SCG	O&M	1.E. Gas System Integrity	Asset Management	Non-RAMP	3,007	2,508	498	20%
251	SDG&E	O&M	3.A. Customer Services	CCC Support	Non-RAMP	3,507	3,032	474	16%
252	SDG&E	Capital	1.A. Electric Distribution	Rebuilding of Skills Training Yard	Non-RAMP	468	0	468	100%
253	SCG	O&M	3.B. Information Technology & Cyber Security	CI Compute Support SCG	Non-RAMP	1,641	1,177	464	39%
254	SCG	O&M	3.A. Customer Services	Clean Transportation - Customer Outreach	Non-RAMP	1,998	1,538	460	30%
255	SCG	O&M	2.D. Administrative & General	Chief Risk Officer	Non-RAMP	443	0	443	100%
256	SCG	O&M	1.F. Gas Transmission	Pipeline Operations	Odorization of Natural Gas	553	114	439	387%
257	SDG&E	Capital	1.A. Electric Distribution	TL674A Del Mar Reconfigure/TL666D RFS	Non-RAMP	436	0	436	100%
258	SDG&E	O&M	2.D. Gas Transmission	Compression Station Operations	Non-RAMP	3,959	3,536	424	12%
259	SDG&E	Capital	1.A. Electric Distribution	CBM - 4.2 Firmware Upgrade for Transformers	Non-RAMP	405	0	405	100%
260	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Vegetation Restoration Initiative	393	0	393	100%
261	SDG&E	Capital	1.A. Electric Distribution	RAMP - Substation SCADA Expansion-Distribution	Distribution Substation SCADA Expansion	796	403	393	97%
262	SDG&E	Capital	1.A. Electric Distribution	C1450 MTO: New 12KV Circuit	Non-RAMP	632	244	388	159%
263	SCG	O&M	1.B. Gas Control & System Operations	Gas Control & SCADA Operation Group - USS	Fatigue Management	873	487	386	79%
264	SDG&E	O&M	3.A. Customer Services	Customer Services Field - Support	Non-RAMP	3,168	2,785	383	14%
265	SDG&E	Capital	1.A. Electric Distribution	Field Shunt Capacitors	Non-RAMP	1,109	727	382	52%
266	SDG&E	O&M	3.B. Information Technology & Cyber Security	Field Force Program Delivery Team	Non-RAMP	440	62	378	613%
267	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL6916 Sycamore Canyon to Scripps Wood to Steel	OH Trans Fire Hardening Dist Underbuild	427	52	375	725%
268	SDG&E	Capital	1.A. Electric Distribution	Avocado Sub 69KV Rebuild	Non-RAMP	373	0	373	100%
269	SDG&E	Capital	2.A. Gas Distribution	Regulator Station Improvements and Other - RAMP2	Improvements	3,668	3,298	371	11%
270	SDG&E	Capital	1.A. Electric Distribution	Distribution System Capacity Improvement	Non-RAMP	2,440	2,070	369	18%
271	SDG&E	O&M	1.A. Electric Distribution	Technology Utilization	Non-RAMP	1,760	1,395	365	26%
272	SCG	O&M	2.E. Human Resources Dept, Safety, LTD & WC	SCG Director Org Effectiveness	Non-RAMP	2,168	1,803	365	20%
273	SDG&E	Capital	3.C. Support Services	Archibus Business Systems Improvements	Non-RAMP	1,660	1,298	362	28%
274	SDG&E	Capital	1.A. Electric Distribution	Electric Transmission Tools/Equipment	Non-RAMP	358	0	358	100%
275	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IT - Enterprise - Application	Emergency Planning & Preparedness	349	0	349	100%
276	SDG&E	Capital	1.A. Electric Distribution	12kV Substation Reliability	El Cajon 12kV Breaker Replacements	346	0	346	100%
277	SDG&E	O&M	2.A. Gas Distribution	Measurement & Regulation	Scheduled monitoring and survey activities	3,070	2,732	338	12%
278	SCG	O&M	3.B. Information Technology & Cyber Security	IT Telecom PMO	Non-RAMP	437	106	331	311%
279	SDG&E	O&M	2.A. Gas Distribution	Measurement & Regulation	Non-RAMP	2,396	2,067	329	16%
280	SCG	O&M	3.A. Customer Services	CCC - Operations	CSR Training, Quality Observations, CCC Safety Committee Liaison	587	260	327	126%
281	SCG	Capital	1.A. Gas Distribution	Other Distribution Capital Projects - RAMP	Valve Maintenance and Installation (Distribution High Pressure)	352	26	326	1254%
282	SDG&E	O&M	3.B. Information Technology & Cyber Security	Customer Analytics System	Non-RAMP	871	546	324	59%
283	SDG&E	O&M	3.B. Information Technology & Cyber Security	Client Technology & Depot Services	Non-RAMP	2,182	1,860	322	17%
284	SDG&E	Capital	1.A. Electric Distribution	TL6975- Escondido - San Marcos	Transmission OH Reliability Projects	319	0	319	100%
285	SDG&E	O&M	3.C. Support Services	Facilities Operations South Manager	Non-RAMP	869	552	317	57%
286	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Leak Survey	Maintenance	2,175	1,871	305	16%
287	SDG&E	O&M	3.B. Information Technology & Cyber Security	Information Security Programs	Cybersecurity risk and vulnerability	323	25	298	1196%
288	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Safety, Wellness & Disability Services	Safety Training, Workshops and campaigns	1,716	1,429	287	20%
289	SCG	O&M	1.B. Gas Control & System Operations	Gas Control & SCADA Operation Group - USS	Gas Control Operation	2,109	1,830	279	15%
290	SDG&E	Capital	2.A. Gas Distribution	Regulator Station Improvements and Other - RAMP4	Improvements	893	614	279	45%
291	SCG	O&M	1.E. Gas System Integrity	Safety Excellence Management System	Non-RAMP	279	0	279	100%
292	SDG&E	O&M	1.A. Electric Distribution	Distribution and Engineering	Workforce Planning	507	231	275	119%
293	SDG&E	Capital	2.B. Gas Engineering	GT Capital Tools	Non-RAMP	369	99	270	274%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

294	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL6912 Wood to Steel Pole Replacement - RAMP Incremental	Inspection Repair Maintenance & Replacement Programs	267	0	267	100%
295	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Tools Fittings & Materials	Emergent RAMP PPE	266	0	266	100%
296	SCG	Capital	1.A. Gas Distribution	New Business Construction - Trench Reimbursements	Non-RAMP	970	705	266	38%
297	SDG&E	Capital	3.C. Support Services	Environmental/Safety Blanket	Facility improvements necessary to comply with safety and environmental code or regulations and also to implement best practices towards mitigating risk to either the environment or safety of employees or the public.	1,833	1,571	262	17%
298	SCG	Capital	1.G. Underground Storage	GS Wells - RAMP Base - C7	Wells blanket projects	1,063	807	256	32%
299	SDG&E	Capital	2.A. Gas Distribution	Regulator Station Improvements and Other	RAMP	645	399	246	62%
300	SDG&E	O&M	3.B. Information Technology & Cyber Security	IT Serv Contin Mgmt	Non-RAMP	244	0	244	100%
301	SDG&E	Capital	1.A. Electric Distribution	RAMP Incremental Capital Restoration of Service	Capital improvements	10,817	10,573	243	2%
302	SDG&E	O&M	3.B. Information Technology & Cyber Security	Bi & Analytics Engineering-SAS Contracts	Non-RAMP	5,651	5,414	237	4%
303	SCG	O&M	1.I. Gas Acquisition	Gas Acquisition	Non-RAMP	5,075	4,839	236	5%
304	SCG	O&M	1.E. Gas System Integrity	Field Technologies	Non-RAMP	703	471	232	49%
305	SDG&E	O&M	1.A. Electric Distribution	Grid Operations	Non-RAMP	865	639	226	35%
306	SDG&E	Capital	1.A. Electric Distribution	12kV Substation Reliability	Granite 12kV Breaker & Switchgear Replacements	226	0	226	100%
307	SDG&E	O&M	3.B. Information Technology & Cyber Security	Infrastructure Portf	Non-RAMP	225	0	225	100%
308	SCG	O&M	1.A. Gas Distribution	Measurement & Regulation	Maintenance - Inspect meters, regulators, and gauges to evaluate and confirm overpressure protection is in place and maintained.	1,811	1,588	223	14%
309	SCG	O&M	3.A. Customer Services	Planning & Legislative Analysis	Non-RAMP	464	250	215	86%
310	SDG&E	Capital	2.B. Gas Engineering	GT Supervision & Engineering Pool	Non-RAMP	336	122	214	175%
311	SCG	O&M	1.B. Gas Control & System Operations	Energy Markets & Capacity Products - Manager	Non-RAMP	906	697	209	30%
312	SDG&E	O&M	3.C. Support Services	RB Data Center	Non-RAMP	658	449	209	46%
313	SDG&E	O&M	3.B. Information Technology & Cyber Security	SVP & CITO	Non-RAMP	691	483	209	43%
314	SDG&E	Capital	2.B. Gas Engineering	GT Auxiliary Equipment (BC 419)	Non-RAMP	230	30	200	660%
315	SCG	O&M	1.E. Gas System Integrity	Damage Prevention Strategies	Non-RAMP	183	0	183	100%
316	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Main Maintenance	Safety Policies & Programs	1,602	1,421	181	13%
317	SDG&E	O&M	3.B. Information Technology & Cyber Security	Software Dev - Work Meas Systems	Non-RAMP	545	365	180	49%
318	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Organizational Effectiveness	Supervisor Effectiveness Training	291	113	178	159%
319	SCG	O&M	3.B. Information Technology & Cyber Security	IT Infra PMO	Non-RAMP	178	0	178	100%
320	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IR Flir Monocular	Inspection Repair Maintenance & Replacement Programs	175	0	175	100%
321	SCG	O&M	1.E. Gas System Integrity	ESS Production Support	Non-RAMP	806	641	165	26%
322	SCG	O&M	2.D. Administrative & General	Accounting Systems & Compliance	Non-RAMP	495	333	162	49%
323	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Ramp Base - Install SCADA On-Line Capacitors	Expand and Maintain Distribution Advanced SCADA infrastructure	1,945	1,784	161	9%
324	SCG	O&M	2.D. Administrative & General	Oper Risk Mgmt-Scg	Non-RAMP	492	331	161	49%
325	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IT - Enterprise - Application	Resource Allocation Methodology	159	0	159	100%
326	SDG&E	Capital	1.A. Electric Distribution	Mission Substation 230kV Rebuild	Non-RAMP	158	0	158	100%
327	SCG	O&M	2.E. Human Resources Dept, Safety, LTD & WC	SCG Director Safety & Wellness	Non-RAMP	782	626	156	25%
328	SCG	O&M	3.A. Balanced Program Direct O&M Expenses	Pipeline Safety Enhancement Program	Approved PSEP program to test or replace High Consequence Area High Pressure pipelines	151	0	151	100%
329	SDG&E	O&M	3.A. Customer Services	Advanced Metering Ops	Job Observation and Behavior Based Safety.	192	42	150	356%
330	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL690E - Camp Pendleton - Wood to Steel	Inspection Repair Maintenance & Replacement Programs	146	0	146	100%
331	SDG&E	Capital	1.A. Electric Distribution	RAMP Base - Replacement of Live Front Equipment	Live Front Transformer and Terminator Replacement	832	689	143	21%
332	SCG	O&M	2.C. Support Services	Director	Non-RAMP	268	131	137	104%
333	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL13831 Wood to Steel Replacement (Talega - Rancho Mission Viejo)	Inspection Repair Maintenance & Replacement Programs	133	0	133	100%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

