

Docket	:	<u>A.17-10-007/008</u>
Exhibit Number	:	<u>ORA-14</u>
Commissioner	:	<u>L. Randolph</u>
ALJ	:	<u>R. Lirag</u>
Witness	:	<u>K. Lee</u>



**OFFICE OF RATEPAYER ADVOCATES  
CALIFORNIA PUBLIC UTILITIES COMMISSION**

**Report on the Results of Operations  
for  
San Diego Gas & Electric Company  
Southern California Gas Company  
Test Year 2019  
General Rate Case**

**SoCalGas – Underground Storage, and  
Aliso Canyon Turbine Replacement**

San Francisco, California  
April 13, 2018

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1           **SOCALGAS – UNDERGROUND STORAGE, AND ALISO CANYON**  
2                                   **TURBINE REPLACEMENT PROJECT**

3   **I.       INTRODUCTION**

4           This exhibit presents the analyses and recommendations of the Office of  
5 Ratepayer Advocates (ORA) regarding Underground Storage proposals of Southern  
6 California Gas Company (SCG or SoCalGas) in its Test Year (TY) 2019 General  
7 Rate Case (GRC). ORA addresses SoCalGas’ forecasts of operation and  
8 maintenance (O&M) expenses for 2019 and capital expenditures for 2017 through  
9 2019. ORA also addresses SoCalGas’ proposals regarding the Aliso Canyon  
10 Turbine Replacement Project.

11   **II.      SUMMARY OF RECOMMENDATIONS**

12           **A. Underground Storage**

13           The following summarizes ORA’s recommendations regarding SoCalGas’  
14 Underground Storage O&M expenses:

15                           **1. Non-Shared**

- 16           • ORA does not oppose SCG’s proposed TY 2019 O&M expenses as  
17 shown in Table 14-1. ORA recommends one-way balancing  
18 account treatment for the Underground Storage and Aboveground  
19 Storage Routine expenses resulting from any emerging regulatory  
20 requirements adopted and implemented by the utility over the GRC  
21 period.
- 22           • ORA recommends the Commission modify the Storage Integrity  
23 Management Program Balancing Account (SIMPBA) from two-way  
24 balancing to one-way balancing to better protect ratepayers.

25                           **2. Shared**

- 26           • ORA does not oppose the SCG forecast of \$0.434 million in TY  
27 2019 Shared expenses.

28           The following summarizes ORA’s recommendations regarding SoCalGas’  
29 Underground Storage capital expenditures:

- 1 • ORA recommends adopting the 2017 adjusted-recorded capital  
2 expenditures for Underground Storage which include Compressors,  
3 Wells, Pipelines, Purification, Auxiliary Equipment, and SIMP.
- 4 • ORA does not oppose SCG's proposed capital expenditures for  
5 2018 and 2019 as tabulated in Table 14-2.
- 6 • ORA recommends a one-way balancing account for Storage Wells  
7 to record capital expenditures for wells actually completed during  
8 this GRC period.
- 9 • ORA recommends the Commission modify SIMPBA from two-way  
10 balancing to one-way balancing for capital expenditures as well as  
11 for O&M expenses to better protect ratepayers.

12 Table 14-1 compares ORA's and SoCalGas' 2019 Underground Storage  
13 expense forecasts:

14 **Table 14-1**  
15 **Underground Storage Expenses for 2019**  
16 **(in Thousands of 2016 Dollars)**

Description (a)	ORA Recommended (b)	SCG Proposed <sup>1</sup> (c)	Amount SCG>ORA (d=c-b)
<b>Non-Shared</b>			
Underground Storage and Aboveground Storage	\$38,699	\$38,699	\$0
Storage Risk Management (Non- Refundable)	\$2,031	\$2,031	\$0
Underground Storage – RSIMP	\$18,910	\$18,910	\$0
Total Non-Shared	\$59,640	\$59,640	\$0
<b>Shared</b>			
Shared Services (incurred)	\$434	\$434	\$0
Total Shared	\$434	\$434	\$0

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<sup>1</sup> Ex. SCG-10-R, p. NPN-18, Table NPN-14 for Non-Shared, p. NPN-29, Table NPN-17 for Shared.

1 Table 14-2 compares ORA's and SoCalGas' 2017-2019 Underground  
 2 Storage capital expenditure forecasts:

3 **Table 14-2**  
 4 **Underground Storage Capital Expenditures for 2017-2019**  
 5 **(in Thousands of Dollars)**

Description	ORA Recommended <sup>2</sup>			SoCalGas Proposed <sup>3</sup>		
	2017	2018	2019	2017	2018	2019
Compressors	\$5,683	\$16,496	\$25,700	\$9,000	\$16,496	\$25,700
Wells	\$51,446	\$49,125	\$60,559	\$59,585	\$49,125	\$60,559
Pipelines	\$21,017	\$12,880	\$7,680	\$20,347	\$12,880	\$7,680
Purification	\$2,915	\$9,785	\$5,610	\$5,510	\$9,785	\$5,610
Auxiliary Equipment	\$17,618	\$19,740	\$19,675	\$19,206	\$19,740	\$19,675
SIMP	\$61,968	\$71,370	\$53,382	\$75,285	\$71,370	\$53,382
Compressors – ACTR	\$19,602	\$1,250	\$0	\$19,602	\$1,250	\$0
Total	\$180,250	\$180,646	\$172,606	\$208,535	\$180,646	\$172,606

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7 **B. Aliso Canyon Turbine Replacement Project**

8 The following summarizes ORA's recommendations regarding SoCalGas'  
 9 Aliso Canyon Turbine Replacement Project:

- 10 • ORA does not oppose SCG's presentation to justify the  
 11 reasonableness of the ACTR expenditures. ORA recommends the  
 12 Commission or an assigned entity perform a full audit of the  
 13 expenditures to determine the reasonableness of all the charges at  
 14 the completion of the project.

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<sup>2</sup> 2017 amounts except for ACTR are the adjusted-recorded expenditures, see SCG Response to ORA Data Request ORA-SCG-159-KCL, March 23, 2018.

<sup>3</sup> Ex. SCG-10-R, p. NPN-31, Table NPN-18.

1 Table 14-3 presents SoCalGas' cost comparison for the Aliso Canyon Turbine  
2 Replacement Project:

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**Table 14-3**  
**Aliso Canyon Turbine Replacement Project**  
**Planned Versus Actual Cost Comparison**  
**(in Millions of Dollars)**

Description	SoCalGas Proposed <sup>4</sup>		
	2009 Appl	EAC	Variance
Central Compressor Station	\$166.0	\$146.6	-\$19.4
Environmental	\$1.0	\$13.0	\$12.0
Substation & Electrical Infrastructure	\$10.2	\$23.9	\$13.7
Buildings	\$0.9	\$13.5	\$12.6
Other Construction	\$0.2	\$8.4	\$8.2
Company Labor	\$0.0	\$7.2	\$7.2
Indirects	\$22.6	\$62.9	\$40.3
Total	\$200.9	\$275.5	\$74.6

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<sup>4</sup> Ex. SCG-11, p. DLB-11, Table DLB-1. Also, "2009 Appl" refers to Application (A.) 09-09-020, and "EAC" is the Estimated Cost at Completion.

1 **PART I: UNDERGROUND STORAGE EXPENSES**

2 **I. NON-SHARED EXPENSES**

3 The adjusted-recorded O&M expenses from 2012 to 2016 and the Test Year  
4 2019 forecasted expenses for three subcategories, the Underground & Aboveground  
5 Storage, Storage Risk Management (Non-Refundable), and the Refundable Storage  
6 Integrity Management Program (RSIMP) are tabulated in Table 14-4 below. Each of  
7 these subcategories will be addressed in the subsections that follow.

