Question 6.1a:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.

SoCalGas Responses 6.1a:

a. The proposed schedule is consistent with the Commission requirement set forth in D.11-06-017 on page 19 that PSEP be completed "as soon as practicable" and the directives in the Natural Gas Pipeline Safety Act of 2011 that the plan "shall include a timeline for completion that is as soon as practicable" (Pub. Util. Code § 958).

Question 6.1b:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.

SoCalGas Responses 6.1b:

b. One of the primary objectives of PSEP is to maximize the cost effectiveness of safety investments for the benefit of customers, as indicated on pages RDP-A-5, RDP-A-15, RDP-A-16, RDP-A-20, RDP-A-21 and RDP-57 of SCG-15. The forecasted costs are based on project-specific estimates that were developed for each pipeline project, based on detailed engineering and project planning analysis.

SoCalGas does not forecast its revenue requirement for individual projects or work activities at the level of detail requested. Page RDP-A-21 of Exhibit SCG-15 describes the process of normalizing the forecasted PSEP O&M expenditures for the test year. The normalized 2019 PSEP O&M expenditures as well as any PSEP capital expenditures projected to be in service by TY 2019 were an input to the overall forecasted TY 2019 SoCalGas revenue requirement.

Beyond 2019, an attrition mechanism is established to escalate revenue requirement throughout the post-test years until a new rate case can be filed and approved. In the case of PSEP, a specific revenue requirement "adder" was included in the Post-Test Year request for the entirety of the PSEP capital forecasts projected to be in-service in the post-test years. Revenue requirement was not forecasted on a PSEP project by project basis. Please see the Direct testimony of Jawaad Malik (Exhibit SCG-44) beginning on page JAM-9 for Post-Test Year Ratemaking. Details for PSEP for 2020-2022 can be found in the PSEP workpapers of Jawaad Malik (Exhibit SCG-44-WP) starting on page SCG-44 WP JAM PSEP-1.

Question 6.1c:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.

SoCalGas Responses 6.1c:

c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

Please see attached estimate for a detailed breakdown of costs. Costs incurred prior to 2018 were incurred in 2017.

- **Material** is required for test heads, replacement sections, and to perform hydrotesting operations.
- **Environmental** is included for abatement activities, water sampling, environmental monitors, and industrial hygienists.
- **Surveying/Permitting/Monitoring** is required to locate the pipeline, update GIS databases, monitor for protected species, and to acquire work permits with municipalities and environmental agencies.
- Land & Right-of-Way Acquisition Lay-down Area, temporary right of entry costs
- **Company Labor** is required to schedule, perform cost controlling, estimating, project management, contract issuing and field oversight.
- Other Capital Costs are required to perform project engineering and design, project management, environmental services, and survey service.

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Question 6.1d:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

d. Please provide the cost model utilized to determine the cost estimates provided in response to part c above. If available in Excel spreadsheet format, provide with all formulas and links intact.

SoCalGas Responses 6.1d:

d. Please see the attachment provided in response to Question 1C. "IS DR-06 Q 01C CONFIDENTIAL 85 Ph2 Stage 3 Est 05-15-2017 redacted.xlsx"

Please see illustrative example below for Line 85, indicating where in the attached spreadsheets this information can be obtained for each project. Open attachment "IS DR-06 Q01C CONFIDENTIAL 85 Ph2 Stage 3 Est 05-15-2017 _redacted" and go to worksheet tab: Project Summary.

Cost splits are based on the percentage of capital and O&M identified in the Construction Contractor (Row 6) and Material (Row 9) portion of the estimate. The percentages in column O, P and Q are then applied to all other non-construction contractor and material portion of the estimate.

a K		L			M	N	0	Р	Q
4		\$		\$	55,152,632.71	\$ 2,337,351.94	0%	96%	4%
5		0&M		Plant		Abandon	O&M	Plant	Abandon
6	Construction Contractor	\$		\$	40,630,188.61	\$ 2,337,351.94			1
7	SCG Labor - Mgmt. & Non I	\$		\$	-	\$-			
8	SCG Labor - Union T/H								
э	Material- Pipe & Fittings	\$		\$	14,522,444.10	\$-			

SoCalGas Responses 6.1d Continued:

The following table is an example of how the capital, abandonment and O&M are calculated. The table below labeled SCG Company Labor, followed by "Base Engineering Hours" is the 100% for the project. It is followed by "Capital Installation", "Capital Abandonment", and "O&M." Each SCG Company Labor area below the "Base Engineering Hours" portion of the estimate are calculated by taking the "Base Engineering" cost and multiplying it against the percentage split shown in the above table in the "project summary" worksheet. The same logic is used for calculating the "Additional Costs" portion of each estimate.