334	SDG&E	O&M	3.C. Support Services	Land Services	Non-RAMP	908	780	128	16%
335	SDG&E	Capital	1.A. Electric Distribution	RAMP Base - Avian Protection Program	Non-RAMP	1,762	1,635	127	8%
336	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL695/6971 Talega-Cristianitos Japanese (Camp Pend)	OH Trans Fire Hardening Dist Underbuild	126	0	126	100%
337	SCG	O&M	2.C. Support Services	Facility Operations	Additional Security Guards	1,023	901	122	14%
338	SDG&E	Capital	1.A. Electric Distribution	Substation Security Proj under \$500K	Non-RAMP	119	0	119	100%
339	SCG	O&M	1.C. Gas Engineering	Dir Eng & Tech Services	Non-RAMP	691	574	117	20%
340	SDG&E	O&M	3.D. Administrative & General	Operations Cost Center -USS- Controllers-Business Controls	Non-RAMP	387	273	114	42%
341	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Transmission DIAR UAS Purchase	Aviation Firefighting Program	113	0	113	100%
342	SCG	O&M	2.C. Support Services	Environmental	SoCalGas Environmental Training	909	796	113	14%
343	SCG	O&M	1.C. Gas Engineering	Engineering Design Management Process Engineering & Design	Information Management Systems	359	249	110	44%
344	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL691 Avo-Mon Wood to Steel RAMP Incremental	Inspection Repair Maintenance & Replacement Programs	109	0	109	100%
345	SDG&E	O&M	3.B. Information Technology & Cyber Security	SSDS Project Office	Non-RAMP	838	734	103	14%
346	SDG&E	O&M	3.B. Information Technology & Cyber Security	Director - Information Security	Cybersecurity risk and vulnerability	513	412	101	24%
347	SCG	O&M	1.A. Gas Distribution	Field Services Leadership & Operations Assessment	Non-RAMP	409	311	98	31%
348	SCG	O&M	1.B. Gas Control & System Operations	Gas Control & SCADA Operation Group - USS	SCADA Operation	1,186	1,089	97	9%
349	SCG	O&M	2.C. Support Services	Amortization	Zero Emission Vehicles & Renewable Natural Gas Vehicles	96	0	96	100%
350	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL13838 Wood to Steel Replacement (Magarita - Rancho Mission Viejo)	OH Trans Fire Hardening Dist Underbuild	93	0	93	100%
351	SDG&E	Capital	1.A. Electric Distribution	Datamation Secure Cabinet	Non-RAMP	93	0	93	100%
352	SCG	O&M	1.B. Gas Control & System Operations	Emergency Services	Non-RAMP	225	134	91	68%
353	SDG&E	O&M	3.B. Information Technology & Cyber Security	SDG&E Network Engineering	Non-RAMP	395	308	87	28%
354	SDG&E	Capital	1.A. Electric Distribution	Distribution Circuit Reliability Construction - RAMP	Expand and Maintain Distribution Advanced SCADA infrastructure	4,260	4,179	82	2%
355	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL639 Wood to Steel Replacement	Inspection Repair Maintenance & Replacement Programs	81	0	81	100%
356	SCG	O&M	1.A. Gas Distribution	Main Maintenance	Maintenance - Valve Inspection and Maintenance (From Field Support)	1,013	933	80	9%
357	SCG	O&M	1.B. Gas Control & System Operations	Gas Transmission Planning	Non-RAMP	861	783	77	10%
358	SCG	O&M	1.B. Gas Control & System Operations	Storage Products Manager	Non-RAMP	250	179	71	40%
359	SCG	Capital	1.F. Gas Transmission	GT Compressor Stations (BC 305)	Non-RAMP	279	214	66	31%
360	SDG&E	Capital	1.A. Electric Distribution	Blue Hornet Solar	Non-RAMP	63	0	63	100%
361	SCG	O&M	3.A. Customer Services	CS Field Staff Manager	Non-RAMP	613	550	63	11%
362	SDG&E	O&M	3.A. Customer Services	Customer Services Field - Support	Field observations of employee and contractor activities and safety behaviors	146	84	62	74%
363	SDG&E	Capital	1.A. Electric Distribution	Non-HFTD WFI	Non-HFTD Wireless Fault Indicator	62	0	62	100%
364	SCG	O&M	2.C. Support Services	Environmental	Investigation of environmental exposure incidents	569	509	60	12%
365	SCG	Capital	1.A. Gas Distribution	Field Capital Support - RAMP	Med Pressure Company Crew Inspections	119	60	59	99%
366	SCG	O&M	1.A. Gas Distribution	Field Support	QA Job Observations Field Rides and Job Monitoring	123	65	58	89%
367	SDG&E	O&M	2.C. Gas System Integrity	Damage Prevention and Public Awareness	Non-RAMP	168	111	57	51%
368	SDG&E	Capital	1.A. Electric Distribution	Valley Center Renewable	Non-RAMP	56	0	56	100%
369	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	WMP Tribal Customer Support	54	0	54	100%
370	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IT - Enterprise - Application	Situational Awareness & Forecasting	54	0	54	100%
371	SDG&E	O&M	1.A. Electric Distribution	Distribution and Engineering	Records Management	98	45	53	119%
372	SDG&E	O&M	3.B. Information Technology & Cyber Security	Service Development Program Management	Non-RAMP	381	329	52	16%
373	SDG&E	O&M	3.A. Customer Services	Customer Services Field - Operations	Workforce Planning Technical Training for Critical Roles - Service Technicians and Appliance Mechanics backfill for retirements	104	57	47	83%
374	SDG&E	O&M	2.D. Gas Transmission	Pipeline Operations	Cathodic Protection	77	31	47	153%
375	SCG	O&M	1.C. Gas Engineering	Measurement Technologies	Non-RAMP	1,493	1,450	43	3%



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Sempra RSAR Programs Ranked by Spending Variance

376	SDG&E	Capital	1.A. Electric Distribution	Rugged Solar Farm	Non-RAMP	41	0	41	100%
377	SCG	Capital	1.F. Gas Transmission	Gas Transmission - Software	Non-RAMP	40	0	40	100%
378	SDG&E	O&M	3.A. Customer Services	Credit & Collections	Meter Tampering and meter bypass investigation and remediation.	310	271	39	14%
379	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL636 Wood to Steel Replacement	Inspection Repair Maintenance & Replacement Programs	39	0	39	100%
380	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Leak Survey	Employee, Contractor, and Public Safety	269	231	38	16%
381	SCG	O&M	1.E. Gas System Integrity	Public Awareness	Public Awareness	1,612	1,574	37	2%
382	SCG	O&M	2.C. Support Services	Environmental	Non-RAMP	5,023	4,991	32	1%
383	SDG&E	O&M	1.A. Electric Distribution	Major Projects	Contractor Safety Program	35	6	29	462%
384	SCG	O&M	1.E. Gas System Integrity	Damage Prevention Program Management	Non-RAMP	29	0	29	100%
385	SDG&E	Capital	2.A. Gas Distribution	GD Local Engineering Pool	Gas standards review	70	46	24	53%
386	SDG&E	Capital	1.A. Electric Distribution	TL673 Direct Buried Cable Replacement (Rose Canyon - La Jolla)	Transmission OH Reliability Projects	24	0	24	100%
387	SCG	O&M	2.C. Support Services	Interest	Zero Emission Vehicles & Renewable Natural Gas Vehicles	24	0	24	100%
388	SDG&E	Capital	2.A. Gas Distribution	Pressure Betterment	Non-RAMP	2,024	2,004	20	1%
389	SDG&E	O&M	3.B. Information Technology & Cyber Security	DCAM Program	Non-RAMP	19	0	19	100%
390	SDG&E	Capital	1.A. Electric Distribution	Coronado 69/12kV Transformer Replacement	Substation Reliability for Distribution Components - Coronado 69/12kV Transformer Replacements	17	0	17	100%
391	SCG	O&M	1.C. Gas Engineering	Mechanical Design	Non-RAMP	220	203	17	8%
392	SDG&E	O&M	3.A. Customer Services	Advanced Metering Ops	Non-RAMP	9,393	9,376	17	0%
393	SDG&E	Capital	1.A. Electric Distribution	Miguel Substation 230kV Rebuild	Non-RAMP	16	0	16	100%
394	SCG	O&M	2.C. Support Services	Facility Operations	Site Security Reviews	28	13	16	125%
395	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Aerial Mesh Network Expansion	Aviation Firefighting Program	15	0	15	100%
396	SDG&E	Capital	1.A. Electric Distribution	Fallbrook Battery Energy Storage - PTO	Non-RAMP	15	0	15	100%
397	SDG&E	Capital	1.A. Electric Distribution	Kettle Solar One	Non-RAMP	14	0	14	100%
398	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Vegetation Management (Pole Brushing)	Joint Power Line Inspections with CalFire	52	39	13	34%
399	SDG&E	Capital	1.A. Electric Distribution	La Jolla 69/12kV Transformer Replacement	La Jolla 69/12kV Transformer Replacement	13	0	13	100%
400	SDG&E	O&M	2.A. Gas Distribution	Asset Management	Operations	90	77	13	16%
401	SCG	O&M	1.C. Gas Engineering	Electrical Design	Non-RAMP	186	175	11	6%
402	SDG&E	O&M	1.A. Electric Distribution	Electric Distribution Operations	Workforce Planning	42	32	11	34%
403	SDG&E	O&M	3.A. Customer Services	CCC Operations	Capture Customer Email Program to update customer contact information	200	189	11	6%
404	SDG&E	Capital	1.A. Electric Distribution	TL663 Mission to Kearny Reconductor	Non-RAMP	45	35	10	30%
405	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL649 Otay-San Ysidro-Border SW Pole Repl - RAMP Incremental	Inspection Repair Maintenance & Replacement Programs	10	0	10	100%
406	SDG&E	Capital	1.A. Electric Distribution	Top Gun PTO Interconnection	Non-RAMP	10	0	10	100%
407	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL690C Camp Pendleton Wood to Steel	OH Trans Fire Hardening Dist Underbuild	8	0	8	100%
408	SCG	O&M	2.C. Support Services	Environmental	Service Contracting	197	189	8	4%
409	SDG&E	Capital	1.A. Electric Distribution	TL698 AVOCADO SUB GATEWAY DB CBL REPLACE	Non-RAMP	6	0	6	100%
410	SDG&E	O&M	2.D. Gas Transmission	Technical Services	Engineering, Supervision, Oversight & Review	43	37	6	16%
411	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL23001 TL23004 Wood to Steel Replacement (Mission - San Luis Rey)	Inspection Repair Maintenance & Replacement Programs	6	0	6	100%
412	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Safety, Wellness & Disability Services	OSHA Required Training and Training Required per Company Safety Standards	5	0	5	100%
413	SCG	O&M	1.A. Gas Distribution	Main Maintenance	High-Pressure Pipeline Failure, Project Maintenance - Valve Maintenance and Installation (Distribution High Pressure) (From Field Support)	69	64	5	8%
414	SDG&E	O&M	3.A. Customer Services	CCC Operations	ESS Emergency call training: 5 hrs per ESS.	28	23	5	21%
415	SCG	O&M	1.A. Gas Distribution	Main Maintenance	Maintenance - Unstable Earth Inspection (From Field Support)	12	8	4	43%
416	SDG&E	Capital	1.A. Electric Distribution	TL23001/04 Insulator and Hardware Replacement	Non-RAMP	4	0	4	100%
417	SCG	Capital	1.F. Gas Transmission	Gas Transmission Freeway Relocations	Non-RAMP	25	22	3	15%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