8 **Table 14-4**  
9 **Non-Shared Underground Storage Expenses**  
10 **2012-2016 Recorded and 2019 Forecast**  
11 **(in Thousands of 2016 Dollars)**

Description	2012	2013	2014	2015	2016	SCG 2019	ORA 2019
Underground & Aboveground Storage	\$32,857	\$31,928	\$31,144	\$31,052	\$33,323	\$38,698	\$38,698
Storage Risk Mgmt (Non-Refundable)	0	0	0	0	\$479	\$2,031	\$2,031
Underground Storage – RSIMP	0	0	0	0	\$12,051	\$18,910	\$18,910
Total	\$32,857	\$31,928	\$31,144	\$31,052	\$45,853	\$59,639	\$59,639

12 Source: Ex. SCG-10-WP-R, pgs. 5, 25, and 32.

13 **A. Underground and Aboveground Storage – Routine O&M**

14 **1. Overview of SCG’s Request**

15 SCG’s 2019 Test Year Routine O&M proposal for Underground and  
16 Aboveground Storage (AGS and UGS) is \$38.699 million. The adjusted-recorded  
17 expenses amount for the base-year 2016 is \$33.323 million as shown in Table 14-4.  
18 The labor portion of the 2019 proposal was forecasted based on a five-year trend of  
19 the 2012 to 2016 adjusted-recorded expenses plus the incremental costs associated  
20 with the increasing requirements and emerging regulations. The non-labor portion  
21 was forecasted by adding incremental costs to the 2016 base-year amount.<sup>5</sup> The

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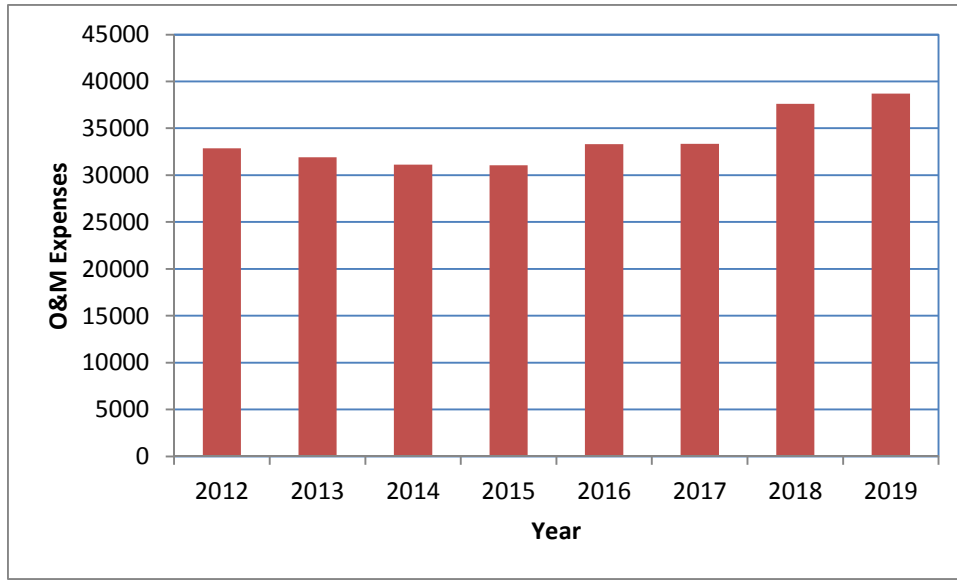
<sup>5</sup> Ex. SCG-10-R, p. NPN-22, lines 20 to 28.



1 historical trend of the expenses along with the 2018 and 2019 forecast for  
2 Underground & Aboveground Storage are displayed on a bar chart in Figure 14-1.

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**Figure 14-1**  
**Underground & Aboveground Storage Expenses**  
**2012-2017<sup>6</sup> Recorded and 2018-2019 Forecast**  
**(in Thousands of 2016 Dollars)**



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8 SCG cited the new and emerging regulations that impact the forecast. These  
9 emerging regulations include:<sup>7</sup>

- 10 • Division of Oil, Gas, and Geothermal Resources (DOGGR)  
11 Requirements for
- 12 • California Underground Gas Storage Projects, outlined in 14  
13 California Code of Regulations (CCR) § 1724.9. Gas Storage  
14 Projects, and proposed new Article 4 Requirements for  
15 Underground Gas Storage Projects DOGGR 14 CCR § 1726 with  
16 subsections 1726.1 through 1726.10.
- 17 • DOGGR Underground Injection Control (UIC) guidelines as outlined  
18 in DOGGR 14 CCR § 1724.6. Approval of Underground Injection  
19 Projects, which is currently undergoing revision.

<sup>6</sup> For adjusted-recorded 2017 expenses, see Ex. ORA-01, Attachment 2.

<sup>7</sup> Ex. SCG-10-R, pgs. NPN-iv to NPN-v, and p. NPN-20, lines 16 to 26, and p. NPN-21, lines 1 to 8.

- 1 • U.S. Department of Transportation Pipeline and Hazardous  
2 Materials Safety
- 3 • Administration (PHMSA) Underground Natural Gas Storage (UGS)  
4 regulations 49 Code of Federal Regulations (CFR) §192.12 (Interim  
5 Final Rule or IFR).
- 6 • California Senate Bill (SB) 887 (Pavley) Natural Gas Storage  
7 Facility Monitoring.
- 8 • California Air Resources Board (CARB) Oil and Gas Regulation,  
9 proposed
- 10 • Regulation for greenhouse gas emission standards for crude oil  
11 and natural gas facilities.

12 In addition, the non-labor cost incremental is also driven by new and  
13 increased regulatory fees and special leak surveys. The increased fees include the  
14 DOGGR Gas Storage Assessment Fee, and the PHMSA DOT Pipeline User Fee  
15 Assessment. The special leak surveys require the hiring of contractors and the use  
16 of the thermal imaging technology.<sup>8</sup>

## 17 **2. ORA's Analysis**

18 The adjusted-recorded expenses from 2012 to 2015 were stable and on a  
19 slightly downward trend, with only a modest increase of approximately \$2 million in  
20 2016. The average annual adjusted-recorded O&M expenses from 2012 to 2016 is  
21 \$32.061 million (see Table 14-4). The SCG proposed Test Year 2019 expense is  
22 \$38.698 million, which is \$6.637 million higher than the five-year average. The SCG  
23 testimony, with a portion of it summarized above, attributed much of the increase to  
24 new regulatory requirements.

25 A closer review of these new emerging regulations shows that most of them  
26 are still in draft forms and under review. At this juncture, the final forms of the  
27 regulations are still unknown. The incremental O&M expenses resulting from the  
28 implementation of the final form of the regulations should be recorded in a balancing  
29 account. To protect ratepayers, ORA recommends that SCG should receive a one-  
30 way balancing account to record all the ABS and UGS O&M expenses resulting from

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<sup>8</sup> Ex. SCG-10-R, page NPN-23, lines 21-28.

1 any new regulatory requirements to be imposed on the utility over the GRC period.  
2 With the creation of a one-way balancing account, ORA does not recommend  
3 adjusting the SCG proposed O&M expenses of \$38.698 million for TY 2019, as this  
4 appropriately balances ratepayer protection with the uncertainty of when and how  
5 the final regulations will be adopted. For comparison purposes, the adjusted-  
6 recorded expenses for 2017 equaled \$33.329 million.