4	L	M	N	0	P	Q	B	S				
247	SCG COMPANY LABOR											
248	Base Engineering Hours											
249	SCG - PSEP Project (Field Management)	1374	HB			\$ 109,899.8	1					
250	SCG - PSEP Project (Field Management) Close-	113	HR			\$ 9,035.00)					
251	SCG - PSEP Project Manager	40166	HR			\$ 3,213,27	1					
252	SCG - PSEP Project Engineers	643	HR			\$ 41,779.36	5		1000/ of Cost			
253	SCG - Environmental Services		HR			\$ 243,585.00)		100% of Cost			
254	SCG - Engineering Services		HR									
255	SCG - Inspectors / CA's	1870	HR			\$ 121,550.00						
256	SCG - Other Departments	32874	HR			\$ 820,260.50)					
257	SCG - Distribution Field Services	3660	HR			\$ 527,500.00						
258	SCG - Transmission Field Services		HR									
259	SCG - Pipeline Integrity Services		HB									
260	SCG - Other Field Departments		HB									
261	CAPITALINSTALLATION											
262	SCG - PSEP Project (Field Management)	1 318	HD			105 431 6/		t 105.432				
263	SCG - PSEP Project (Field Management) Close-	108	HB			\$ 8,667,6		\$ 8,668				
264	SCG - PSEP Project Manager	38,533	HB			\$ 3,082,630,00	j i	\$ 3.082.630				
265	SCG - PSEP Project Engineers	617	HR			\$ 40,080.7	5	\$ 40,081	96% of Cost			
266	SCG - Environmental Services	•	HR			\$ 233,681.64	L	\$ 233,682	5070 01 0030			
267	SCG - Engineering Services		HR			s -		\$ -	L			
268	SCG - Inspectors / CA's	1,794	HR			\$ 116,608.18	3	\$ 116,608				
269	SCG - Other Departments	31,537	HR			\$ 786,911.43	3	\$ 786,911				
270	SCG - Distribution Field Services	3,511	HB			\$ 506,053,60)	\$ 506,054				
271	SCG - Transmission Field Services		HB			1 .	-	1				
272	SCG - Pipeline Integrity Services		HB			s -		\$ -				
273	SCG - Other Field Departments		HB					•				
274								•				
275	SCG - RSEP Project (Field Management)	56	HD			4 468 1		t 4.468				
270	SUG - PSEP Project (Field Management) Close-					* 967.94	-	• 4,400 • 267				
270	Dut SCC - DSED Desires Message	1622				* 120 640 9	-	• 120 641	10/ of Cost			
277	200 DEED Design Explosure	1,000				+ 100,040.04	-	+ 100,041	4% 01 COSt			
278	SCG - FSEP Project Engineers	20				* 1,030.0	-	 1,000 9,000 				
279	SCG - Environmental Services					3,303.30		\$ 3,303 •				
280	SCG - Engineering Services							• • • •				
281	SCG - Inspectors r CA s	10				\$ 4,341.02	-	\$ 4,342 * 00.040				
202	200 Distribution Field Services	1,001				3 00,040.0		\$ 00,040 * 01.446				
283	SCG - Other Field Departments	140				3 21,440.40	,	\$ 21,440				
204	0 * M		115			[• ·		•				
285	CO. DEED Devices (Einid Massersers)		ND.			1						
286	SUG - PSEP Project (Field Wanagement) SUG - PSEP Project (Field Wanagement) Close-						-	•				
207	Out						-		0% of Cost			
288	SUG - FSEP Project Wanager						-					
289	SUG - PSEP Project Engineers		HR			-	-					
290	SUG - Environmental Services	•	HR			· · ·	-	•				
291	SUG - Engineering Services	•	HR			· · ·		\$ ·				
292	SCG - Inspectors / CA's		HR			· ·		\$				
293	SCG - Other Departments	•	HR			· ·		\$.				
294	SCG - Distribution Field Services	· · ·	HR			-		\$ -				

Question 6.1e:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.

SoCalGas Responses 6.1e:

e. Work performed prior to 2018 is associated with the planning and engineering design for projects anticipated to be in construction in 2019. For details on PSEP's planning and engineering design work please refer to SCG-15 Direct Testimony (Phillips) at pp. RDP-A-23 and 24. The forecast or actual spending on this project has not been previously reviewed in any proceeding before the CPUC.

Question 6.1f:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.

SoCalGas Responses 6.1f:

f. SoCalGas objects to the phrase "and that this pipeline is not otherwise safe for continued operation past 2022" on the basis it lacks foundation and is misleading. SoCalGas has not asserted that this pipeline is not otherwise safe for continued operation past 2022. Subject to and without waiving the foregoing objection, SoCalGas responds as follows:

The proposed schedule is consistent with the Commission requirement set forth in D.11-06-017 on page 19 that PSEP be completed "as soon as practicable" and the directives in the Natural Gas Pipeline Safety Act of 2011 that the plan "shall include a timeline for completion that is as soon as practicable" (Pub. Util. Code § 958).

Please see Page RDP-A-6 of Ex. SCG-15 for additional details regarding Phase 1B.

Question 6.1g:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.

SoCalGas Responses 6.1g:

- g. Please see the attachment provided in response to Question 1C.
 - Field Overhead see worksheet tab "Construction Contractor."
 - SoCalGas Labor see worksheets "Engr" and "CM."

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Question 6.1h:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components. Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs

SoCalGas Responses 6.1h:

h. It is typical on PSEP projects to have a project team comprised of both full-time Company employees and Contract employees. "Other Capital Costs" represents costs for contracted Purchased Services (i.e., contract employees hired to augment staffing of SoCalGas/SDG&E company employees).

Engineering and Project Management include activities that are captured in different areas of the estimates. Costs were determined based on an execution strategy, anticipated construction duration and planned activities. See attached estimate provided in response to Question 1C.

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Question 6.1i:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.

SoCalGas Responses 6.1i:

i. SoCalGas objects to the portion of the question that asks, "why it is required to inflate the cost estimates with contingency adders," on the grounds it lacks foundation and is misleading. The inclusion of contingency is standard in the industry to capture costs that, although not individually itemized, are reasonably anticipated to be incurred on construction projects. Subject to and without waiving the foregoing objection, SoCalGas responds as follows:

Yes, there are contingency adders included. The contingency adders are located in the worksheet "Risk Detail" for each corresponding estimate. Contingency percentages are located in column "H" in the "Risk Detail" sheet which is referenced in the "Estimate" worksheet in column "U."