418	SDG&E	Capital	1.A. Electric Distribution	TL633 Reconnector (Bernardo-Rancho Carmel)	Non-RAMP	3	0	3	100%
419	SDG&E	O&M	1.A. Electric Distribution	System Protection	Workforce Planning	11	7	3	44%
420	SDG&E	Capital	1.A. Electric Distribution	Mount Laguna Wind	Non-RAMP	2	0	2	100%
421	SDG&E	Capital	1.A. Electric Distribution	CAST Security Upgrades	Non-RAMP	2	0	2	100%
422	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	PSPS Communications Protocols	2	0	2	100%
423	SDG&E	Capital	1.A. Electric Distribution	San Mateo Substation Rebuild (start in 2019)	Non-RAMP	2	0	2	100%
424	SDG&E	Capital	1.A. Electric Distribution	SX-PQ 230 kV Line	Non-RAMP	2	0	2	100%
425	SDG&E	O&M	1.A. Electric Distribution	Grid Operations	Workforce Planning	6	4	1	35%
426	SDG&E	Capital	1.A. Electric Distribution	TL603 Loop-in (Sweetwater, National City, and Naval Station Metering)	Transmission OH Reliability Projects	1	0	1	100%
427	SCG	O&M	3.B. Information Technology & Cyber Security	DCAM Program	Non-RAMP	1	0	1	100%
428	SDG&E	O&M	3.A. Customer Services	Customer Services Field - Dispatch	Job observations of employee and contractor activities and safety behaviors	2	1	1	90%
429	SDG&E	Capital	1.A. Electric Distribution	Gateway Energy Storage	Non-RAMP	1	0	1	100%
430	SDG&E	O&M	3.A. Customer Services	Marketing Research & Analytics	Safety Communications (Summer/Winter Preparedness; Emergency Preparedness)	336	336	0	0%
431	SCG	O&M	2.D. Administrative & General	SECC Outside Services Employees - F923.1	Workplace Violence/Corporate Security	2,236	2,236	0	0%
432	SCG	O&M	1.E. Gas System Integrity	Operator Qualification	Operations	900	900	0	0%
433	SDG&E	O&M	3.D. Administrative & General	SECC Outside Services Employees - F923.1	Workplace Violence/Corporate Security	1,358	1,358	0	0%
434	SCG	O&M	2.D. Administrative & General	SECC Outside Services Employees - F923.1	Records Management	124	124	(0)	0%
435	SCG	O&M	1.E. Gas System Integrity	Pipeline System Construction Policy	Non-RAMP	0	0	(0)	-100%
436	SDG&E	O&M	3.D. Administrative & General	SECC Outside Services Employees - F923.1	Records Management	108	108	(0)	0%
437	SDG&E	O&M	1.A. Electric Distribution	Electric Regional Operations	Employee Records Management training course	44	44	(1)	-1%
438	SDG&E	O&M	3.B. Information Technology & Cyber Security	IT Network Field - LAN/WAN Voice	Non-RAMP	0	1	(1)	-100%
439	SDG&E	Capital	2.D. Gas Transmission	GT Relocation	Non-RAMP	0	1	(1)	-100%
440	SCG	O&M	1.B. Gas Control & System Operations	Gas Control & SCADA Operation Group - USS	Operation	0	2	(2)	-100%
441	SDG&E	O&M	3.B. Information Technology & Cyber Security	Enterprise Operations	Non-RAMP	0	2	(2)	-100%
442	SDG&E	O&M	3.B. Information Technology & Cyber Security	Client Services Maintenance & Support	Non-RAMP	0	2	(2)	-100%
443	SCG	O&M	1.E. Gas System Integrity	Gas Operations Training & Development	Expand "Situation City" training props at Pico Rivera campus	280	283	(3)	-1%
444	SDG&E	O&M	1.A. Electric Distribution	Construction Services	Workforce Planning	15	19	(4)	-21%
445	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	UAS Safety Program	177	183	(6)	-3%
446	SDG&E	O&M	2.D. Gas Transmission	Technical Services	Non-RAMP	2	8	(6)	-74%
447	SCG	O&M	2.C. Support Services	Environmental	Environmental Services and Safety Compliance Management Program (ESCOMP)	109	116	(7)	-6%
448	SDG&E	O&M	1.A. Electric Distribution	Electric Regional Operations	Aviation Safety	456	463	(7)	-1%
449	SDG&E	Capital	2.A. Gas Distribution	Replacements of Mains and Services - RAMP3	Pipeline Observations (Standby)	0	9	(9)	-100%
450	SDG&E	O&M	3.C. Support Services	SDG&E Facility Operations	Non-RAMP	5,389	5,399	(10)	0%
451	SDG&E	Capital	2.B. Gas Engineering	GT Auxiliary Equipment (BC 439)	Non-RAMP	0	11	(11)	-100%
452	SDG&E	O&M	1.B. Electric Generation	Generation Plant Cuyamaca Peak	Add blackstart capabilities to the southern part of the SDG&E electric system.	12	23	(11)	-48%
453	SDG&E	O&M	2.C. Gas System Integrity	Pipeline Safety & Compliance	Non-RAMP	110	121	(11)	-9%
454	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Other Services	Non-RAMP	216	230	(13)	-6%
455	SCG	O&M	1.B. Gas Control & System Operations	Gas Control & SCADA Operation Group - USS	Non-RAMP	0	14	(14)	-100%
456	SCG	O&M	1.B. Gas Control & System Operations	Energy Markets & Capacity Products - Support	Non-RAMP	686	701	(15)	-2%
457	SDG&E	O&M	2.A. Gas Distribution	Operations Management & Training	Operations #2	61	77	(16)	-21%
458	SDG&E	O&M	1.A. Electric Distribution	Electric Regional Operations	Distribution Switch Maintenance Program	1,156	1,173	(17)	-1%
459	SCG	O&M	2.C. Support Services	Environmental	Compliance program to comply with the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)	2	19	(17)	-90%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