7 **B. Storage Risk Management (Non-Refundable)**

8 **1. Overview of SCG's Request**

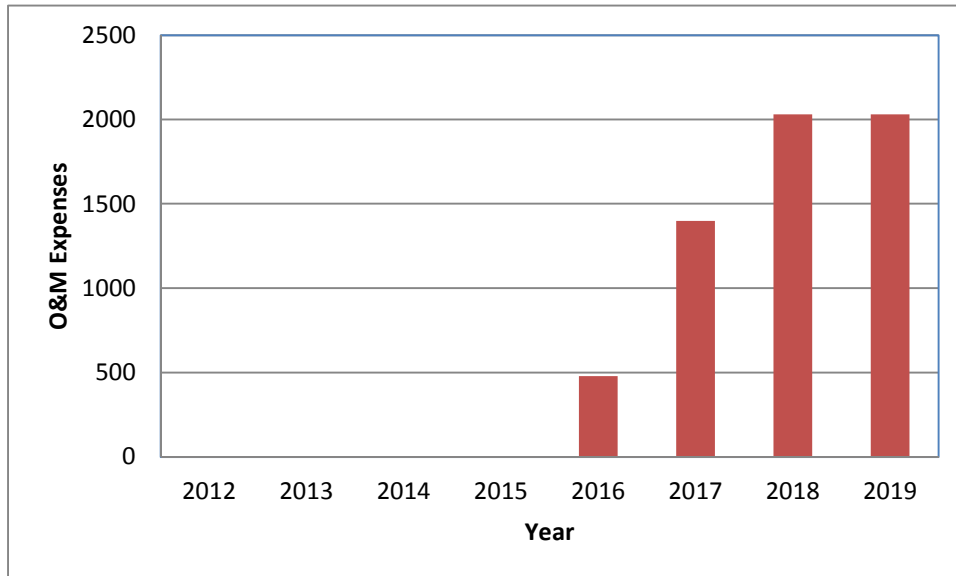
9 The O&M costs in Storage Risk Management are for the support of the  
10 aboveground monitoring, data management, compliance, and audit support for all  
11 the storage fields to address CARB, DOGGR, and PHMSA regulations. The Test  
12 Year 2019 forecast is \$2.031 million. The amount is derived from 2016 base year  
13 spending plus projected incremental costs.<sup>9</sup> A bar chart of the expenses is shown in  
14 Figure 14-2.

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<sup>9</sup> Ex. SCG-10-R, page NPN-24, lines 12 to 20, and Table NPN-15.

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**Figure 14-2**  
**Storage Risk Management Expenses**  
**2016-2017<sup>10</sup> Recorded and 2018-2019 Forecast**  
**(in Thousands of 2016 Dollars)**



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## **2. ORA's Analysis**

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ORA does not recommend any adjustment to the TY 2019 forecast of \$2.031 million in Storage Risk Management expenses. For comparison purposes, the adjusted-recorded expenses for 2017 equaled \$1.398 million.

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## **C. Underground Storage – RSIMP**

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### **1. Overview of SCG's Request**

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RSIMP stands for Refundable Storage Integrity Management Program. The Commission approved a two-way balancing account SIMPBA to record the costs in the last GRC.<sup>11</sup> SCG designed and proposed SIMP in the past GRC “to provide a proactive, methodical, and structured approach, using state-of-art inspection technologies and risk management disciplines to address storage field and well

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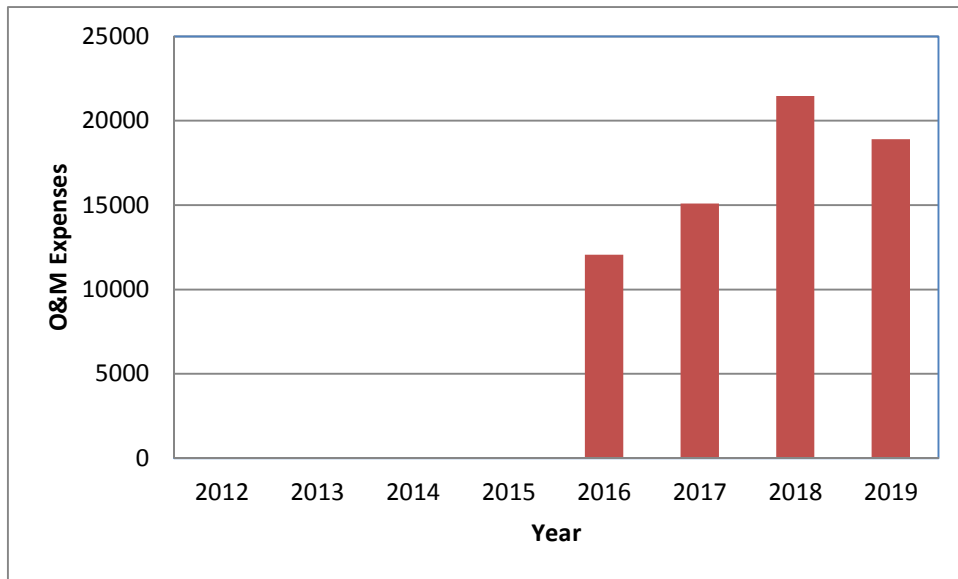
<sup>10</sup> For adjusted-recorded 2017 expenses, see Ex. ORA-01, Attachment 2.

<sup>11</sup> D.16-06-054, p. 330, OP 8(f).

1 integrity issues.”<sup>12</sup> SCG requests that this two-way balancing account continue into  
2 the TY 2019 GRC.<sup>13</sup>

3 SCG forecasts O&M expenses of \$18.91 million for TY 2019, as compared to  
4 the adjusted-recorded of \$12.051 million for 2016.<sup>14</sup> The O&M forecast assumes  
5 that the draft regulations as discussed earlier will be implemented.<sup>15</sup> A bar chart of  
6 the expenses is shown in Figure 14-3.

7 **Figure 14-3**  
8 **RSIMP Expenses**  
9 **2016-2017<sup>16</sup> Recorded and 2018-2019 Forecast**  
10 **(in Thousands of 2016 Dollars)**



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<sup>12</sup> Ex. SCG-10-R, page NPN-25, lines 9 to 11.

<sup>13</sup> Ex. SCG-10-R, page NPN-25, lines 18 to 19.

<sup>14</sup> Ex. SCG-10-R, page NPN-25, Table NPN-16.

<sup>15</sup> Ex. SCG-10-R, page NPN-26, line 4.

<sup>16</sup> For adjusted-recorded 2017 expenses, see Ex. ORA-01, Attachment 2.

1                               **2. ORA’s Analysis**

2                   ORA does not recommend any adjustment to SCG’s forecasted TY 2019  
3 expenses of \$18.91 million for RSIMP. For comparison purposes, the adjusted-  
4 recorded expenses for 2017 equaled \$15.108 million. ORA also recommends that  
5 the Commission modify SIMPBA from a two-way balancing to a one-way balancing  
6 account to better protect the ratepayers. SCG has had adequate experience  
7 recording SIMP expenses in the balancing account. In the recent GRC period, SCG  
8 has opportunities to determine inspection costs and degree of repair work needed.  
9 SCG should be proficient going forward in recording these expenses in a one-way  
10 balancing account. With a two-way balancing account, SCG would be able to spend  
11 without restriction. A one-way balancing account will encourage SCG to spend  
12 within the amount authorized and encourage cost efficiency, less cost variability, and  
13 thus would better protect the ratepayers.

14                   **II. SHARED EXPENSES**

15                   Shared services are activities performed for the benefit of SDG&E or SCG,  
16 Sempra Energy Corporate Center, and/or any unregulated subsidiaries. The  
17 forecasted shared expenses allocated to SCG for TY 2019 is shown in Table 14-5.  
18 ORA does not oppose SCG’s forecast of \$434,000 in TY 2019 for Shared Expenses.  
19 For comparison purposes, the adjusted-recorded expenses for 2017 equaled  
20 \$464,000.