Contingency is a direct cost to the project and is anticipated to be spent over the course of engineering, design, procurement, and construction. Per the Association for the Advancement of Cost Engineering (AACEi), contingency is defined as:

An amount added to an estimate to allow for items, conditions, or events for which the state, occurrence, or effect is uncertain and that experience shows will likely result, in aggregate, in additional costs. Typically estimated using statistical analysis or judgment based on past asset or project experience. Contingency usually excludes: 1) Major scope changes such as changes in end product specification, capacities, building sizes, and location of the asset or project; 2) Extraordinary events such as major strikes and natural disasters; 3) Management reserves; and 4) Escalation and currency effects. Some of the items, conditions, or events for which the state, occurrence, and/or effect is uncertain include, but are not limited to, planning and estimating errors and omissions, minor price fluctuations (other than general escalation), design developments and changes within the scope, and variations in market and environmental conditions. Contingency is generally included in most estimates, and is expected to be expended.¹

¹ See AACEi Recommended Practice 10S-90, *Cost Engineering Terminology*, available for free to the general public at https://web.aacei.org/docs/default-source/rps/10s-90.pdf?sfvrsn=18.

Question 6.1j:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.

SoCalGas Responses 6.1j:

j. As shown in the capital workpapers, 2017-2019 capital expenditures depicted in witness testimony are presented as direct costs for labor and non-labor, and in the cases where standard escalation is not applicable, are classified as non-standard escalation or 'NSE.' As such, the only additional adder included in the labor forecast is vacation and sick (V&S) time. A standard V&S rate is applied to the forecasted labor cost of a project, as shown in the applicable capital workpaper.

Question 6.1k:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.

SoCalGas Responses 6.1k:

k. No. There are no indirect cost included in these cost estimates.

Question 6.11:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

1. Please provide all workpapers from the 2016 RAMP Report associated with this project.

SoCalGas Responses 6.11:

- Workpapers associated with SoCalGas and SDG&E's RAMP Report can be accessed using the following steps: Visit the RAMP proceeding on SDG&E's website: <u>https://www.sdge.com/regulatory-filing/20016/risk-assessment-and-mitigation-phase-report-sdge-socalgas</u>.
 - Click on "Discovery."
 - Click on "CUE."
 - The risk reduction workpapers are shown as "CUE DR-01 RAMP RSE Workpapers." The cost-related workpapers are labeled as "CUE DR-01 Cost Workpapers."

In addition, as stated in the Direct Testimony of RAMP to GRC Integration witness Jamie York (Exhibit SCG-02-R/SDGE-02-R, Chapter 3), "much information from the RAMP Report was transcribed and is shown in the GRC witness' workpapers to provide context as well as a comparison reference to the RAMP Report itself.

Question 6.1m:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.

SoCalGas Responses 6.1m:

m. As mentioned in the RAMP Report Chapter A at p. SDGE/SCG A-2, "The purpose of RAMP is not to request funding. Any funding requests will be made in the GRC. RAMP mitigation forecasts are provided only to estimate a range that will be refined with supporting testimony in the GRC." Accordingly, the project assumptions and estimated costs put forth in the RAMP Report were superseded by the requests made in supporting testimony in the Test Year 2019 GRC. For the locations of the requested projects in the RAMP Report, please refer to the response to part l above.

Question 6.1n:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.

SoCalGas Responses 6.1n:

n. SoCalGas objects to Question 6-1.n. on the ground that it seeks information that is beyond the scope of permissible discovery contemplated by Rule 10.1 of the Rules of Practice and Procedure of the California Public Utilities Commission. Question 6-1.n. seeks legal conclusions rather than the production of evidence of a factual matter. SoCalGas further objects to Question 6-1.n. to the extent it requires SoCalGas to search its files for matters of public record, including in state and federal codes and proceedings (regulations, decisions, orders, etc.). This information is available equally to Indicated Shippers. Subject to and without waiving the foregoing objections, SoCalGas responds as follows:

The design, construction and testing of the pipeline is governed by state regulations which flow from federal regulations. 49 Code of Federal (CFR), Section 192.

Question 6.10:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.

SoCalGas Responses 6.1o:

o. SoCalGas objects to Question 6-1.o. on the ground that it seeks information that is beyond the scope of permissible discovery contemplated by Rule 10.1 of the Rules of Practice and Procedure of the California Public Utilities Commission. Question 6-1.o. seeks legal conclusions rather than the production of evidence of a factual matter. SoCalGas further objects to Question 6-1.o. to the extent it requires SoCalGas to search its files for matters of public record, including in state and federal codes and proceedings (regulations, decisions, orders, etc.). This information is available equally to Indicated Shippers. Subject to and without waiving the foregoing objections, SoCalGas responds as follows:

Yes. See the Natural Gas Pipeline Safety Act of 2011 and California Public Utilities Commission decisions in R.11-02-019 and A.11-11.002.

Question 6.1p:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes SoCalGas compliant with these regulations.

SoCalGas Responses 6.1p:

p. SoCalGas objects to Question 6-1.p. on the ground that it seeks information that is beyond the scope of permissible discovery contemplated by Rule 10.1 of the Rules of Practice and Procedure of the California Public Utilities Commission. Question 6-1.p. seeks legal conclusions rather than the production of evidence of a factual matter. SoCalGas further objects to Question 6-1.p. to the extent it requires SoCalGas to search its files for matters of public record, including in state and federal codes and proceedings (regulations, decisions, orders, etc.). This information is available equally to Indicated Shippers. Subject to and without waiving the foregoing objections, SoCalGas responds as follows:

SoCalGas is unaware of any applicable proposed state or federal regulations.

Question 6.1q:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

q. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.