460	SDG&E	O&M	1.A. Electric Distribution	Electric Regional Operations	Workforce Planning	1,217	1,235	(18)	-1%
461	SDG&E	O&M	1.A. Electric Distribution	Electric Regional Operations	Inspection and Preventative Maintenance	1,222	1,240	(18)	-1%
462	SDG&E	O&M	1.B. Electric Generation	Generation Plant Miramar	Maintenance Certification and testing of existing Blackstart Resources	4	23	(19)	-81%
463	SCG	O&M	1.E. Gas System Integrity	Pipeline Safety Oversight	Non-RAMP	627	649	(22)	-3%
464	SCG	O&M	1.A. Gas Distribution	Field Support	PPE and Safety Equipment	0	22	(22)	-100%
465	SCG	O&M	1.B. Gas Control & System Operations	Gas Scheduling	Non-RAMP	796	820	(24)	-3%
466	SCG	O&M	3.B. Information Technology & Cyber Security	SCG GIS & CAD Services	Non-RAMP	168	194	(26)	-13%
467	SCG	O&M	1.E. Gas System Integrity	Wrk Mgmt & Databases	Operational Compliance and Oversight	200	227	(27)	-12%
468	SDG&E	Capital	3.C. Support Services	Land Blanket	Non-RAMP	316	344	(29)	-8%
469	SDG&E	O&M	3.A. Customer Services	CCC Operations	Emergency calls taken by the Customer Contact Center including outage calls.	392	424	(32)	-8%
470	SDG&E	O&M	3.A. Customer Services	Customer Services Field - Operations	Job Observation and Behavior Based Safety.	136	168	(32)	-19%
471	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL698 Monserate - Avocado Wood to Steel	OH Trans Fire Hardening Dist Underbuild	272	305	(34)	-11%
472	SDG&E	O&M	1.A. Electric Distribution	Reliability & Capacity	Improved modeling tools for DER's	48	84	(36)	-43%
473	SDG&E	Capital	2.A. Gas Distribution	Easements	Non-RAMP	3	43	(40)	-93%
474	SDG&E	O&M	3.B. Information Technology & Cyber Security	Server Management	Non-RAMP	953	998	(45)	-5%
475	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Safety, Wellness & Disability Services	AED Maintenance	0	45	(45)	-100%
476	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Organizational Effectiveness	Working Foreman Training and Human Performance	44	89	(45)	-51%
477	SCG	O&M	1.C. Gas Engineering	Research, Planning & Development	Non-RAMP	0	45	(45)	-100%
478	SDG&E	Capital	1.A. Electric Distribution	TL691 Avo-Mon Wood to Steel RAMP Incremental	Inspection Repair Maintenance & Replacement Programs	0	46	(46)	-100%
479	SCG	O&M	1.A. Gas Distribution	Main Maintenance	Maintenance - Bridge and Span (From Field Support)	83	131	(48)	-37%
480	SDG&E	Capital	2.A. Gas Distribution	New Business	Odorization of gas	0	50	(50)	-100%
481	SDG&E	O&M	3.B. Information Technology & Cyber Security	Project Improvement Office- NCS	Non-RAMP	190	243	(53)	-22%
482	SCG	O&M	1.C. Gas Engineering	Dir Eng & Tech Services	Information Management Systems	288	342	(54)	-16%
483	SDG&E	O&M	3.B. Information Technology & Cyber Security	IT Telecom PMO	Non-RAMP	44	99	(55)	-55%
484	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Safety, Wellness & Disability Services	OSHA Voluntary Protection Programs	0	56	(56)	-100%
485	SDG&E	Capital	1.A. Electric Distribution	Transmission Substation Reliability	Non-RAMP	5	63	(58)	-92%
486	SCG	O&M	2.C. Support Services	Facility Operations	New Contract Security	189	248	(59)	-24%
487	SDG&E	O&M	3.B. Information Technology & Cyber Security	Infrastructure Eng & Ops Director	Non-RAMP	550	610	(60)	-10%
488	SDG&E	O&M	1.A. Electric Distribution	System Protection	Replace failed SCADA remote terminal units (RTU's)	0	61	(61)	-100%
489	SDG&E	Capital	1.A. Electric Distribution	TL664_668 Miramar Wood to Steel	Non-RAMP	0	61	(61)	-100%
490	SDG&E	Capital	1.A. Electric Distribution	TL6912 Wood to Steel Pole Replacement - RAMP Incremental	Inspection Repair Maintenance & Replacement Programs	0	62	(62)	-100%
491	SDG&E	O&M	3.D. Administrative & General	VP Enterprise Risk Management	Non-RAMP	418	484	(66)	-14%
492	SCG	Capital	1.A. Gas Distribution	Capital Tools & Equipment - RAMP	Prevention and Improvements	844	910	(66)	-7%
493	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	SDG&E Field Safety	Safety Programs & Projects	1,023	1,091	(69)	-6%
494	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Safety, Wellness & Disability Services	Contractor Safety Oversight	201	271	(70)	-26%
495	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Electric Support	Non-RAMP	410	482	(72)	-15%
496	SDG&E	Capital	1.A. Electric Distribution	Electric Distribution Tools/Equipment	Non-RAMP	2,045	2,118	(73)	-3%
497	SDG&E	Capital	1.A. Electric Distribution	Doheny Desalination 15MW Project	Non-RAMP	0	73	(73)	-100%
498	SCG	O&M	3.A. Customer Services	Advanced Meter Operations	Annual DCU/ Pole Inspections	240	313	(73)	-23%
499	SDG&E	Capital	1.A. Electric Distribution	Aerial Marking for Safety	Non-RAMP	(3)	73	(76)	-104%
500	SDG&E	O&M	3.B. Information Technology & Cyber Security	Client Tech Svcs	Non-RAMP	0	76	(76)	-100%
501	SDG&E	Capital	1.A. Electric Distribution	C1447 MTO: Extension and offload from C958	Non-RAMP	0	78	(78)	-100%
502	SDG&E	O&M	2.A. Gas Distribution	Operations Management & Training	Operations #1	24	102	(78)	-77%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

503	SDG&E	O&M	1.A. Electric Distribution	District Ops Enterprise Geographic Information System Standards	Non-RAMP	219	299	(80)	-27%
504	SCG	O&M	2.C. Support Services	Environmental	Environmental Self-Assessment	422	503	(81)	-16%
505	SDG&E	Capital	1.A. Electric Distribution	GRID Modernization	Non-RAMP	0	81	(81)	-100%
506	SDG&E	O&M	1.B. Electric Generation	Generation Plant Cuyamaca Peak	Non-RAMP	1,102	1,189	(87)	-7%
507	SCG	O&M	1.F. Gas Transmission	Director Gas Transmission - USS	Non-RAMP	183	271	(89)	-33%
508	SCG	O&M	3.A. Customer Services	Environmental Affairs	Non-RAMP	644	733	(89)	-12%
509	SCG	O&M	1.E. Gas System Integrity	Pipeline Safety & Compliance Manager	Non-RAMP	877	967	(90)	-9%
510	SDG&E	Capital	1.A. Electric Distribution	Substation 12kV Capacitor Upgrades	Non-RAMP	377	469	(93)	-20%
511	SDG&E	O&M	3.C. Support Services	Facilities & Capital Programs - Admin	Non-RAMP	51	145	(94)	-65%
512	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Tools Fittings & Materials	Non-RAMP	1,047	1,141	(95)	-8%
513	SCG	Capital	1.A. Gas Distribution	Regulator Stations - RAMP	Systems are in place to monitor and manage compliance activity schedules related to high pressure.	61	156	(95)	-61%
514	SCG	O&M	1.F. Gas Transmission	Field Operations Managers - USS	Non-RAMP	376	475	(99)	-21%
515	SCG	O&M	1.A. Gas Distribution	Leak Survey	Maintenance - Leak Survey	9,505	9,605	(100)	-1%
516	SDG&E	O&M	2.A. Gas Distribution	Operations Management & Training	Mandatory employee refresher training programs	807	908	(101)	-11%
517	SCG	O&M	1.E. Gas System Integrity	Contract & Maintenance	Non-RAMP	528	633	(105)	-17%
518	SCG	O&M	1.C. Gas Engineering	Civil Structural & Hazard Mitigation Engineering	Real time monitoring of land movement via stress acting on infrastructure	5	112	(107)	-96%
519	SDG&E	O&M	3.B. Information Technology & Cyber Security	Infrast Prgrm Office	Non-RAMP	742	851	(110)	-13%
520	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Safety, Wellness & Disability Services	VPP Application and Implementation	0	113	(113)	-100%
521	SCG	O&M	3.B. Information Technology & Cyber Security	SCG Work Management Services	Non-RAMP	1,260	1,373	(113)	-8%
522	SCG	O&M	1.C. Gas Engineering	Civil Structural & Hazard Mitigation Engineering	Gas Infrastructure Resilience & Vulnerability Report	252	367	(115)	-31%
523	SCG	O&M	1.F. Gas Transmission	Compressor Station Operations	Non-RAMP	11,236	11,351	(115)	-1%
524	SDG&E	O&M	3.C. Support Services	Environmental SDG&E NSS Cost Center	Non-RAMP	5,189	5,304	(115)	-2%
525	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Advanced Protection	Inspection Repair Maintenance & Replacement Programs	10,787	10,907	(120)	-1%
526	SDG&E	Capital	1.B. Electric Generation	Cuyamaca Peak Energy Plant Oper Enhance	Non-RAMP	281	402	(121)	-30%
527	SCG	O&M	2.C. Support Services	Environmental	Asbestos Safety Program	703	826	(123)	-15%
528	SDG&E	O&M	2.D. Gas Transmission	Technical Services	Operator Qualification	0	123	(123)	-100%
529	SDG&E	O&M	3.A. Customer Services	Advanced Metering Ops	Workforce Planning	0	123	(123)	-100%
530	SCG	O&M	3.B. Information Technology & Cyber Security	Architecture and Integration - SCG	Non-RAMP	472	598	(126)	-21%
531	SDG&E	O&M	1.A. Electric Distribution	Reliability & Capacity	Non-RAMP	171	298	(126)	-42%
532	SDG&E	O&M	3.D. Administrative & General	Health Benefits - Emp Assistance Program	Non-RAMP	166	293	(128)	-43%
533	SDG&E	O&M	1.B. Electric Generation	Generation - Plant - Admin	Non-RAMP	270	399	(129)	-32%
534	SDG&E	O&M	1.A. Electric Distribution	Compliance Management	Records Management	441	574	(132)	-23%
535	SCG	O&M	1.F. Gas Transmission	Technical Services Manager - USS	Non-RAMP	269	404	(135)	-33%
536	SCG	O&M	1.A. Gas Distribution	Main Maintenance	Maintenance - Pipeline Patrol (From Field Support)	79	214	(135)	-63%
537	SDG&E	O&M	1.B. Electric Generation	Electric Project Development	Non-RAMP	0	138	(138)	-100%
538	SDG&E	Capital	1.A. Electric Distribution	Margarita Substation New 12kV Circuit 1259	Non-RAMP	0	145	(145)	-100%
539	SDG&E	O&M	2.C. Gas System Integrity	Gas Contractor Controls	Safety Policies & Programs	0	145	(145)	-100%
540	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Offices Of The President And COO	Non-RAMP	1,404	1,550	(146)	-9%
541	SCG	O&M	1.C. Gas Engineering	Pipeline Materials	Non-RAMP	305	450	(146)	-32%
542	SCG	O&M	1.G. Underground Storage	Underground Storage	Internal Corrosion Plan	484	630	(146)	-23%
543	SCG	O&M	1.C. Gas Engineering	Engineering Analysis Center - Chemical Lab	Non-RAMP	2,186	2,332	(146)	-6%
544	SDG&E	O&M	3.D. Administrative & General	Operations Risk Management SDG&E	Non-RAMP	2,607	2,756	(148)	-5%
545	SCG	Capital	1.C. Gas Engineering	Laboratory Equipment - RAMP	Odorization	2,723	2,872	(149)	-5%
546	SCG	O&M	3.A. Customer Services	Advanced Meter Operations	Analyze consumption patterns to identify atypical/unusual consumption	58	209	(151)	-72%
547	SCG	Capital	4.B. Balanced Programs Direct Capital Expenses	Line 235 Memorandum Account	Approved PSEP program to test or replace High Consequence Area High Pressure pipelines	(152)	0	(152)	100%

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Sempra RSAR Programs Ranked by Spending Variance