21   **Table 14-5**  
22   **Shared Underground Storage Expenses**  
23   **2012-2016 Recorded and 2019 Forecast**  
24   **(in Thousands of 2016 Dollars)**

<b>Description</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>SCG 2019</b>	<b>ORA 2019</b>
Senior VP – Storage and Transmission	0	0	0	0	\$455	\$434	\$434
Total	0	0	0	0	\$455	\$434	\$434

25                   Source: Ex. SCG-10-WP-R, p. 52.

1 **PART II: UNDERGROUND STORAGE CAPITAL EXPENDITURES**

2 **I. SUMMARY OF UNDERGROUND STORAGE CAPITAL**  
3 **EXPENDITURES: 2012 – 2016**

4 The adjusted-recorded capital expenditures for underground storage from  
5 2012 to 2016 are tabulated in Table 14-6. These expenditures are shown for seven  
6 main categories: Compressors, Wells, Pipelines, Purification, Auxiliary Equipment,  
7 SIMP, and Aliso Canyon Turbine Replacement Project (ACTR).

8 **Table 14-6**  
9 **Gas Distribution Underground Storage**  
10 **Recorded 2012-2016 Capital Expenditures**  
11 **(in Thousands of Dollars)**

Description	2012	2013	2014	2015	2016
Compressors	\$7,415	\$8,895	\$11,764	\$15,302	\$13,072
Wells	\$9,592	\$10,859	\$29,178	\$36,575	\$25,729
Pipelines	\$6,148	\$3,962	\$2,723	\$6,301	\$15,205
Purification	\$6,153	\$9,185	\$13,742	\$6,386	\$2,051
Auxiliary Equipment	\$6,008	\$10,940	\$11,205	\$21,117	\$24,079
SIMP	0	0	0	0	\$45,278
Compressors – ACTR	\$2,800	\$6,700	\$83,900	\$65,700	\$70,700
Total	\$38,116	\$50,541	\$152,512	\$151,381	\$196,114

12 Source: 2012-2016 data from Sempra email to ORA dated January 25, 2018, except for ACTR  
13 Compressors data which is from Ex. SCG-11-CWP, p. SCG-11-CWP-01.

14 **II. UNDERGROUND STORAGE CAPITAL EXPENDITURES: 2017 –**  
15 **2019**

16 **A. Compressors**

17 Capital expenditures for natural gas compressors are proposed for all four of  
18 SCG’s underground storage facilities, Goleta, Honor Ranch, Playa Del Rey, and  
19 Aliso Canyon. These forecasted expenditures are shown in Table 14-7. The  
20 equipment included are turbines, engines, high pressure gas compressors,  
21 compressed air system equipment, fire suppression systems, gas scrubbers, and  
22 related control instruments. The capital expenses include the necessary capital for  
23 maintenance, replacements, and upgrades of the various storage field compressors

1 to uphold compliance, and to meet the required injection capacities.<sup>17</sup> The bar chart  
 2 displaying the historical total Storage Compressors capital expenditures is shown in  
 3 Figure 14-4. The 2017 expenditures shown in Figure 14-4 and in Table 14-7 under  
 4 “ORA Recommended” is adjusted-recorded data provided by SCG.<sup>18</sup>

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**Table 14-7**  
**Storage Compressors**  
**2017-2019 Capital Expenditure**  
**(in Thousands of 2016 Dollars)**

Description	ORA Recommended			SoCalGas Proposed <sup>19</sup>		
	2017	2018	2019	2017	2018	2019
Goleta–Main Unit #4O	\$501	\$326	\$0	\$2,000	\$326	\$0
Honor Ranch – Replace MA	\$167	\$3,000	\$10,000	\$1,000	\$3,000	\$10,000
Playa Del Rey – Wet Gas	\$460	\$1,000	\$0	\$1,000	\$1,000	\$0
Compressors – Blanket Projects	\$4,555	\$12,170	\$15,700	\$5,000	\$12,170	\$15,700
Total	\$5,683	\$16,496	\$25,700	\$9,000	\$16,496	\$25,700

<sup>17</sup> Ex. SCG-10-R, p. NPN-31.

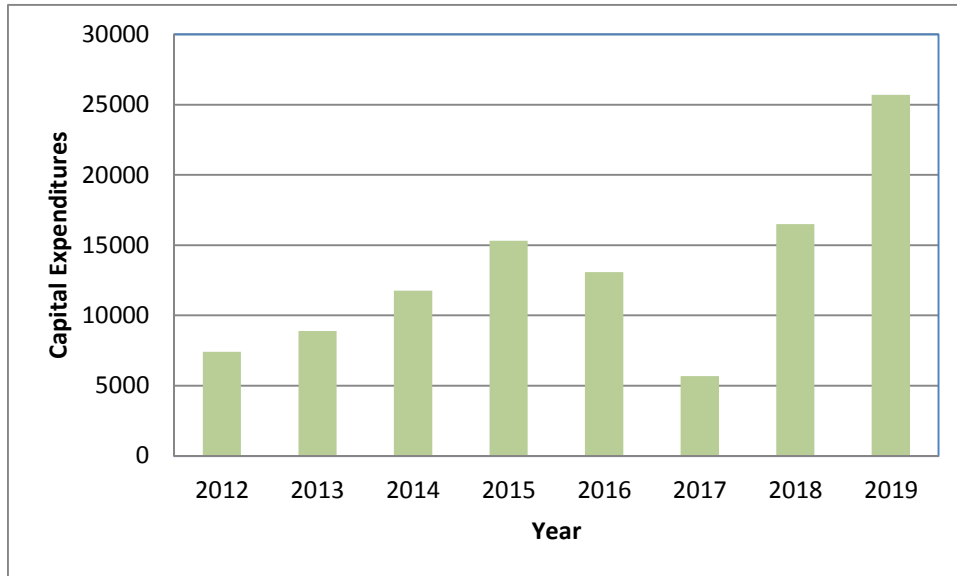
<sup>18</sup> SCG Response to ORA Data Request ORA-SCG-159-KCL, March 23, 2018. Detailed breakdown derived from taking ratio of base values.

<sup>19</sup> Ex. SCG-10-R, p. NPN-32, Table NPN-19.



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**Figure 14-4**  
**Storage Compressors Capital Expenditures**  
**2012-2017 Recorded and 2018-2019 Forecast**  
**(in Thousands of 2016 Dollars)**



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### 1. Overview of SCG's Request

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SCG's total forecasted storage compressor expenditures are \$9.000 million for 2017, \$16.496 million for 2018, and \$25.700 million for 2019 as shown in Table 14-7.

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The major expenditures are for the Honor Ranch Compressor Replacement Study which peak at \$10.000 million in 2019. SCG claimed that the cost estimate for this replacement study was based on two methods. One was from the article "Oil & Gas Journal, Regressions allow development of compressor cost estimation models" dated 1/09/2012, and the other was from a recent SCG Aliso Canyon Turbine Replacement (ACTR) Project.<sup>20</sup> The other significant expenditures are in Blanket Projects. A data response details significant overhaul and upgrade work in Honor Ranch and Aliso Canyon in 2018 and 2019.<sup>21</sup>

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<sup>20</sup> SCG Response to ORA Data Request ORA-SCG-118-KCL, Q. 1, February 13, 2018.

<sup>21</sup> SCG Response to ORA Data Request ORA-SCG-118-KCL, Q. 2, February 13, 2018.

1                                   **2. ORA’s Analysis**

2                   Based on the review of the SCG testimony and SCG’s data responses, ORA  
3 does not recommend any adjustment to SCG’s forecast of \$16.496 million for 2018  
4 and \$25.7 million for 2019 in the Storage Compressor area. ORA recommends the  
5 adoption of the adjusted-recorded expenditures of \$5.683 million for 2017.