SoCalGas Responses 6.1q:

q. SoCalGas and SDG&E object to this request on the ground that it seeks information that is beyond the scope of permissible discovery contemplated by Rule 10.1 of the Rules of Practice and Procedure of the California Public Utilities Commission. Subject to and without waiving the foregoing objection, SoCalGas and SDG&E respond as follows:

Risk Reduction, Risk Spend Efficiency and Risk Mitigated to Cost Ratio calculations were not presented in the TY 2019 GRC. This approach is consistent with guidance stemming from the RAMP proceeding, as shown in the Revised Direct Testimony of Diana Day (Exhibit SCG-02-R/SDG&E-02-R, Chapter 1): "Through the SED Evaluation Report and comments submitted in response to both the SED Evaluation Report and the Companies' RAMP Report, stakeholders agreed that the RSEs are evolving, should be further refined in the S-MAP, and have limited usefulness in their current state." (Exhibit SCG-02-R/SDG&E-02-R, Chapter 1 at p. DD-17 lines 18-21.) SoCalGas and SDG&E's comments in the RAMP proceeding stated "the Utilities do not plan to include their nascent RSE calculations in the upcoming TY 2019 GRC. However, the Utilities will work with the parties and the Commission in the S-MAP proceeding toward furthering development of a more useful effectiveness metric in the next RAMP." (I.16-10-015/I.16-10-016. SoCalGas and SDG&E Opening Comments (April 24, 2017), at 4-5; and SoCalGas and SDG&E Reply Comments (May 9, 2017), at 6-8.) Please see the Revised Direct Testimony of Diana Day (Exhibit SCG-02-R/SDG&E-02-R, Chapter 1) and the Direct Testimony of Jamie York (Exhibit SCG-02-R/SDG&E-02-R, Chapter 3) for more information regarding the Commission's guidance in presenting the first-ever risk-informed GRC.

Question 6.1r:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

r. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.

SoCalGas Responses 6.1r:

r. Line 85 Elk Hills to Lake Station Replacement Project consist of 0.014 miles of Category 4 pipe and 10.363 miles of Category 1 pipe. It consists of 9.015 miles in a Class 1 area and 1.362 miles in a Class 2 area.

This project has Phase 2A scope and, as stated on pg. RDP-A-7 of SCG-15, Phase 2A addresses pipe located in Class 1 and 2 non-high consequence areas.

Question 6.1s:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

s. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.

SoCalGas Responses 6.1s:

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

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Question 6.1t:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

t. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.

SoCalGas Responses 6.1t:

t. There are 8 buildings within 300 feet of the pipe associated with Line 85 Elk Hills to Lake Station Replacement Project.

Question 6.1u:

6-1. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 85 Elk Hills to Lake Station Replacement Project.

u. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.1u:

u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions,

There are no other PSEP pipeline projects in the San Joaquin Valley adjacent, or in the vicinity of the Line 85 Elk Hills to Lake Station in this application, thus there are no economies of scale captured in relation to work on the same line or in the same area.

- 6-2. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 36-9-09 North Section 12 Replacement Project.
 - a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.
 - b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.
 - c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.
 - d. Please provide the cost model utilized to determine the cost estimates provided in response to part c. above. If available in Excel spreadsheet format, provide with all formulas and links intact.
 - e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.

Question 6.2 – Continued

- f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.
- g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.
- h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components. Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs
- i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.
- j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.
- k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.
- I. Please provide all workpapers from the 2016 RAMP Report associated with this project.
- m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.
- n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.

Question 6.2 – Continued

- p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes SoCalGas compliant with these regulations.
- q. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.
- r. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.
- s. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.
- t. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.
- u. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.2:

- a. See response to Q.6-1 (a).
- b. See response to Q.6-1 (b).
- c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

See response to Q.6-1 (c) and the attached file. "IS DR-06 Q02c CONFIDENTIAL 36-9-09 N Sec12 Ph1B Stage 3 Est 01-17-17 redacted"

- d. See response to Q.6-1 (d).
- e. See response to Q.6-1 (e).
- f. See response to Q.6-1 (f).
- g. See response to Q.6-1 (g).
- h. See response to Q.6-1 (h).
- i. See response to Q.6-1 (i).
- j. See response to Q.6-1 (j).
- k. See response to Q.6-1 (k).
- 1. See response to Q.6-1 (l).
- m. See response to Q.6-1 (m).
- n. See response to Q.6-1 (n).
- o. See response to Q.6-1 (o).
- p. See response to Q.6-1 (p).
- q. See response to Q.6-1 (q).
- r. Line 36-9-09 North Section 12 consists of Category Four pipe in a Class 1 area.

This project has Phase 2A scope and, as stated on pg. RDP-A-7 of SCG-15, Phase 2A addresses pipe located in Class 1 and 2 non-high consequence areas.

SoCalGas Responses 6.2 Continued:

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

"IS DR-06 Q02S CONFIDENTIAL 36-9-09 N Sec12.kmz"

- t. There are 0 buildings within 300 feet of the pipe associated with Line 36-9-09 North Section 12 Replacement Project.
- u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions.

- 6-3. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 36-9-09 North Section 14 Replacement Project.
 - a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.
 - b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.
 - c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.
 - d. Please provide the cost model utilized to determine the cost estimates provided in response to part c. above. If available in Excel spreadsheet format, provide with all formulas and links intact.
 - e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.
 - f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.

Question 6.3 – Continued

- g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.
- h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components. Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs
- i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.

j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.

- k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.
- I. Please provide all workpapers from the 2016 RAMP Report associated with this project.
- m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.
- n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.

Question 6.3 – Continued

- p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes SoCalGas compliant with these regulations.
- q. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.
- r. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.
- s. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.
- t. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.
- u. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.3:

- a. See response to Q.6-1 (a).
- b. See response to Q.6-1 (b).
- c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

See response to Q.6-1 (c) and the attached file. "IS DR-06 Q03c CONFIDENTIAL 36-9-09 N Sec14 Ph1B Stage 3 Est 01-17-17_redacted"

- d. See response to Q.6-1 (d).
- e. See response to Q.6-1 (e).
- f. See response to Q.6-1 (f).
- g. See response to Q.6-1 (g).
- h. See response to Q.6-1 (h).
- i. See response to Q.6-1 (i).
- j. See response to Q.6-1 (j).
- k. See response to Q.6-1 (k).
- I. See response to Q.6-1 (I).
- m. See response to Q.6-1 (m).
- n. See response to Q.6-1 (n).
- o. See response to Q.6-1 (o).
- p. See response to Q.6-1 (p).
- q. See response to Q.6-1 (q).