548	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TL694 Wood To Steel	OH Trans Fire Hardening Dist Underbuild	0	153	(153)	-100%
549	SDG&E	Capital	1.A. Electric Distribution	Meteorology - Fire Behavior Modeling	Non-RAMP	0	162	(162)	-100%
550	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	RAMP Base - Weather Station Adv Detection	Advanced Detection	392	554	(162)	-29%
551	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	IT - Enterprise - Application	Data Governance (BC 208750)	(162)	0	(162)	100%
552	SDG&E	O&M	3.A. Customer Services	Customer Programs Pricing And Other Office	Natural Gas Appliance Testing (NGAT) is a safety-related program for Customer Assistance's Energy Savings Assistance (ESA) Program participants.	161	325	(164)	-50%
553	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Records Management	341	510	(169)	-33%
554	SDG&E	O&M	1.A. Electric Distribution	Electric Regional Operations	Non-RAMP	11,369	11,538	(169)	-1%
555	SDG&E	O&M	3.B. Information Technology & Cyber Security	Voice Leased Circuits	Non-RAMP	926	1,095	(169)	-15%
556	SCG	O&M	3.A. Customer Services	Meter Reading - Clerical	Non-RAMP	0	170	(170)	-100%
557	SDG&E	O&M	1.A. Electric Distribution	Construction Services	Contractor Safety Review	665	844	(179)	-21%
558	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Organizational Effectiveness	Workforce Planning Efforts / Supervisor Effectiveness Program	73	253	(180)	-71%
559	SDG&E	Capital	1.B. Electric Generation	Generation Capital Tools & Test Eqpt.	Non-RAMP	53	235	(183)	-78%
560	SCG	O&M	1.F. Gas Transmission	Pipeline Operations	Training and Qualification Of Personnel	0	198	(198)	-100%
561	SDG&E	O&M	2.A. Gas Distribution	Asset Management	Maintenance	0	198	(198)	-100%
562	SCG	Capital	1.F. Gas Transmission	MP PL Rpls / Quality/Economic Driven	Non-RAMP	(200)	0	(200)	100%
563	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Employee Assistance Program (EAP) And Wellness Programs	Non-RAMP	127	330	(203)	-62%
564	SCG	O&M	3.A. Customer Services	CS Field Staff Manager	Policy Procedures Standards and ESCMP	780	986	(206)	-21%
565	SDG&E	O&M	1.A. Electric Distribution	Construction Services	Non-RAMP	770	977	(207)	-21%
566	SCG	O&M	1.C. Gas Engineering	High Pressure & Distribution Engineering	Non-RAMP	1,085	1,294	(209)	-16%
567	SDG&E	O&M	3.B. Information Technology & Cyber Security	Critical Infrastructure Protection	Incremental maintenance costs associated with Grid Modernization capital projects	223	442	(219)	-50%
568	SDG&E	Capital	2.B. Gas Engineering	GT Land Rights	Non-RAMP	0	219	(219)	-100%
569	SDG&E	O&M	2.A. Gas Distribution	Operations Management & Training	Qualifications of Pipeline Personnel	519	738	(219)	-30%
570	SCG	O&M	3.A. Customer Services	Customer Services Field - Supervision	Job Observations Field Rides and Job Monitoring	775	1,000	(225)	-22%
571	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Elect Transmission Line Reliability Projects	Transmission System Inspection	337	566	(229)	-41%
572	SDG&E	Capital	1.A. Electric Distribution	RAMP Incremental - Distributed Generation Interconnect	Power Quality Studies of DER Interconnections	8	241	(233)	-97%
573	SCG	O&M	3.B. Information Technology & Cyber Security	Clnt Tech & Depot Svc-SCG	Non-RAMP	134	372	(238)	-64%
574	SCG	Capital	2.C. Support Services	Bakersfield Multi-Use Facility	Non-RAMP	2,110	2,350	(240)	-10%
575	SCG	O&M	3.B. Information Technology & Cyber Security	IT Portfolio Management	Non-RAMP	441	683	(242)	-35%
576	SDG&E	O&M	2.A. Gas Distribution	Asset Management	Coat or remove affected buried piping in vaults	0	247	(247)	-100%
577	SCG	O&M	1.C. Gas Engineering	Civil Structural & Hazard Mitigation Engineering	Non-RAMP	878	1,125	(248)	-22%
578	SCG	O&M	3.B. Information Technology & Cyber Security	IT Applications NSS	Non-RAMP	8,769	9,019	(250)	-3%
579	SDG&E	Capital	1.A. Electric Distribution	RAMP Incremental On Ramp Aerial Light - Post Filing	Install Aerial Marking and Lighting	0	252	(252)	-100%
580	SCG	O&M	1.C. Gas Engineering	Pipeline Engineering	Non-RAMP	508	761	(253)	-33%
581	SDG&E	O&M	3.C. Support Services	RE Resources	Non-RAMP	300	552	(253)	-46%
582	SDG&E	Capital	1.A. Electric Distribution	TL695 Talega Wood to Steel - RAMP Incremental	Inspection Repair Maintenance & Replacement Programs	0	253	(253)	-100%
583	SDG&E	Capital	1.A. Electric Distribution	TL649 Otay-San Ysidro-Border SW Pole Repl - RAMP Incremental	Inspection Repair Maintenance & Replacement Programs	0	254	(254)	-100%
584	SCG	O&M	1.E. Gas System Integrity	Gas System Integrity Staff & Programs	Non-RAMP	108	362	(255)	-70%
585	SDG&E	O&M	3.B. Information Technology & Cyber Security	Enterprise Integration Services	Non-RAMP	1,596	1,858	(262)	-14%
586	SDG&E	Capital	1.A. Electric Distribution	Meteorology Outage Prediction Modeling P2	Non-RAMP	0	268	(268)	-100%
587	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	CNF - RAMP	System Hardening	12,497	12,781	(284)	-2%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

588	SCG	Capital	1.F. Gas Transmission	GT Auxiliary Equipment - RAMP	Strain Gauge Installation Projects	16	304	(288)	-95%
589	SDG&E	Capital	1.B. Electric Generation	RAMP - Incremental Black Start - South Grid - CPEP	Add blackstart capabilities to the southern part of the SDG&E electric system	34	325	(291)	-89%
590	SDG&E	O&M	1.A. Electric Distribution	Kearny Operations Services	Non-RAMP	1,952	2,247	(295)	-13%
591	SCG	O&M	2.D. Administrative & General	Accounting Systems & Compliance	Consulting expertise to improve records management program	683	985	(301)	-31%
592	SDG&E	O&M	1.A. Electric Distribution	District Ops Enterprise Geographic Information System Standards	Records Management	831	1,133	(302)	-27%
593	SDG&E	Capital	2.A. Gas Distribution	System Minor Additions, Relocations, & Retirements - RAMP	Locate and Mark	3	309	(307)	-99%
594	SCG	O&M	1.E. Gas System Integrity	Operator Qualification	Non-RAMP	1,003	1,311	(309)	-24%
595	SDG&E	O&M	1.A. Electric Distribution	Electric Regional Operations	Safety Policies & Programs	20,970	21,282	(312)	-1%
596	SCG	O&M	1.A. Gas Distribution	Measurement & Regulation	Maintenance - Maintenance and inspections of meter set assemblies (MSA) in the system.	5,401	5,713	(312)	-5%
597	SDG&E	O&M	1.A. Electric Distribution	Asset Management	Annual records management compliance	634	948	(314)	-33%
598	SDG&E	Capital	1.A. Electric Distribution	Integrated Test Facility	Non-RAMP	0	315	(315)	-100%
599	SDG&E	O&M	1.B. Electric Generation	Resource Planning Director	Non-RAMP	597	916	(319)	-35%
600	SCG	O&M	1.E. Gas System Integrity	Public Awareness	Non-RAMP	0	319	(319)	-100%
601	SDG&E	O&M	3.B. Information Technology & Cyber Security	IT Portfolio Management	Non-RAMP	0	324	(324)	-100%
602	SDG&E	O&M	1.A. Electric Distribution	Substation C&O	Condition Base Maintenance (CBM) - Distribution	0	329	(329)	-100%
603	SCG	O&M	1.F. Gas Transmission	Technical Services	Engineering, Supervision, Oversight, and Compliance	1,055	1,386	(331)	-24%
604	SDG&E	O&M	2.A. Gas Distribution	Cathodic Protection	Requirements for Corrosion Control	2,279	2,612	(332)	-13%
605	SCG	O&M	3.A. Customer Services	Meter Reading - Support	Non-RAMP	0	349	(349)	-100%
606	SDG&E	Capital	1.A. Electric Distribution	RAMP Base - Install SCADA On-Line Capacitors	Expand and Maintain Distribution Advanced SCADA infrastructure	834	1,189	(355)	-30%
607	SDG&E	Capital	1.A. Electric Distribution	Telegraph Canyon 138/12kV Bank & C1226	Non-RAMP	0	356	(356)	-100%
608	SCG	O&M	1.B. Gas Control & System Operations	Energy Markets & Capacity Products - Director	Non-RAMP	0	357	(357)	-100%
609	SDG&E	O&M	3.A. Customer Services	Credit & Collections	Non-RAMP	2,861	3,223	(362)	-11%
610	SCG	O&M	3.A. Balanced Program Direct O&M Expenses	TIMP Project Support	TIMP Data Maintenance	1,494	1,868	(374)	-20%
611	SDG&E	O&M	3.A. Customer Services	Customer Services Field - Supervision	Non-RAMP	1,250	1,624	(374)	-23%
612	SCG	O&M	1.E. Gas System Integrity	USS - VP Gas System Integrity	Non-RAMP	330	712	(383)	-54%
613	SDG&E	Capital	1.A. Electric Distribution	C1023 LI New 12KV Circuit & Reconductor C354	Non-RAMP	116	511	(395)	-77%
614	SCG	O&M	3.B. Information Technology & Cyber Security	SCG Software Dev - Database	Non-RAMP	249	647	(398)	-62%
615	SDG&E	O&M	3.B. Information Technology & Cyber Security	Infrastructure Program Office	Non-RAMP	14	414	(399)	-97%
616	SDG&E	Capital	1.A. Electric Distribution	Vault Restoration	Non-RAMP	0	401	(401)	-100%
617	SCG	O&M	3.A. Customer Services	Meter Reading - Supervision & Training	Non-RAMP	0	406	(406)	-100%
618	SDG&E	Capital	2.A. Gas Distribution	Tools and Equipment	Training props	190	599	(408)	-68%
619	SCG	Capital	1.A. Gas Distribution	Capital Tools & Equipment - RAMP	Upgrade Nomex Coveralls & Fresh Equipment	0	413	(413)	-100%
620	SCG	O&M	3.B. Information Technology & Cyber Security	Scalable Platform Servs - SCG	Non-RAMP	128	541	(413)	-76%
621	SCG	Capital	1.G. Underground Storage	GS Wells - RAMP Base - CS	Wellhead repairs & replacements	0	418	(418)	-100%
622	SCG	O&M	3.A. Customer Services	CI-Customer Assistance Programs	Non-RAMP	369	800	(431)	-54%
623	SDG&E	O&M	3.D. Administrative & General	Operations Cost Center -USS-Controllers-Business Controls	Consulting expertise to improve records management program	125	563	(438)	-78%
624	SCG	O&M	2.C. Support Services	Facilities-Monterey Park Mgr	Non-RAMP	2,203	2,642	(438)	-17%
625	SCG	O&M	3.B. Information Technology & Cyber Security	Director IT SoCalGas Applications	Non-RAMP	375	815	(440)	-54%
626	SCG	O&M	3.B. Information Technology & Cyber Security	SCG Apps Maj Mrk App - SCG	Non-RAMP	1,201	1,642	(441)	-27%
627	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Meteorology Studies and Education	0	454	(454)	-100%
628	SCG	O&M	1.E. Gas System Integrity	Applications	Non-RAMP	84	542	(457)	-84%
629	SDG&E	O&M	3.B. Information Technology & Cyber Security	Voice Enterp Support	Non-RAMP	87	565	(477)	-85%
630	SCG	O&M	3.A. Customer Services	Renewable Gas - Customer Outreach	Non-RAMP	599	1,081	(481)	-45%
631	SDG&E	O&M	3.B. Information Technology & Cyber Security	Enterprise Command Center	Non-RAMP	1,862	2,345	(483)	-21%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