6                                   **B. Storage Wells**

7                   Storage wells capital expenditures include expenses for replacing  
8 components on existing wells and the design, drilling and completion of replacement  
9 wells for injection and withdrawal of natural gas and reservoir observation  
10 purposes.<sup>22</sup> SCG’s forecasted and ORA’s recommended expenditures are  
11 tabulated in Table 14-8 for each sub-category under storage wells. A bar chart  
12 displaying the historical total Storage Wells capital expenditures is shown in Figure  
13 14-5. The 2017 expenditure shown in Figure 14-5 and in Table 14-8 under “ORA  
14 Recommended” is adjusted-recorded data.<sup>23</sup>

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<sup>22</sup> Ex. SCG-10-R, p. NPN-35, lines 23 to 25.

<sup>23</sup> SCG Response to ORA Data Request ORA-SCG-159-KCL, March 23, 2018. Detailed breakdown derived from taking ratio of base values.

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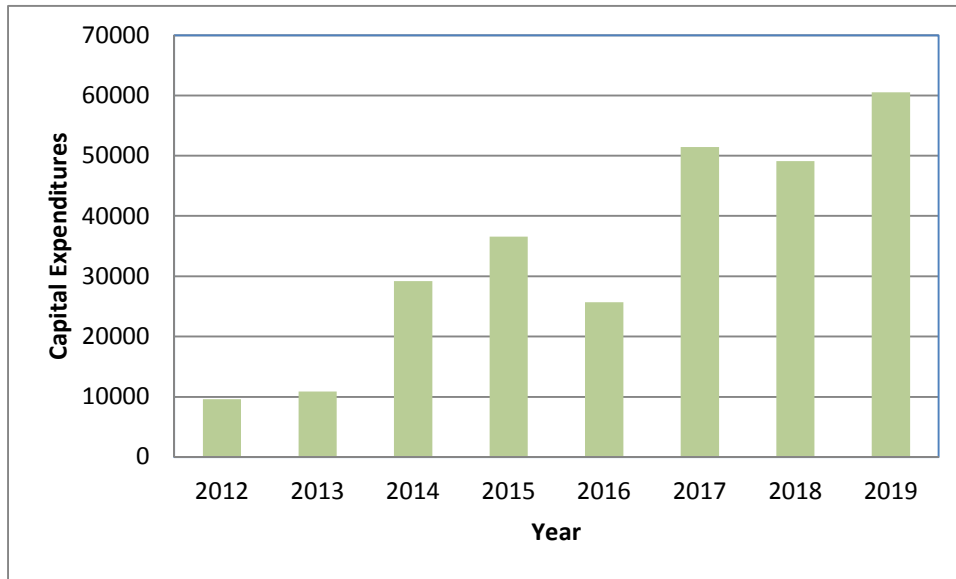
**Table 14-8  
Storage Wells  
2017-2019 Capital Expenditure  
(in Thousands of 2016 Dollars)**

Description	ORA Recommended			SoCalGas Proposed <sup>24</sup>		
	2017	2018	2019	2017	2018	2019
Well Replacements	-\$34	\$18,000	\$49,000	\$4,000	\$18,000	\$49,000
Well Plug & Abandon	\$31,441	\$23,150	\$7,250	\$38,900	\$23,150	\$7,250
Tubing Upsizing	\$966	\$1,050	\$0	\$2,680	\$1,050	\$0
Well Workovers	\$17,742	\$5,369	\$969	\$11,969	\$5,369	\$969
Wellhead Repairs & Replacements	\$691	\$556	\$0	\$1,036	\$556	\$0
Well Recompletions	\$0	\$0	\$0	\$0	\$0	\$0
Gas Storage – Wells – Blanket Projects	\$639	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Cushion Gas Purchase	\$0	\$0	\$2,340	\$0	\$0	\$2,340
Total	\$51,446	\$49,125	\$60,559	\$59,585	\$49,125	\$60,559

<sup>24</sup> Ex. SCG-10-R, p. NPN-36, Table NPN-20.

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**Figure 14-5  
Storage Wells Capital Expenditures  
2012-2017 Recorded and 2018-2019 Forecast  
(in Thousands of 2016 Dollars)**



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### **1. Overview of SCG's Request**

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Well Replacements and Well Plug & Abandon are the two sub-categories with the highest capital expenditures. The Well Replacements expenditures increase from \$4.000 million in 2017 to \$49.000 million in 2019, while Well Plug & Abandon expenditures decrease from \$38.900 million in 2017 to \$7.250 million in 2019. SCG plans to replace one water withdrawal well and three storage wells from 2017 to 2018, and seven storage wells in 2019.<sup>25</sup> According to a SCG data response to ORA, SCG fully plugged and abandoned 14 wells in 2017 for a total recorded expenditure of \$32.300 million. SCG anticipates fully plugging and abandoning approximately 57 to 65 wells by the end of 2019.<sup>26</sup>

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<sup>25</sup> Ex. SCG-10-R, p. NPN-37, lines 15 and 16.

<sup>26</sup> SCG Response to ORA Data Request ORA-SCG-119-KCL, February 12, 2018.

## 2. ORA's Analysis

ORA reviewed SCG's forecasted capital expenditures on Storage Wells and recommends no adjustments to the forecasted amount of \$49.125 million for 2018 and \$60.559 million for 2019. ORA recommends the adoption of the adjusted-recorded expenditures of \$51.446 million for 2017. ORA also recommends a one-way balancing account for SCG to record the expenditures for Storage Wells. From 2017 to 2018, SCG only planned to replace four wells total, or an average of 2 wells a year. SCG's plan to replace seven storage wells in 2019 is over four times its current pace. A balancing account would allow SCG to record only the amount actually spent. This balancing account would work effectively in conjunction with the SIMPBA for the SIMP program described above.

### C. Pipelines

Storage Pipelines includes costs for upgrading and/or replacing failed field piping and related components. SCG's forecasted capital expenditures for 2017 to 2019 and ORA's recommended expenditures are tabulated in Table 14-9. A bar chart showing the historical expenditures is displayed in Figure 14-6. The 2017 expenditure shown in Figure 14-6 and in Table 14-9 under "ORA Recommended" is adjusted-recorded data.<sup>27</sup>

ORA does not recommend any adjustment to SCG's forecasted capital expenditures of \$12.880 million for 2018 and \$7.680 million for 2019 in Storage Pipelines. ORA recommends the adoption of the adjusted-recorded expenditures of \$21.017 million for 2017.

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<sup>27</sup> SCG Response to ORA Data Request ORA-SCG-159-KCL, March 23, 2018. Detailed breakdown derived from taking ratio of base values.

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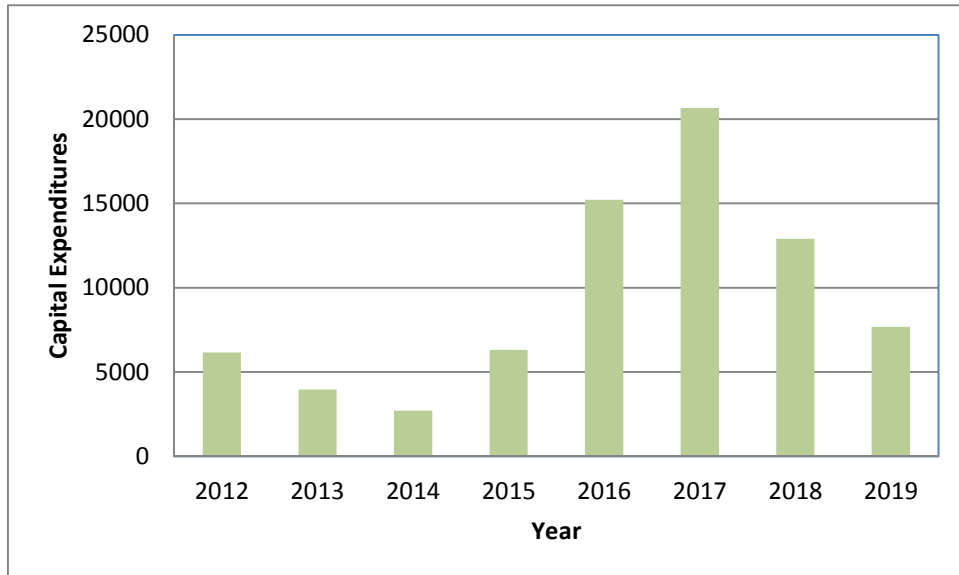
**Table 14-9  
Pipelines  
2017-2019 Capital Expenditure  
(in Thousands of 2016 Dollars)**