SoCalGas Responses 6.3 Continued:

r. Line 36-9-09 North Section 14 consists of 1.765 miles of Category Four pipe, 0.008 miles of Category Two pipe and 0.010 miles of Category One pipe in a Class 1 area.

This project has Phase 2A scope and, as stated on pg. RDP-A-7 of SCG-15, Phase 2A addresses pipe located in Class 1 and 2 non-high consequence areas.

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

"IS DR-06 Q03s CONFIDENTIAL 36-9-09 N Sec14.kmz"

- t. There are 0 buildings within 300 feet of the pipe associated with Line 36-9-09 North Section 14 Replacement Project.
- u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions.

- 6-4. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 36-9-09 North Section 15 Replacement Project.
 - a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.
 - b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.
 - c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.
 - d. Please provide the cost model utilized to determine the cost estimates provided in response to part c. above. If available in Excel spreadsheet format, provide with all formulas and links intact.
 - e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.
 - f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.
 - g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.

Question 6.4 – Continued

h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components.

Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs

- i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.
- j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.
- k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.
- I. Please provide all workpapers from the 2016 RAMP Report associated with this project.
- m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.
- n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes SoCalGas compliant with these regulations.
- q. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.

Question 6.4 – Continued

- r. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.
- s. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.
- t. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.
- u. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.4:

- a. See response to Q.6-1 (a).
- b. See response to Q.6-1 (b).
- c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

See response to Q.6-1 (c) and the attached file. "IS DR-06 Q04c CONFIDENTIAL 36-9-09 N Sec15 Ph1B Stage 3 Est 11-11-16_redacted"

- d. See response to Q.6-1 (d).
- e. See response to Q.6-1 (e).
- f. See response to Q.6-1 (f).
- g. See response to Q.6-1 (g).
- h. See response to Q.6-1 (h).
- i. See response to Q.6-1 (i).
- j. See response to Q.6-1 (j).
- k. See response to Q.6-1 (k).
- 1. See response to Q.6-1 (l).
- m. See response to Q.6-1 (m).
- n. See response to Q.6-1 (n).
- o. See response to Q.6-1 (o).
- p. See response to Q.6-1 (p).
- q. See response to Q.6-1 (q).
- r. Line 36-9-09 North Section 15 consists of 1.075 miles of Category Four pipe and 0.032 miles of Category Two pipe in a Class 1 area.
SoCalGas Responses 6.4 Continued:

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

"IS DR-06 Q04s CONFIDENTIAL 36-9-09 N Sec15.kmz"

- t. There are 0 buildings within 300 feet of the pipe associated with Line 36-9-09 North Section 15 Replacement Project.
- u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions.

- 6-5. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 36-9-09 North Section 16 Replacement Project.
 - a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.
 - b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.
 - c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.
 - d. Please provide the cost model utilized to determine the cost estimates provided in response to part c. above. If available in Excel spreadsheet format, provide with all formulas and links intact.
 - e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.

Question 6.5 – Continued

- f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.
- g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.
- h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components. Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs
- i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.
- j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.
- k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.
- I. Please provide all workpapers from the 2016 RAMP Report associated with this project.
- m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.
- n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.

Question 6.5 – Continued

- o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes SoCalGas compliant with these regulations.
- q. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.
- r. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.
- s. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.
- t. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.
- u. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.5:

- a. See response to Q.6-1 (a).
- b. See response to Q.6-1 (b).
- c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

See response to Q.6-1 (c) and the attached file. "IS DR-06 Q05c CONFIDENTIAL 36-9-09 N Sec16 Ph1B Stage 3 Est 12-09-16_redacted"

- d. See response to Q.6-1 (d).
- e. See response to Q.6-1 (e).
- f. See response to Q.6-1 (f).
- g. See response to Q.6-1 (g).
- h. See response to Q.6-1 (h).
- i. See response to Q.6-1 (i).
- j. See response to Q.6-1 (j).
- k. See response to Q.6-1 (k).
- 1. See response to Q.6-1 (l).
- m. See response to Q.6-1 (m).
- n. See response to Q.6-1 (n).
- o. See response to Q.6-1 (o).
- p. See response to Q.6-1 (p).
- q. See response to Q.6-1 (q).

SoCalGas Responses 6.5 Continued:

r. Line 36-9-09 North Section 16 consists of 1.391 miles of Category Four pipe and 0.005 miles of Category One pipe. It consists of 1.259 miles in a Class 1 area and 0.138 miles in Class 3 area.

This project has Phase 1A scope and, as stated on pg. RDP-A-5 of SCG-15, Phase 1A addresses pipe located in Class 3 and 4 locations and Class 1 and 2 locations in high consequence areas.

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

"IS DR-06 Q05s CONFIDENTIAL 36-9-09 N Sec16.kmz"

- t. There are 4 buildings within 300 feet of the pipe associated with Line 36-9-09 North Section 16 Replacement Project.
- u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions.

- 6-6. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 36-1032 Section 11 Replacement Project.
 - a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.
 - b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.
 - c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.
 - d. Please provide the cost model utilized to determine the cost estimates provided in response to part c. above. If available in Excel spreadsheet format, provide with all formulas and links intact.
 - e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.
 - f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.

Question 6.6 – Continued

- g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.
- h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components. Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs
- i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.
- j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.
- k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.
- I. Please provide all workpapers from the 2016 RAMP Report associated with this project.
- m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.
- n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes SoCalGas compliant with these regulations.