632	SCG	O&M	3.A. Customer Services	Meter Reading - Operations	Non-RAMP	768	1,252	(485)	-39%
633	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Safety Compliance	Safety Regulations, Policies, and Guidelines	176	676	(500)	-74%
634	SDG&E	Capital	1.A. Electric Distribution	TL697 San Luis Rey Wood to Steel - RAMP Incremental	Inspection Repair Maintenance & Replacement Programs	0	505	(505)	-100%
635	SCG	O&M	1.E. Gas System Integrity	Shared Public Awareness Activities	Analysis	102	608	(506)	-83%
636	SCG	O&M	2.C. Support Services	Facilities GCT	Non-RAMP	1,205	1,714	(509)	-30%
637	SCG	O&M	1.A. Gas Distribution	Tools Fittings & Materials	PPE and Safety Equipment - Uniform rentals for employees - both protective and for security	600	1,117	(517)	-46%
638	SCG	O&M	2.D. Administrative & General	Health Benefits - Emp Assistance Program	Non-RAMP	295	817	(522)	-64%
639	SCG	Capital	1.G. Underground Storage	GS Compressor Stations	Non-RAMP	19,741	20,265	(523)	-3%
640	SDG&E	O&M	3.A. Customer Services	CCC Operations	Non-RAMP	9,685	10,227	(542)	-5%
641	SCG	O&M	3.A. Customer Services	CCC - Operations	Emergency Call Handling	430	980	(550)	-56%
642	SCG	O&M	1.G. Underground Storage	Underground Storage	Contract Security	928	1,479	(551)	-37%
643	SCG	O&M	1.C. Gas Engineering	MRC Management & Special Projects	Non-RAMP	449	1,017	(568)	-56%
644	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Main Maintenance	Non-RAMP	1,900	2,469	(569)	-23%
645	SCG	Capital	1.G. Underground Storage	GS Wells - Cushion Gas Purchase	Non-RAMP	0	577	(577)	-100%
646	SCG	O&M	1.A. Gas Distribution	Main Maintenance	Contracting for Traffic Control Delineation materials -- Distribution Only. Outside vendors	1,255	1,853	(598)	-32%
647	SDG&E	Capital	1.A. Electric Distribution	Rancho Santa Fe Sub Fire Hardening	Non-RAMP	700	1,304	(604)	-46%
648	SCG	O&M	1.C. Gas Engineering	Measurement & Design	Non-RAMP	715	1,319	(604)	-46%
649	SDG&E	O&M	3.E. Human Resources Dept, Safety, LTD & WC	Organizational Effectiveness	Non-RAMP	1,410	2,018	(609)	-30%
650	SDG&E	O&M	1.A. Electric Distribution	Compliance Management	Non-RAMP	2,039	2,651	(612)	-23%
651	SCG	O&M	1.C. Gas Engineering	Civil Structural & Hazard Mitigation Engineering	Monitoring of Land Movement & Flood zones	612	1,236	(624)	-50%
652	SCG	O&M	2.C. Support Services	Interest	Non-RAMP	2,373	2,999	(626)	-21%
653	SDG&E	O&M	1.A. Electric Distribution	Construction Services	System Hardening and Grid Modernization	2,364	3,001	(636)	-21%
654	SDG&E	Capital	1.A. Electric Distribution	Transmission System Automation	Non-RAMP	(649)	0	(649)	100%
655	SCG	O&M	1.E. Gas System Integrity	Enterprise Geographic Information System (eGIS)	Operational Compliance and Oversight	0	657	(657)	-100%
656	SCG	Capital	2.B. Information Technology & Cyber Security	Cybersecurity - RAMP	Cybersecurity	10,302	10,962	(660)	-6%
657	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Facilities WMP - Balanced	Emergency Management Operations	20	688	(669)	-97%
658	SDG&E	O&M	2.C. Gas System Integrity	Codes Standards and Records	Information Management Systems	0	674	(674)	-100%
659	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	RAMP Base - Wireless Fault Indicators	Design and Engineering Approaches	1,106	1,781	(675)	-38%
660	SDG&E	O&M	1.B. Electric Generation	Generation Plant Miramar	Non-RAMP	1,975	2,651	(675)	-25%
661	SCG	O&M	1.C. Gas Engineering	Measurement Field Support	Non-RAMP	741	1,416	(676)	-48%
662	SCG	Capital	2.B. Information Technology & Cyber Security	IT Utility Operations Applications - RAMP	Records Management	28,613	29,289	(676)	-2%
663	SDG&E	O&M	1.A. Electric Distribution	Project Management	Non-RAMP	747	1,432	(685)	-48%
664	SDG&E	O&M	1.A. Electric Distribution	Skills & Compliance Training	Non-RAMP	1,517	2,204	(687)	-31%
665	SCG	O&M	1.C. Gas Engineering	MRC Standards	Non-RAMP	139	827	(688)	-83%
666	SCG	O&M	1.E. Gas System Integrity	Pipeline Safety & Compliance	Non-RAMP	0	690	(690)	-100%
667	SDG&E	O&M	2.C. Gas System Integrity	Damage Prevention and Public Awareness	Public Awareness	0	700	(700)	-100%
668	SCG	O&M	1.E. Gas System Integrity	Pipeline System Construction Policy	Policy Procedures Standards and ESCMP	0	702	(702)	-100%
669	SDG&E	O&M	3.C. Support Services	RE Planning	Non-RAMP	486	1,193	(706)	-59%
670	SCG	O&M	1.G. Underground Storage	Underground Storage	Maintenance work performed on gas storage wells	3,961	4,669	(707)	-15%
671	SDG&E	O&M	1.A. Electric Distribution	Troubleshooting	Non-RAMP	8,184	8,904	(720)	-8%
672	SCG	O&M	1.E. Gas System Integrity	Pipeline System Construction Policy	Locate & Mark Activities	654	1,389	(735)	-53%
673	SDG&E	O&M	1.C. Electric & Fuel Procurement	Long Term Procurement	Non-RAMP	1,777	2,513	(736)	-29%
674	SCG	O&M	1.C. Gas Engineering	MRC - Instrumentation Repair and Field Support	Non-RAMP	746	1,501	(755)	-50%
675	SDG&E	Capital	1.A. Electric Distribution	NCW New Bank 32 RAMP Incremental - Undergrounding New Circuits	Undergrounding	0	770	(770)	-100%
676	SDG&E	Capital	1.A. Electric Distribution	Sewage Pump Station Rebuilds RAMP Incremental	Rebuild and repair aging infrastructure	(4)	770	(775)	-101%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