Description	ORA Recommended			SoCalGas Proposed <sup>28</sup>		
	2017	2018	2019	2017	2018	2019
Aliso Canyon – Valve Replacements	\$316	\$880	\$880	\$880	\$880	\$880
Aliso Canyon – Pipe Bridge Replacement	\$0	\$8,000	\$0	\$8,000	\$8,000	\$0
Pipelines – Blanket Projects	\$20,701	\$4,000	\$6,800	\$11,467	\$4,000	\$6,800
Total	\$21,017	\$12,880	\$7,680	\$20,347	\$12,880	\$7,680

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**Figure 14-6  
Storage Pipelines Capital Expenditures  
2012-2017 Recorded and 2018-2019 Forecast  
(in Thousands of 2016 Dollars)**



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<sup>28</sup> Ex. SCG-10-R, p. NPN-42, Table NPN-21.

1 **D. Storage Purification Systems**

2 Storage Purification Systems includes costs for equipment used primarily for  
 3 the removal of impurities from, or the conditioning of, natural gas withdrawn from  
 4 storage. SCG’s forecasted capital expenditures for 2017 to 2019 and ORA’s  
 5 recommended expenditures are tabulated in Table 14-10. A bar chart displaying the  
 6 historical capital expenditures is shown in Figure 14-7. The 2017 expenditure shown  
 7 in Figure 14-7 and in Table 14-10 under “ORA Recommended” is adjusted-recorded  
 8 data.<sup>29</sup>

9 ORA does not recommend any adjustment to SCG’s forecasted capital  
 10 expenditures of \$9.785 million for 2018 and \$5.610 million for 2019 in Storage  
 11 Purification Systems. ORA recommends the adoption of the adjusted-recorded  
 12 expenditures of \$2.915 million for 2017.

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**Table 14-10**  
**Storage Purification Systems**  
**2017-2019 Capital Expenditure**  
**(in Thousands of 2016 Dollars)**

Description	ORA Recommended			SoCalGas Proposed <sup>30</sup>		
	2017	2018	2019	2017	2018	2019
Aliso Canyon Dehydration Upgrades	\$846	\$1,250	\$1,250	\$750	\$1,250	\$1,250
Goleta Dehydration Upgrades	\$85	\$3,050	\$0	\$0	\$3,050	\$0
Purification – Blanket Projects	\$1,984	\$5,485	\$4,360	\$4,760	\$5,485	\$4,360
Total	\$2,915	\$9,785	\$5,610	\$5,510	\$9,785	\$5,610

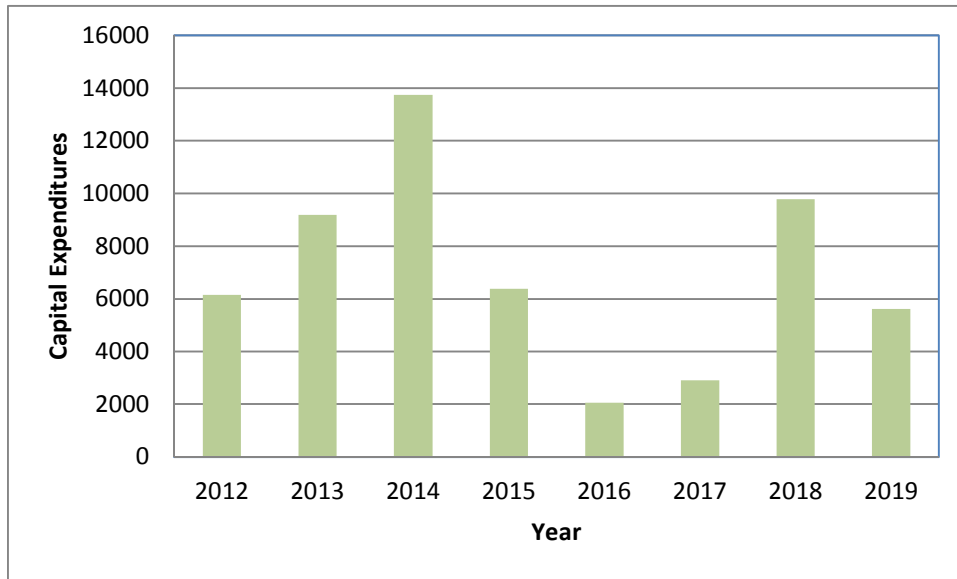
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<sup>29</sup> SCG Response to ORA Data Request ORA-SCG-159-KCL, March 23, 2018. Detailed breakdown derived from taking ratio of base values.

<sup>30</sup> Ex. SCG-10-R, p. NPN-44, Table NPN-22.

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**Figure 14-7**  
**Storage Purification Systems Capital Expenditures**  
**2012-2017 Recorded and 2018-2019 Forecast**  
**(in Thousands of 2016 Dollars)**



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### **E. Storage Auxiliary Systems**

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Storage Auxiliary Systems includes costs for work on field equipment such as instrumentation, measurement, controls, electrical, drainage, infrastructure, safety, security, and communications systems that are not covered under other budget codes. SCG's forecasted capital expenditures for 2017 to 2019 and ORA's recommended expenditures are tabulated in Table 14-11. A bar chart displaying the historical expenditures is shown in Figure 14-8. The 2017 expenditure shown in Figure 14-8 and in Table 14-11 under "ORA Recommended" is adjusted-recorded data.<sup>31</sup>

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ORA does not recommend any adjustment to SCG's forecasted capital expenditures of \$19.740 million for 2018 and \$19.675 million for 2019 in Storage Auxiliary Systems. ORA recommends the adoption of the adjusted-recorded expenditures of \$17.618 million for 2017.

<sup>31</sup> SCG Response to ORA Data Request ORA-SCG-159-KCL, March 23, 2018. Detailed breakdown derived from taking ratio of base values.



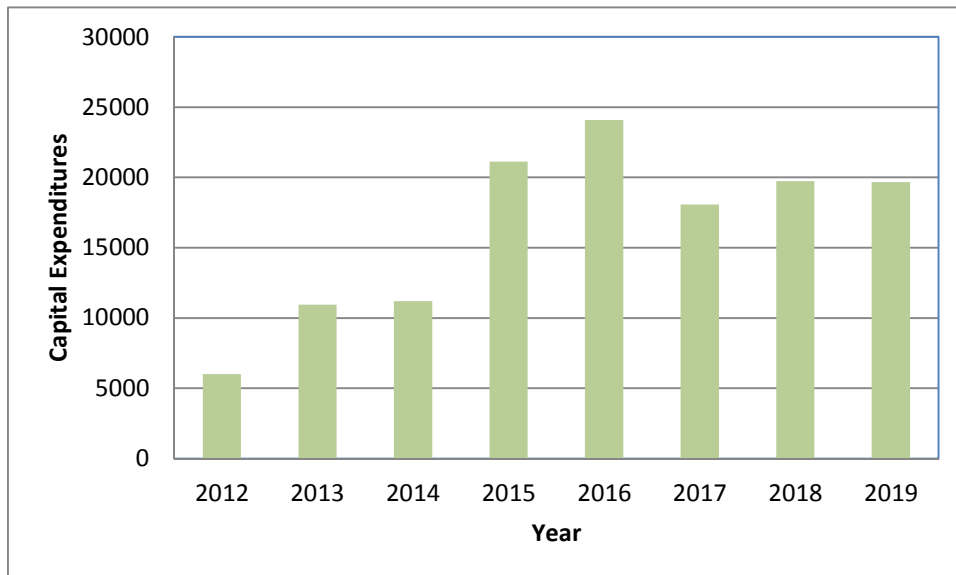
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**Table 14-11**  
**Storage Auxiliary Systems**  
**2017-2019 Capital Expenditure**  
**(in Thousands of 2016 Dollars)**