Question 6.6 – Continued

- q. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.
- r. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.
- s. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.
- t. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.
- u. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.6:

- a. See response to Q.6-1 (a).
- b. See response to Q.6-1 (b).
- c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

See response to Q.6-1 (c) and the attached file. "IS DR-06 Q06c CONFIDENTIAL 36-1032 Sec11 Ph1B Stage 3 Est 12-29-16_redacted"

- d. See response to Q.6-1 (d).
- e. See response to Q.6-1 (e).
- f. See response to Q.6-1 (f).
- g. See response to Q.6-1 (g).
- h. See response to Q.6-1 (h).
- i. See response to Q.6-1 (i).
- j. See response to Q.6-1 (j).
- k. See response to Q.6-1 (k).
- 1. See response to Q.6-1 (l).
- m. See response to Q.6-1 (m).
- n. See response to Q.6-1 (n).
- o. See response to Q.6-1 (o).
- p. See response to Q.6-1 (p).
- q. See response to Q.6-1 (q).
- r. Line 36-1032 Section 11 consists of 0.407 miles of Category Four pipe and 0.004 miles of Category One pipe in a Class 1 area.

SoCalGas Responses 6.6 Continued:

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

"IS DR-06 Q06s CONFIDENTIAL 36-1032 Sec11.kmz"

- t. There are 0 buildings within 300 feet of the pipe associated with Line 36-1032 Section 11 Replacement Project.
- u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions.

- 6-7. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 36-1032 Section 12 Replacement Project.
 - a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.
 - b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.
 - c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.
 - d. Please provide the cost model utilized to determine the cost estimates provided in response to part c. above. If available in Excel spreadsheet format, provide with all formulas and links intact.
 - e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.
 - f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.

Question 6.7 – Continued

- g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.
- h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components. Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs
- i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.
- j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components

these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.

- k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.
- I. Please provide all workpapers from the 2016 RAMP Report associated with this project.
- m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.
- n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.

Question 6.7 – Continued

- p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes SoCalGas compliant with these regulations.
- q. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.
- r. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.
- s. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.
- t. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.
- u. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.7:

- a. See response to Q.6-1 (a).
- b. See response to Q.6-1 (b).
- c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

See response to Q.6-1 (c) and the attached file. "IS DR-06 Q07c CONFIDENTIAL 36-1032 Sec12 Ph1B Stage 3 Est 12-27-16 redacted"

- d. See response to Q.6-1 (d).
- e. See response to Q.6-1 (e).
- f. See response to Q.6-1 (f).
- g. See response to Q.6-1 (g).
- h. See response to Q.6-1 (h).
- i. See response to Q.6-1 (i).
- j. See response to Q.6-1 (j).
- k. See response to Q.6-1 (k).
- 1. See response to Q.6-1 (l).
- m. See response to Q.6-1 (m).
- n. See response to Q.6-1 (n).
- o. See response to Q.6-1 (o).
- p. See response to Q.6-1 (p).
- q. See response to Q.6-1 (q).
- r. Line 36-1032 Section 12 consists of 4.509 miles of Category Four pipe, 0.575 miles of Category Two pipe and 0.123 miles of Category One pipe. It consists of 3.988 miles in a Class One area, 1.125 miles in a Class Two area and 0.095 miles in a Class Three area.

SoCalGas Responses 6.7 Continued:

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

"IS DR-06 Q07s CONFIDENTIAL 36-1032 Sec12.kmz"

- t. There are 13 buildings within 300 feet of the pipe associated with Line 36-1032 Section 12 Replacement Project.
- u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions.

- 6-8. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 36-1032 Section 13 Replacement Project.
 - a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.
 - b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.
 - c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.
 - d. Please provide the cost model utilized to determine the cost estimates provided in response to part c. above. If available in Excel spreadsheet format, provide with all formulas and links intact.
 - e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.
 - f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.

Question 6.8 – Continued

g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.

h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components. Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs

- i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.
- j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.
- k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.
- I. Please provide all workpapers from the 2016 RAMP Report associated with this project.
- m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.
- n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes SoCalGas compliant with these regulations.

Question 6.8 – Continued

- q. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.
- r. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.
- s. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.
- t. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.
- u. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.8:

- a. See response to Q.6-1 (a).
- b. See response to Q.6-1 (b).
- c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

See response to Q.6-1 (c) and the attached file. "IS DR-06 Q08c CONFIDENTIAL 36-1032 Sec13 Ph1B Stage 3 Est 12-09-16 redacted"

- d. See response to Q.6-1 (d).
- e. See response to Q.6-1 (e).
- f. See response to Q.6-1 (f).
- g. See response to Q.6-1 (g).
- h. See response to Q.6-1 (h).
- i. See response to Q.6-1 (i).
- j. See response to Q.6-1 (j).
- k. See response to Q.6-1 (k).
- 1. See response to Q.6-1 (l).
- m. See response to Q.6-1 (m).
- n. See response to Q.6-1 (n).
- o. See response to Q.6-1 (o).
- p. See response to Q.6-1 (p).
- q. See response to Q.6-1 (q).
- r. Line 36-1032 Section 13 consists of 2.901 miles of Category Four pipe, 0.029 miles of Category Two pipe and 0.027 miles of Category One pipe in a Class 1 area.

This project has Phase 2A scope and, as stated on pg. RDP-A-7 of SCG-15, Phase 2A addresses pipe located in Class 1 and 2 non-high consequence areas.

SoCalGas Responses 6.8 Continued:

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

"IS DR-06 Q08s CONFIDENTIAL 36-1032 Sec13.kmz"

- t. There are 0 buildings within 300 feet of the pipe associated with Line 36-1032 Section 13 Replacement Project.
- u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions.