677	SCG	Capital	1.A. Gas Distribution	Electronic Pressure Monitors (EPM)	Non-RAMP	272	1,054	(783)	-74%
678	SDG&E	O&M	1.A. Electric Distribution	Tech Solutions and Reliability	Records Management	664	1,451	(787)	-54%
679	SCG	O&M	3.A. Customer Services	Customer Services Field - Supervision	Non-RAMP	10,874	11,669	(795)	-7%
680	SCG	Capital	1.A. Gas Distribution	Gas Energy Measurement Systems (GEMS)	Non-RAMP	668	1,470	(802)	-55%
681	SDG&E	O&M	1.A. Electric Distribution	Asset Management	Utility Asset Management (Non-WMP)	1,647	2,463	(816)	-33%
682	SCG	Capital	1.A. Gas Distribution	Gas Regulators	Non-RAMP	5,834	6,650	(816)	-12%
683	SCG	O&M	1.F. Gas Transmission	Pipeline Operations	Non-RAMP	10,480	11,320	(840)	-7%
684	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Local Engineering Pool - ED RAMP	Works Standards and Methods	0	840	(840)	-100%
685	SCG	O&M	1.E. Gas System Integrity	Quality & Risk	Operational Compliance and Oversight	535	1,376	(841)	-61%
686	SCG	O&M	1.E. Gas System Integrity	Wrk Mgmt & Databases	Non-RAMP	1,030	1,877	(847)	-45%
687	SCG	O&M	1.E. Gas System Integrity	Records Management - From 2200-2361	Policy Procedures Standards and ESCMP	168	1,020	(851)	-83%
688	SCG	Capital	1.G. Underground Storage	GS - Playa Del Rey	Erosion mitigation	545	1,409	(864)	-61%
689	SDG&E	O&M	3.B. Information Technology & Cyber Security	Shared Software Development Contracts	Non-RAMP	6,146	7,025	(879)	-13%
690	SCG	O&M	1.F. Gas Transmission	Technical Services	Class Location Mitigation	0	886	(886)	-100%
691	SCG	O&M	1.C. Gas Engineering	Engineering Design Management Process Engineering & Design	Non-RAMP	1,212	2,107	(895)	-42%
692	SDG&E	Capital	1.A. Electric Distribution	TL676 Mission to Mesa Heights Reconductor	Non-RAMP	4	916	(912)	-100%
693	SCG	O&M	3.A. Customer Services	Energy & Environmental Policy	Non-RAMP	932	1,858	(927)	-50%
694	SCG	Capital	1.G. Underground Storage	GS - Aliso Canyon	Erosion mitigation	135	1,079	(943)	-87%
695	SCG	Capital	1.G. Underground Storage	GS Wells - RAMP Base - C3	Tubing upsizing	27	977	(951)	-97%
696	SDG&E	O&M	2.A. Gas Distribution	Asset Management	Non-RAMP	980	1,940	(960)	-49%
697	SCG	O&M	3.A. Customer Services	Customer Services Field - Operations	PPE and Tools	2,573	3,536	(963)	-27%
698	SDG&E	Capital	1.A. Electric Distribution	Reliability/Improvements Capital Projects	Minor Distribution Substation Reliability Projects	1,013	1,977	(964)	-49%
699	SDG&E	O&M	1.A. Electric Distribution	Skills & Compliance Training	Ongoing maintenance programs	2,139	3,107	(968)	-31%
700	SDG&E	O&M	3.C. Support Services	SDG&E Facility Operations	Physical Security	3,031	4,012	(981)	-24%
701	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Utility Asset Management - (WMP)	341	1,326	(985)	-74%
702	SCG	Capital	1.C. Gas Engineering	Land Rights & Buildings	Non-RAMP	2,674	3,662	(987)	-27%
703	SDG&E	Capital	1.A. Electric Distribution	Management of Underground Distribution Service	Management of Underground Distribution Service	3,353	4,344	(991)	-23%
704	SDG&E	O&M	3.B. Information Technology & Cyber Security	Telecom Field Voice - SDG&E	Non-RAMP	1,303	2,298	(995)	-43%
705	SCG	O&M	1.E. Gas System Integrity	Enterprise Geographic Information System (eGIS)	Non-RAMP	1,228	2,235	(1,007)	-45%
706	SCG	Capital	2.B. Information Technology & Cyber Security	Network/Telecom	Non-RAMP	10,647	11,655	(1,008)	-9%
707	SDG&E	Capital	2.A. Gas Distribution	GD Local Engineering Pool	Improvements to Cathodic Protection reliability	192	1,216	(1,024)	-84%
708	SCG	O&M	1.A. Gas Distribution	Field Support	Contractor Management and Traffic Control	639	1,668	(1,029)	-62%
709	SCG	O&M	1.A. Gas Distribution	Regional Public Affairs	Non-RAMP	4,013	5,046	(1,033)	-20%
710	SCG	O&M	1.A. Gas Distribution	Operations And Management	Policy, Procedures, Standards and ESCMP	0	1,047	(1,047)	-100%
711	SDG&E	O&M	2.A. Gas Distribution	Operations Management & Training	Non-RAMP	1,919	2,998	(1,079)	-36%
712	SDG&E	Capital	1.A. Electric Distribution	Reactive Small Capital Projects	Non-RAMP	1,331	2,413	(1,083)	-45%
713	SCG	O&M	1.C. Gas Engineering	Land Services & Right Of Way	Non-RAMP	3,014	4,099	(1,085)	-26%
714	SCG	O&M	2.C. Support Services	Fabrication & Repair	Non-RAMP	2,592	3,698	(1,105)	-30%
715	SCG	O&M	1.D. Gas Major Projects	Major Projects Management & Outreach	Real-time pressure data and providing remote control to high priority distribution sites.	479	1,593	(1,114)	-70%
716	SDG&E	O&M	3.A. Customer Services	Customer Services Field - Dispatch	Non-RAMP	3,338	4,462	(1,124)	-25%
717	SCG	O&M	1.G. Underground Storage	Storage Risk Management	Non-RAMP	1,154	2,325	(1,171)	-50%
718	SDG&E	O&M	3.A. Customer Services	Customer Programs Pricing And Other Office	Non-RAMP	5,767	6,958	(1,191)	-17%
719	SCG	O&M	1.A. Gas Distribution	Measurement & Regulation	Non-RAMP	8,502	9,702	(1,199)	-12%
720	SCG	O&M	1.A. Gas Distribution	Cathodic Protection	Requirements for Corrosion Control	18,622	19,837	(1,215)	-6%
721	SDG&E	O&M	1.A. Electric Distribution	Tech Solutions and Reliability	Non-RAMP	1,028	2,248	(1,219)	-54%
722	SCG	O&M	3.A. Balanced Program Direct O&M Expenses	DIMP Project Support	DIMP Data Maintenance	624	1,859	(1,235)	-66%



Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

723	SCG	O&M	3.A. Customer Services	CCC - Operations	Update customer information for notification/access purposes	405	1,660	(1,255)	-76%
724	SCG	Capital	4.B. Balanced Programs Direct Capital Expenses	TIMP - Dist	ILI & ECDA - cleaning and assessing internal conditions of high-pressure pipelines	3,641	4,921	(1,280)	-26%
725	SCG	O&M	3.A. Customer Services	Meter Reading - Operations	Manual Meter Reads for Atmospheric Corrosion Inspections	0	1,289	(1,289)	-100%
726	SDG&E	O&M	1.B. Electric Generation	Generation Plant Palomar	Non-RAMP	19,439	20,733	(1,294)	-6%
727	SCG	O&M	1.C. Gas Engineering	Meter Shop & Records	Non-RAMP	1,456	2,761	(1,305)	-47%
728	SCG	Capital	2.B. Information Technology & Cyber Security	IT Utility Operations Hardware - RAMP	Records Management	22	1,343	(1,321)	-98%
729	SDG&E	Capital	1.A. Electric Distribution	Electric Distribution Grid Analytics	Non-RAMP	0	1,323	(1,323)	-100%
730	SDG&E	O&M	3.C. Support Services	HQ Rent & Facilities Maintenance	Non-RAMP	1,165	2,495	(1,329)	-53%
731	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Service Maintenance	Non-RAMP	795	2,130	(1,335)	-63%
732	SDG&E	O&M	3.D. Administrative & General	SECC Outside Services Employees - F923.1	Cybersecurity	0	1,336	(1,336)	-100%
733	SDG&E	Capital	1.A. Electric Distribution	Los Coches Substation 138/69kV Rebuild	Non-RAMP	0	1,400	(1,400)	-100%
734	SCG	O&M	3.A. Customer Services	CI-Customer Assistance Programs	Natural Gas Appliance Testing (NGAT) 1	1,672	3,072	(1,400)	-46%
735	SCG	O&M	3.A. Customer Services	CCC - Support	Non-RAMP	8,674	10,083	(1,409)	-14%
736	SDG&E	O&M	1.C. Electric & Fuel Procurement	Trading & Scheduling	Non-RAMP	1,947	3,357	(1,410)	-42%
737	SCG	O&M	1.E. Gas System Integrity	Pipeline Safety & Compliance	Operational Compliance and Oversight	1,195	2,617	(1,422)	-54%
738	SDG&E	O&M	3.A. Customer Services	Marketing Research & Analytics	Non-RAMP	7,177	8,606	(1,429)	-17%
739	SCG	O&M	1.A. Gas Distribution	Locate & Mark	Locate & Mark Activities	15,088	16,532	(1,444)	-9%
740	SDG&E	Capital	2.A. Gas Distribution	New Business	Non-RAMP	6,734	8,201	(1,467)	-18%
741	SDG&E	O&M	3.B. Information Technology & Cyber Security	Managed Services Voice Enterprise	Non-RAMP	1,224	2,694	(1,470)	-55%
742	SDG&E	Capital	1.A. Electric Distribution	OIR Worst Circuits	Non-RAMP	0	1,504	(1,504)	-100%
743	SDG&E	O&M	2.D. Gas Transmission	Pipeline Operations	Non-RAMP	426	2,025	(1,599)	-79%
744	SDG&E	Capital	1.A. Electric Distribution	Borrego Microgrid 2.0	Non-RAMP	1	1,623	(1,622)	-100%
745	SCG	O&M	1.F. Gas Transmission	Technical Services	Class Location (Hydrotest)	0	1,624	(1,624)	-100%
746	SCG	Capital	1.F. Gas Transmission	GT Compressor Stations (BC 325)	Non-RAMP	0	1,694	(1,694)	-100%
747	SCG	O&M	1.D. Gas Major Projects	Major Projects Management & Outreach	Non-RAMP	829	2,558	(1,729)	-68%
748	SDG&E	Capital	2.A. Gas Distribution	Franchise Relocations	Non-RAMP	6,570	8,303	(1,733)	-21%
749	SCG	O&M	3.A. Customer Services	Advanced Meter Operations	Non-RAMP	9,558	11,296	(1,739)	-15%
750	SCG	O&M	2.E. Human Resources Dept, Safety, LTD & WC	SCG Director Org Effectiveness	Knowledge Management and Training Strategy	818	2,557	(1,739)	-68%
751	SCG	O&M	1.B. Gas Control & System Operations	Emergency Services	Safety, Wellness and Emergency Services Support	1,296	3,070	(1,774)	-58%
752	SCG	O&M	1.A. Gas Distribution	Leak Survey	Non-RAMP	938	2,777	(1,838)	-66%
753	SCG	O&M	1.E. Gas System Integrity	Records Management - From 2200-2361	Operational Compliance and Oversight	0	1,869	(1,869)	-100%
754	SCG	Capital	1.A. Gas Distribution	Cathodic Protection - RAMP	Systems are in place to monitor and manage compliance activity schedules	5,096	6,991	(1,894)	-27%
755	SDG&E	Capital	1.A. Electric Distribution	Twin Engine Helicopter	Purchase a Twin-Engine Helicopter	0	1,980	(1,980)	-100%
756	SCG	Capital	1.G. Underground Storage	GS Purification	Non-RAMP	6,756	8,748	(1,992)	-23%
757	SDG&E	Capital	2.D. Gas Transmission	GT Replacements	HCA Class Location Follow-up Mitigation	0	2,001	(2,001)	-100%
758	SDG&E	O&M	3.B. Information Technology & Cyber Security	Software Dev - Database Administrator	Non-RAMP	320	2,325	(2,005)	-86%
759	SDG&E	Capital	1.A. Electric Distribution	Rebuild Pt Loma Substation	Non-RAMP	0	2,008	(2,008)	-100%
760	SDG&E	O&M	2.A. Gas Distribution	Field O&M - Supervision & Training	Safety Policies & Programs	113	2,139	(2,026)	-95%
761	SCG	O&M	1.A. Gas Distribution	Service Maintenance	Non-RAMP	15,919	18,023	(2,103)	-12%
762	SCG	O&M	2.E. Human Resources Dept, Safety, LTD & WC	SCG Director HR Services	Workforce Planning - Software/Program Implementation.	605	2,732	(2,127)	-78%
763	SDG&E	Capital	1.A. Electric Distribution	RTU Modernization - RAMP Incremental - SCADA Master Modernization	Modernize Equipment	1,608	3,737	(2,129)	-57%
764	SDG&E	Capital	1.A. Electric Distribution	RAMP Base - Condition Based Maintenance - Smart Grid	Conditioned Based Monitoring System	0	2,180	(2,180)	-100%
765	SDG&E	Capital	1.B. Electric Generation	Miramar	Non-RAMP	1,009	3,257	(2,248)	-69%
766	SCG	Capital	1.A. Gas Distribution	Remote Meter Reading	Non-RAMP	0	2,250	(2,250)	-100%
767	SCG	O&M	2.D. Administrative & General	SECC Outside Services Employees - F923.1	Cybersecurity	0	2,434	(2,434)	-100%
768	SDG&E	O&M	3.A. Customer Services	Marketing Research & Analytics	Safety Communications (Wire Down)	4,362	6,836	(2,474)	-36%
769	SCG	O&M	2.C. Support Services	Amortization	Non-RAMP	20,936	23,440	(2,503)	-11%
770	SDG&E	O&M	3.A. Customer Services	Customer Services Field - Operations	Non-RAMP	10,125	12,673	(2,547)	-20%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