Description	ORA Recommended			SoCalGas Proposed <sup>32</sup>		
	2017	2018	2019	2017	2018	2019
Aliso – OH Power System Upgrades	\$1,248	\$1,000	\$1,250	\$0	\$1,000	\$1,250
Aliso – GO95 Electric System Upgrades	\$2,494	\$2,520	\$2,500	\$3,450	\$2,520	\$2,500
Aliso – Fernando Fee 32 Slop Stability	\$2,601	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Aliso – Sesnon Gathering Plant Relief	\$413	\$750	\$500	\$750	\$750	\$500
Honor Ranch – Op Center Modernization	\$90	\$1,000	\$1,800	\$200	\$1,000	\$1,800
Playa Del Rey – Hillside Soil Erosion & Slope Stabilization	\$109	\$2,500	\$1,000	\$400	\$2,500	\$1,000
Auxiliary Equipment – Blanket Projects	\$10,664	\$10,970	\$11,625	\$13,406	\$10,970	\$11,625
<b>Total</b>	<b>\$17,618</b>	<b>\$19,740</b>	<b>\$19,675</b>	<b>\$19,206</b>	<b>\$19,740</b>	<b>\$19,675</b>

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**Figure 14-8**  
**Storage Auxiliary System Capital Expenditures**  
**2012-2017 Recorded and 2018-2019 Forecast**  
**(in Thousands of 2016 Dollars)**



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<sup>32</sup> Ex. SCG-10-R, p. NPN-47, Table NPN-23.

1 **F. Storage Integrity Management Program**

2 The O&M discussion above references to several emerging regulations from  
 3 DOGGR, PHMSA, SB 887, and CARB that would affect SCG’s expenditures during  
 4 this GRC. The adoption of the final form of the regulations will affect both the O&M  
 5 and capital expenditures. SCG’s forecasted capital expenditures and ORA’s  
 6 recommended capital expenditures for the programs under SIMP are tabulated in  
 7 Table 14-12 and a bar chart showing the historical expenditures is displayed in  
 8 Figure 14-9. The 2017 expenditure shown in Figure 14-9 and in Table 14-12 under  
 9 “ORA Recommended” is adjusted-recorded data.<sup>33</sup>

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**Table 14-12**  
**Storage Integrity Management Program**  
**2017-2019 Capital Expenditure**  
**(in Thousands of 2016 Dollars)**

Description	ORA Recommended			SoCalGas Proposed <sup>34</sup>		
	2017	2018	2019	2017	2018	2019
Plug & Abandonment of Wells	\$5,237	\$1,900	\$0	\$3,800	\$1,900	\$0
Inspection / Return to Operation	\$55,989	\$68,120	\$46,232	\$68,905	\$68,120	\$46,232
Data Management	\$741	\$1,350	\$650	\$2,580	\$1,350	\$650
Emerging Monitoring Integrity & Safety Technology Pilot	\$0	\$0	\$5,000	\$0	\$0	\$5,000
Cathodic Protection	\$0	\$0	\$1,500	\$0	\$0	\$1,500
Total	\$61,968	\$71,370	\$53,382	\$75,285	\$71,370	\$53,382

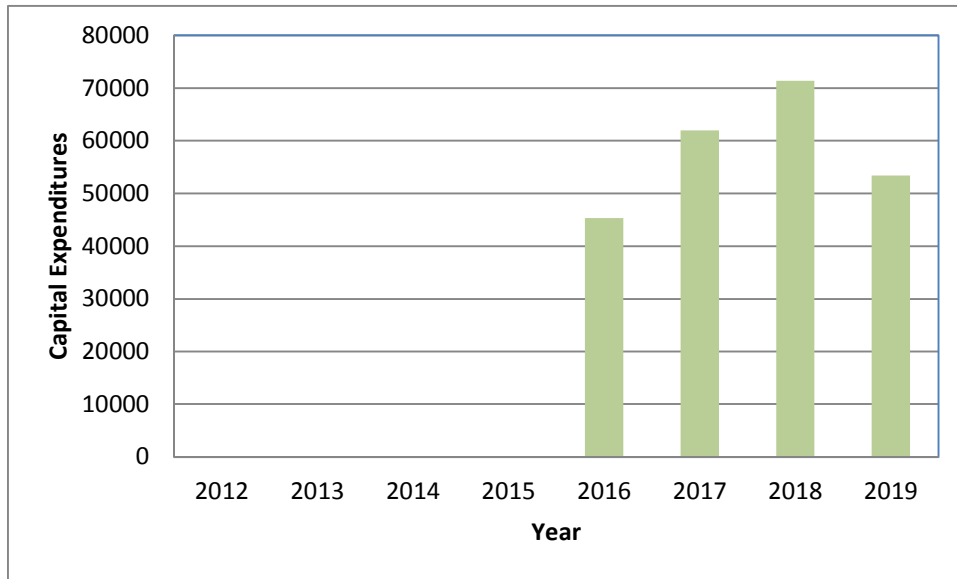
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<sup>33</sup> SCG Response to ORA Data Request ORA-SCG-159-KCL, March 23, 2018. Detailed breakdown derived from taking ratio of base values.

<sup>34</sup> Ex. SCG-10-R, p. NPN-51, Table NPN-24.

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**Figure 14-9**  
**SIMP Capital Expenditures**  
**2012-2017 Recorded and 2018-2019 Forecast**  
**(in Thousands of 2016 Dollars)**



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### 1. Overview of SCG's Request

SCG proposed for SIMP capital expenditures is \$75.285 million for 2017, \$71.370 million for 2018, and \$53.382 million for 2019. A major portion of the expenditures are allocated for the sub-category Inspection/Return to Operation.

SCG proposed the continuation of the two-way balancing account SIMPBA treatment of all the SIMP costs. The SIMPBA was adopted in the last GRC.<sup>35</sup> SCG indicated that upcoming new regulations influenced the forecast of both O&M and capital expenditures for SIMP. The actual expenditures will depend on the implementation of the final forms of these regulations. The SIMP gas well inspection and return to operation depend on equipment and personnel used throughout the oil and gas industry. With the increase in activities of the industry from mid-2016, there

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<sup>35</sup> D.16-06-054, p. 330, OP 8(f).

1 is increased competition for those resources. Costs to secure the resources can  
2 vary greatly in the future.<sup>36</sup>

3 **2. ORA's Analysis**

4 ORA does not recommend any adjustment to SCG's forecasted TY 2019  
5 capital expenditures of \$71.370 million for 2018, and \$53.382 million for 2019, but  
6 ORA recommends the adoption of the adjusted-recorded expenditures of \$61.968  
7 million for 2017. As with the SIMP O&M expenditures, ORA also recommends that  
8 the Commission modify SIMPBA from a two-way balancing to a one-way balancing  
9 to better protect the ratepayers. SCG has had experience recording SIMP costs in  
10 the balancing account in the last GRC. SCG has opportunities to determine  
11 inspection costs and degree of repair needed in the current GRC period. They  
12 should be proficient going forward in recording these expenses in a one-way  
13 balancing account. With a two-way balancing account, SCG would be able to spend  
14 without restriction. A one-way balancing account would encourage SCG to spend  
15 within the amount authorized and encourage cost efficiency, less cost variability, and  
16 thus would better protect ratepayers.