- 6-9. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 36-1032 Section 13 Replacement Project.
 - a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.
 - b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.
 - c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.
 - d. Please provide the cost model utilized to determine the cost estimates provided in response to part c. above. If available in Excel spreadsheet format, provide with all formulas and links intact.
 - e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.
 - f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.

Question 6.9– Continued

- g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.
- h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components. Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs
- i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.
- j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.
- k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.
- I. Please provide all workpapers from the 2016 RAMP Report associated with this project.
- m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.
- n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes
- q. SoCalGas compliant with these regulations.

Question 6.9 – Continued

- r. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.
- s. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.
- t. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.
- u. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.
- v. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.9:

- a. See response to Q.6-1 (a).
- b. See response to Q.6-1 (b).
- c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

See response to Q.6-1 (c) and the attached file. "IS DR-06 Q09c CONFIDENTIAL 36-1032 Sec14 Ph1B Stage 3 Est 12-09-16 redacted"

- d. See response to Q.6-1 (d).
- e. See response to Q.6-1 (e).
- f. See response to Q.6-1 (f).
- g. See response to Q.6-1 (g).
- h. See response to Q.6-1 (h).
- i. See response to Q.6-1 (i).
- j. See response to Q.6-1 (j).
- k. See response to Q.6-1 (k).
- l. See response to Q.6-1 (l).
- m. See response to Q.6-1 (m).
- n. See response to Q.6-1 (n).
- o. See response to Q.6-1 (o).
- p. See response to Q.6-1 (p).
- q. See response to Q.6-1 (q).

SoCalGas Responses 6.9 Continued:

r. Line 36-1032 Section 14 consists of Category One pipe in a Class 1 area.

This project has Phase 2A scope and, as stated on pg. RDP-A-7 of SCG-15, Phase 2A addresses pipe located in Class 1 and 2 non-high consequence areas.

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

"IS DR-06 Q09s CONFIDENTIAL 36-1032 Sec14.kmz"

- t. There are 0 buildings within 300 feet of the pipe associated with Line 36-1032 Section 14 Replacement Project.
- u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions.

- 6-10. Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 44-1008 Replacement Project.
 - a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.
 - b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.
 - c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.
 - d. Please provide the cost model utilized to determine the cost estimates provided in response to part c. above. If available in Excel spreadsheet format, provide with all formulas and links intact.
 - e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.
 - f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.

Question 6.10 – Continued

- g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.
- h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components. Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs.
- i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.
- j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.
- k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.
- I. Please provide all workpapers from the 2016 RAMP Report associated with this project.
- m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.
- n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes SoCalGas compliant with these regulations.

Question 6.10 – Continued

- q. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.
- r. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.
- s. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.
- t. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.
- u. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.10:

- a. See response to Q.6-1 (a).
- b. See response to Q.6-1 (b).
- c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

See response to Q.6-1 (c) and the attached file. "IS DR-06 Q10c CONFIDENTIAL 44-1008 Ph2 Stage 3 Est 05-09-17_redacted"

- d. See response to Q.6-1 (d).
- e. See response to Q.6-1 (e).
- f. See response to Q.6-1 (f).
- g. See response to Q.6-1 (g).
- h. See response to Q.6-1 (h).
- i. See response to Q.6-1 (i).
- j. See response to Q.6-1 (j).
- k. See response to Q.6-1 (k).
- 1. See response to Q.6-1 (l).
- m. See response to Q.6-1 (m).
- n. See response to Q.6-1 (n).
- o. See response to Q.6-1 (o).
- p. See response to Q.6-1 (p).
- q. See response to Q.6-1 (q).
- r. Line 44-1008 consists of 0.008 miles of Category Four pipe, 49.377 miles of Category Two pipe and 1.917 miles of Category One pipe. It consists of 49.831 miles in a Class 1 area, 1.343 miles in a Class Two area and 2.129 miles in a Class Three area.

SoCalGas Responses 6.10 Continued:

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

"IS DR-06 Q10s CONFIDENTIAL 44-1008"

- t. There are 194 buildings within 300 feet of the pipe associated with Line 44-1008 Replacement Project.
- u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions

There are no other PSEP pipeline projects adjacent or in the vicinity of the Line 44-1008 in this application, thus there are no economies of scale captured in relation to work on the same line or in the same area.

- 6.11 Please refer to the PSEP supplemental workpaper of SCG witness Richard Phillips, Exhibit No. SCG-15-WPS, at the pages associated with the Line 2000-E Cactus City Compressor Station Replacement Project.
 - a. Please explain why this project must be completed in the proposed time frame i.e., during the 2019 GRC cycle, rather than spread over a greater number of years, i.e., during future GRC cycles.
 - b. Please explain how the Focus on Reasonable Rates and Continuous Improvement, as described on page 4 of the Application and page 3 of the Direct Testimony of Bret Lane, was considered for this project. Additionally, please provide the revenue requirement impact of this project for each year in the GRC cycle (2019, 2020, 2021, 2022) and all supporting documentation.
 - c. Please provide a detailed breakdown of each of the cost estimate components presented (Materials, Construction, Environmental Survey/Permitting/Monitoring, Land & Right-of-Way Acquisition, Company Labor, and Other Capital Costs) for each year separately, including prior to 2018. For the costs incurred prior to 2018 please identify in what year the cost was incurred. This detailed breakdown should explicitly detail the number of units or hours required and included in the estimate, as well as cost per unit or cost per hour of each item that is required to arrive at the total labor and non-labor costs associated with the cost estimate component. Further, please provide a detailed explanation of the activity associated with each cost component and why it is required to be included in this cost estimate. For all cost components, any assumptions or additional information identified in the PSEP supplemental workpaper should clearly be shown in the detailed cost estimate breakdown provided in response to this discovery.
 - d. Please provide the cost model utilized to determine the cost estimates provided in response to part c. above. If available in Excel spreadsheet format, provide with all formulas and links intact.
 - e. Please explain the nature of the work conducted for this project prior to 2018. For each item identify the year in which the work was completed and indicate if the forecast or actual spending on the project has previously been reviewed in any proceeding before the CPUC. If yes, please indicate the proceeding and provide the relevant testimony and workpapers.