771	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	System Hardening and Helo	9,534	12,120	(2,586)	-21%
772	SCG	O&M	3.A. Customer Services	Customer Services Field - Operations	Safety-related field Orders, Field Employee meetings and Training	39,307	41,924	(2,617)	-6%
773	SDG&E	Capital	1.B. Electric Generation	Solar Photovoltaic Initiative	Non-RAMP	(2)	2,638	(2,639)	-100%
774	SDG&E	Capital	2.A. Gas Distribution	GD Local Engineering Pool	Safety policies and Programs	91	2,732	(2,641)	-97%
775	SDG&E	Capital	2.D. Gas Transmission	New Gas Transmission Pipeline	Non-RAMP	0	2,701	(2,701)	-100%
776	SDG&E	Capital	1.A. Electric Distribution	Rebuild Kearny 69/12kV Substation	Non-RAMP	6	2,888	(2,881)	-100%
777	SDG&E	Capital	3.B. Information Technology & Cyber Security	IT - Enterprise - Network - RAMP	Records Management	0	3,010	(3,010)	-100%
778	SDG&E	Capital	2.D. Gas Transmission	Compressor Stations (BC 435)	Non-RAMP	38	3,092	(3,053)	-99%
779	SCG	O&M	1.G. Underground Storage	Underground Storage	Non-RAMP	30,990	34,063	(3,073)	-9%
780	SDG&E	Capital	1.A. Electric Distribution	Ocean Ranch 69/12KV Substation	Non-RAMP	(18)	3,108	(3,126)	-101%
781	SDG&E	Capital	1.A. Electric Distribution	Replace Obsolete Substation Equipment - RAMP	Substation rebuild/replacements based on operational significance and SDG&E reliability standards	2,161	5,364	(3,204)	-60%
782	SCG	Capital	1.F. Gas Transmission	GT Auxiliary Equipment - RAMP	Operational Resiliency	0	3,217	(3,217)	-100%
783	SDG&E	O&M	1.B. Electric Generation	Generation Plant Desert Star	Non-RAMP	13,769	17,125	(3,356)	-20%
784	SDG&E	Capital	1.A. Electric Distribution	New Vine 69/12KV Substation	Non-RAMP	0	3,365	(3,365)	-100%
785	SDG&E	Capital	1.A. Electric Distribution	RAMP Base - Corrective Maint Program (CMP)	Inspection, Repair, Maintenance & Replacement Programs	10,592	13,970	(3,378)	-24%
786	SDG&E	Capital	3.C. Support Services	Remodel/Relocate/Reconfig Blanket	Modernization of Grid Control Centers	0	3,453	(3,453)	-100%
787	SCG	Capital	1.A. Gas Distribution	Supply Line Replacements	Non-RAMP	175	3,832	(3,657)	-95%
788	SDG&E	O&M	3.D. Administrative & General	Risk Management	Non-RAMP	635	4,338	(3,703)	-85%
789	SCG	O&M	1.A. Gas Distribution	Field Support	Maintenance - Pipeline observation "Standby" (From Field Support)	0	3,763	(3,763)	-100%
790	SCG	O&M	1.H. PSEP	Pipeline Safety Enhancement Program-PMO Costs	Approved PSEP program to test or replace High Consequence Area High Pressure pipelines	241	4,474	(4,233)	-95%
791	SCG	O&M	1.E. Gas System Integrity	Gas Contractor Controls	Contractor Management and Traffic Control	0	4,359	(4,359)	-100%
792	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	DIMP	Programs in place to minimize integrity risks to distribution pipelines and minimize infrastructure damage.	2,252	6,754	(4,502)	-67%
793	SCG	O&M	3.A. Balanced Program Direct O&M Expenses	Underground Storage - RSIMP	SIMP RAMP	16,716	21,362	(4,646)	-22%
794	SDG&E	O&M	3.B. Information Technology & Cyber Security	IT&OTI Contracts SS	Non-RAMP	7,028	11,729	(4,701)	-40%
795	SCG	O&M	3.B. Information Technology & Cyber Security	IT Infrastructure NSS	Non-RAMP	9,958	14,966	(5,009)	-33%
796	SCG	O&M	3.A. Customer Services	Customer Services Field - Support	Non-RAMP	10,873	15,934	(5,061)	-32%
797	SCG	Capital	1.F. Gas Transmission	Gas Transmission New Pipeline	Non-RAMP	658	5,781	(5,123)	-89%
798	SCG	O&M	2.E. Human Resources Dept, Safety, LTD & WC	SCG Director Safety & Wellness	HR sponsored employee contractor customer & public safety activities.	3,926	9,142	(5,216)	-57%
799	SDG&E	O&M	3.B. Information Technology & Cyber Security	IT Infrastructure NSS	Non-RAMP	8,221	13,604	(5,383)	-40%
800	SCG	Capital	3.A. Advanced Meter	Advanced Meter	Non-RAMP	0	5,396	(5,396)	-100%
801	SCG	Capital	1.A. Gas Distribution	Pipeline Relocations - Freeway	Non-RAMP	3,376	8,999	(5,623)	-62%
802	SDG&E	O&M	3.B. Information Technology & Cyber Security	IT Applications NSS	Non-RAMP	14,060	19,719	(5,660)	-29%
803	SDG&E	Capital	3.C. Support Services	Remodel/Relocate/Reconfig Blanket	Non-RAMP	11,044	16,945	(5,901)	-35%
804	SDG&E	Capital	3.B. Information Technology & Cyber Security	Customer Services	Non-RAMP	2,563	8,609	(6,046)	-70%
805	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	TIMP	TIMP ILI/ECDA	2,290	8,366	(6,076)	-73%
806	SDG&E	Capital	3.C. Support Services	Business Unit Expansion Blanket 2017 - 2019	Non-RAMP	1,918	8,073	(6,155)	-76%
807	SCG	Capital	1.H. PSEP	PSEP Hydrotest Capital	Approved PSEP program to test or replace High Consequence Area High Pressure pipelines	21,544	27,747	(6,203)	-22%
808	SDG&E	Capital	1.A. Electric Distribution	Transformers	Non-RAMP	16,834	24,264	(7,430)	-31%
809	SCG	Capital	1.A. Gas Distribution	Gas Meters	Non-RAMP	20,705	28,313	(7,608)	-27%
810	SCG	Capital	1.A. Gas Distribution	Regulator Stations	Non-RAMP	4,047	11,916	(7,869)	-66%
811	SCG	O&M	3.A. Customer Services	CCC - Operations	Non-RAMP	23,304	31,314	(8,010)	-26%
812	SDG&E	Capital	1.A. Electric Distribution	RAMP Base - Cable Replacement	Proactive cable replacement	10,129	18,733	(8,604)	-46%

Attachment B  
Sempra RSAR Programs Ranked by Spending Variance

813	SCG	O&M	1.H. PSEP	Pipeline Safety Enhancement Program	Approved PSEP program to test or replace High Consequence Area High Pressure pipelines	50,253	59,201	(8,948)	-15%
814	SDG&E	Capital	3.B. Information Technology & Cyber Security	IT - Enterprise - Network	Non-RAMP	29,111	38,458	(9,347)	-24%
815	SDG&E	Capital	1.A. Electric Distribution	CNF - RAMP	System Hardening	0	9,660	(9,660)	-100%
816	SCG	Capital	1.A. Gas Distribution	Pressure Betterment Projects	Non-RAMP	18,845	28,784	(9,938)	-35%
817	SCG	Capital	1.H. PSEP	PSEP PMO - RAMP	Approved PSEP program to test or replace High Consequence Area High Pressure pipelines	0	10,781	(10,781)	-100%
818	SDG&E	O&M	4.A. Balanced Program Direct O&M Expenses	Wildfire Mitigation Program	Inspection and Preventative Maintenance	1,733	12,828	(11,095)	-86%
819	SCG	Capital	1.A. Gas Distribution	Main Replacements	Non-RAMP	24,093	36,370	(12,278)	-34%
820	SDG&E	Capital	1.A. Electric Distribution	Elect Integrity - RAMP (Non-WMP)	Wire Correction, Switch Replacement and Underground Connector Upgrade Program	0	12,735	(12,735)	-100%
821	SCG	O&M	3.A. Customer Services	Customer Services Field - Operations	Non-RAMP	64,468	83,197	(18,729)	-23%
822	SDG&E	Capital	4.B. Balanced Program Direct Capital Expenses	Local Engineering Pool - Substation	Non-RAMP	3,296	23,598	(20,302)	-86%
823	SCG	Capital	4.B. Balanced Programs Direct Capital Expenses	DIMP	DIMP Programs - High Pressure Risk	838	22,643	(21,805)	-96%
824	SCG	Capital	1.H. PSEP	PSEP Valve Projects - RAMP	Approved PSEP program to test or replace High Consequence Area High Pressure pipelines	42,903	74,317	(31,414)	-42%
825	SCG	Capital	1.H. PSEP	PSEP Pipeline Replacement - RAMP	Approved PSEP program to test or replace High Consequence Area High Pressure pipelines	65,044	126,551	(61,507)	-49%