17 **G. Compressors – Aliso Canyon Turbine Replacement**

18 SCG's forecast for Aliso Canyon Turbine Replacement Project is \$19.602  
19 million for 2017, \$1.250 million for 2018, and zero for 2019.<sup>37</sup> ORA does not  
20 recommend any adjustment to SCG's forecast. The SCG forecasts and ORA  
21 recommendations are tabulated in Table 14-13.

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<sup>36</sup> Ex. SCG-10-R, pp. NPN-51 to -52.

<sup>37</sup> Ex. SCG-10-R, p. NPN-58, lines 6 and 7.

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**Table 14-13**  
**Compressors – Aliso Canyon Turbine Replacement**  
**2017-2019 Capital Expenditure Forecast**  
**(in Thousands of 2016 Dollars)**

Description	ORA Recommended			SoCalGas Proposed <sup>38</sup>		
	2017	2018	2019	2017	2018	2019
Aliso Canyon Turbine Replacement	\$19,602	\$1,250	\$0	\$19,602	\$1,250	\$0

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<sup>38</sup> Ex. SCG-10-R, p. NPN-58, Table NPN-25.

1           **PART III: ALISO CANYON TURBINE REPLACEMENT PROJECT**

2           **I.       BACKGROUND**

3           SCG originally filed an application in 2009 to replace three obsolete natural  
4 gas turbine-driven compressors and associated equipment with a new compressor  
5 station and associated equipment in Aliso Canyon.<sup>39</sup> The application asked the  
6 Commission to adopt a Mitigated Negative Declaration for the project. However, the  
7 Commission’s Energy Division determined that an Environmental Impact Report  
8 (EIR) was required. As a result, the process of reviewing and approving the project  
9 took more than four years instead of the six months SCG anticipated. The decision  
10 approving the project, D.13-11-023, authorized recovery of SCG’s estimated total  
11 capital costs of \$200.9 million in the application. The decision also acknowledged  
12 the approval delay and implemented a process for SCG to seek recovery of the  
13 costs exceeding the \$200.9 million, which included recording the increased costs in  
14 a memorandum account and conducting a reasonableness review following the  
15 completion of the project in the next GRC.<sup>40</sup>

16           **II.     2019 GENERAL RATE CASE**

17           In its testimony, SCG attempts to establish the reasonableness of \$275.5  
18 million in capital expenditures to complete the Aliso Canyon Turbine Replacement  
19 Project, and request the Commission to authorize the recovery in rates of \$74.6  
20 million in costs that exceed the previously-authorized \$200.9 million for the project.<sup>41</sup>

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<sup>39</sup> Application (A.) 09-09-020.

<sup>40</sup> Ex. SCG-11, p. DLB-6, lines 3-24, and p. DLB-7, lines 1 to 19.

<sup>41</sup> Ex. SCG-11, p. DLB-4, lines 4 to 9.

1 **A. Overview of SCG’s Request**

2 SCG indicated that the project cost elements are Central Compressor Station,  
3 Substation and Electrical Infrastructure, Environmental, Buildings, Other, Company  
4 Labor, and Indirects.<sup>42</sup> The Planned costs from the original 2009 Application and  
5 the current Estimate at Completion (EAC) costs are tabulated in Table 14-14 below.

6 **Table 14-14<sup>43</sup>**  
**Planned versus Estimate at Completion (EAC) Cost Comparison**  
*(In Millions)*

Scope	Application (2009 \$)	EAC	Variance
Central Compressor Station	\$166.0	\$146.6	-\$19.4
Environmental	\$1.0	\$13.0	\$12.0
Substation & Electrical Infrastructure	\$10.2	\$23.9	\$13.7
Buildings	\$0.9	\$13.5	\$12.6
Other	\$0.2	\$8.4	\$8.2
Company Labor	\$0.0	\$7.2	\$7.2
Indirects	\$22.6	\$62.9	\$40.3
<b>Total</b>	<b>\$200.9</b>	<b>\$275.5</b>	<b>\$74.6</b>

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8 SCG cited many reasons for the higher EAC costs. It offered detailed  
9 justifications for the higher costs for each of the project cost elements. Under  
10 Environmental, the EIR identified additional and significant potential environmental  
11 impacts that required costly mitigation; under Substation & Electrical Infrastructure,  
12 higher costs are required for final design approach, new site preparation, and  
13 upgrade in powerline design; under Buildings, a steel buildings was built to replace  
14 the trailers, and a new guard house was erected driven by building code; under  
15 Other, new fill sites had to be developed because the old site was no longer  
16 available for the project, and temporary working space was installed for Aliso staff  
17 during construction; under Company Labor, costs were increased for work on  
18 California Environmental Quality Act (CEQA) and EIR and other project execution;

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<sup>42</sup> Ex. SCG-11, p. DLB-10, lines 10 to 13.

<sup>43</sup> Ex. SCG-11, p. DLB-11, Table DLB-1.

1 under Indirects, costs were higher because of the schedule and duration changes,  
2 the increase in direct capital costs results in higher Allowance for Funds Used  
3 During Construction (AFUDC), and property taxes has to be included because of a  
4 revision on SCG's practice to capitalize property tax at the time of filing  
5 applications.<sup>44</sup>

6 SCG also claimed that due to price escalation, the 2009 Application estimate  
7 of \$200.9 million would compare to approximately \$232 million today.<sup>45</sup>

## 8 **B. ORA's Analysis**

9 In its testimony, SCG presents the reasons for the cost variances for each  
10 major project cost elements in its effort to justify its claim that the total cost variance  
11 in the ACTR project is reasonable. ORA does not take issue with SCG's  
12 presentation in its testimony at this time. Decision (D.) 13-11-023 stated that "If  
13 Project costs exceed \$200.9 million, a review of the reasonableness of all costs and  
14 consideration of increasing the maximum reasonable cost of the Project will be  
15 conducted in SoCalGas' general rate case (GRC) following project completion."<sup>46</sup>  
16 The ACTR project is not scheduled to be completed until 2018 as costs are still  
17 forecasted for the year. ORA recommends that after the ACTR project is completed  
18 and put in service, a full audit of the SCG expenditures be performed by the  
19 Commission or an assigned entity to determine the reasonableness of all the  
20 charges, or even perform a reasonableness review in the next GRC.

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<sup>44</sup> Ex. SCG-11, p. DLB-11 to DLB-28.

<sup>45</sup> Ex. SCG-11, p. DLB-32, lines 5 to 7.

<sup>46</sup> D.13-11-023, p.33.



1 **WITNESS QUALIFICATIONS**

2 My name is Kelly C. Lee. My business address is 505 Van Ness Avenue,  
3 San Francisco, California. I am employed by the Office of Ratepayer Advocates  
4 (ORA) as a Senior Utilities Engineer in the Energy Safety and Infrastructure Branch.

5 I received a Bachelor of Science degree in Mechanical Engineering from San  
6 Jose State University, a Master of Science degree and a Master of Engineering  
7 degree from the University of California, Berkeley, and a Master of Business  
8 Administration degree from the University of San Francisco. I am a registered  
9 Professional Engineer in Mechanical Engineering in the State of California.

10 Before joining the Commission, I worked in the private industry performing  
11 engineering research and analysis, managing programs, and supervising engineers  
12 in the aerospace and alternate energy fields. Since joining the Commission in 1999,  
13 I have worked as an analyst and project coordinator on various gas, electric, and  
14 telecommunication cases.

15 This completes my prepared testimony.