Question 6.11 – Continued

- f. Please explain how SoCalGas has determined that this replacement project must take place within the GRC time period and that this pipeline is not otherwise safe for continued operation past 2022.
- g. If not provided in part c. above, please provide a detailed breakdown of the costs associated with the Field Overhead portion of the Construction cost component, the SoCalGas Labor portion of Company Labor cost component and the SoCalGas Field Labor portion of Company Labor cost component.
- h. Please explain how it was determined that the costs associated with Other Capital Costs are required, as the other cost components have assumptions identified that represent the same services, Engineering, Project Management, Construction Management, and Surveying, as are already included in other cost components. Please provide all supporting workpapers and documentation that were utilized to determine both the need for and level of cost associated with each item included in Other Capital Costs
- i. Please explain if there are any contingency adders included in these cost estimates. If so, please explain what contingencies are included, what cost components these contingencies are applied to, and why it is required to inflate the cost estimates with contingency adders.
- j. Please explain if there are any overhead or profit adders included in these cost estimates. If so, please explain what overhead is included, what cost components these adders are applied to, and why it is required to inflate the cost estimates with overhead and profit adders.
- k. Please explain if there are any other additional indirect costs included in these cost estimates, not discussed previously.
- I. Please provide all workpapers from the 2016 RAMP Report associated with this project.
- m. Please identify the exact locations in the 2016 RAMP Report that discusses this project.
- n. Is this project mandated by any approved Federal regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.

Question 6.11 – Continued

- o. Is this project mandated by any approved California regulations? If so, please identify the regulations and explain how this project makes SoCalGas compliant with these regulations.
- p. Is this project mandated by any proposed State or Federal regulations? If so, please identify these proposed regulations and explain how this project makes SoCalGas compliant with these regulations.
- q. Please provide the Risk Reduction, Risk Spend Efficiency, and Risk Mitigated to Cost Ratio (as they are defined by the 2016 RAMP Report) associated with this project. Additionally, explain how the scores for this project in these metrics led SoCalGas to include this project in its 2019 GRC request.
- r. Pease explain what Category (1-4) and Class (1-4), as described in the workpaper glossary, to which the pipeline subject to this project belongs.
- s. Please provide the GIS data (a .gpd geodatabase or the individual .shp shape files will suffice, as will .kmz or .kml files) associated with this project and used to display the Project Map for this project.
- t. Please provide the number of buildings intended for human occupancy located within 300 feet of the pipeline associated with this project.
- u. Please explain if there are any economies of scale benefits captured for other pipeline replacement projects associated with the same pipeline. If not, please provide a detailed narrative explaining why benefits associated with economies of scale would not be applicable to other replacement projects conducted on the same pipeline.

SoCalGas Responses 6.11:

- a. See response to Q.6-1 (a).
- b. See response to Q.6-1 (b).
- c. The attached document includes Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Note that the attached files have also been redacted to remove non-responsive, non-relevant employee information.

See response to Q.6-1 (c) and the attached file. "IS DR-06 Q11c CONFIDENTIAL 2000E Cactus City Rep Ph2 Stage 3 Est 0 5-9-17_redacted"

- d. See response to Q.6-1 (d).
- e. See response to Q.6-1 (e).
- f. SoCalGas objects to the phrase "and that this pipeline is not otherwise safe for continued operation past 2022". SoCalGas has not asserted that this pipeline is not otherwise safe for continued operation past 2022. Subject to and without waiving the foregoing objection, SoCalGas responds as follows:

The proposed schedule is consistent with the Commission requirement set forth in D.11-06-017 on page 19 that PSEP be completed "as soon as practicable" and the directives in the Natural Gas Pipeline Safety Act of 2011 that the plan "shall include a timeline for completion that is as soon as practicable" (Pub. Util. Code § 958).

- g. See response to Q.6-1 (g).
- h. See response to Q.6-1 (h).
- i. See response to Q.6-1 (i).
- j. See response to Q.6-1 (j).
- k. See response to Q.6-1 (k).
- l. See response to Q.6-1 (l).
- m. See response to Q.6-1 (m).
- n. See response to Q.6-1 (n).
- o. See response to Q.6-1 (o).

SoCalGas Responses 6.11 Continued:

- p. See response to Q.6-1 (p).
- q. See response to Q.6-1 (q).
- r. Line 2000-E Cactus City Compressor Station Replacement Project consists of 0.156 miles of Category Four pipe and 0.012 miles of Category One pipe in a Class 1 area.

This is a Phase 2A project and, as stated on pg. RDP-A-7 of SCG-15, Phase 2A addresses pipe located in Class 1 and 2 non-high consequence areas.

s. The attached documents include Confidential and Protected Materials pursuant to PUC Section 583, GO 66-D, and D.17-09-023. See attached KMZ files.

"IS DR-06 Q11s CONFIDENTIAL 2000E Cactus City Rep.kmz"

- t. There is 1 building within 300 feet of the pipe associated with Line 2000-E Cactus City Compressor Station Replacement Project.
- u. Economies of scale were considered and planned into the projects on the same pipeline. The sections defined as a project are delineated based on the approximate schedule for each project.

Some factors that affect decisions on length of individual projects include gas system availability, permit acquisition and restrictions, land acquisition and restrictions, and number of project personnel. In addition, the distance between individual projects on the same pipeline also factor into the decisions.

As stated in SCG-15-WPS at WP-III-A109, in the section Project Description, "To more efficiently execute this large project, L-2000 was divided into" multiple projects. L-2000-E Cactus City Compressor Station was one of these projects.