

IS DATA REQUEST - 1
SDG&E-SOCALGAS RAMP - I.16-10-015_016
SDG&E & SOCALGAS RESPONSE
DATE RECEIVED: MARCH 20, 2017
DATE RESPONDED: APRIL 4, 2017

Q. IS 01-01: Please provide all workpapers, to the extent not already provided to CUE, for Chapter 4, Catastrophic Damage Involving a High-Pressure Pipeline, of the Risk Assessment and Mitigation Phase Risk Mitigation Plan (RAMP), with the formulas underlying electronic spreadsheets visible.

Response IS 01-01:

All of the workpapers for SoCalGas' RAMP Chapter 4 were provided in response to CUE's first data request, dated December 16, 2016.

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Q. IS 01-02: In SoCalGas's response to SED-02, Risk Chapter 4, Question 1, SoCalGas stated: "We expect that the RSE related to projected increase will remain nearly the same, with a small benefit reduction since the system integrity is improving as work and related spending continued (e.g., portions of the infrastructure deemed of highest risk are mitigated first, followed by those that are less apt to fail, and so on)."

- a. Does this statement mean there is no risk reduction that would be achieved by the incremental mitigation?
- b. Does this statement mean that the risk reduction benefit achieved by the incremental expenditures will be roughly the same (with a small reduction) as the risk reduction benefit of current expenditures?
- c. If the answers to subparts a and b are no, further explain the response to SED.
- d. Provide all analysis that supports the response to SED-02 Ch 4 Question 1.

Response IS 01-02:

- a. No. It would be inaccurate to characterize the incremental mitigations as not having any risk reduction. The risk reduction is partially in terms of off-setting the natural deterioration of the system and meeting compliance. This means that the proposed, "incremental" work SoCalGas is expected to mostly help maintain the residual risk level rather than significantly further reduce it. If the incremental work is not performed, the residual risk would increase due to the natural deterioration of the system.
- b. The statement means that the combined risk reduction of the proposed activities, current and incremental, have the same RSE and help prevent the residual risk from increasing. In essence, the proposed, incremental mitigations are more of or an expansion of the activities SoCalGas is doing today (i.e., controls).
- c. Please see the response to part 01-02a.
- d. All the analysis is included in the RSE workpapers, referenced in the response to 01-01. As explained in the response to question 01-02a, based on discussions with the SMEs, it was assumed that the RSE related to the projected increase will remain nearly the same so all mitigations whether they are baseline or incremental, were treated the same for purposes of estimating the risk reduction and are assigned the same RSE.

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Q. IS 01-03: In response to CUE Request 1, Question 2, SoCalGas identified the weightings of the impact categories analyzed in its risk assessment as follows:

40% for Health, Safety & Environmental,
20% for Operational and Reliability,
20% for Regulatory, Legal & Compliance, and
20% for Financial.

Explain the process by which the weighting for the impact categories were developed.

Response IS 01-03:

SoCalGas/SDG&E determined that four risk categories were important for assessing risks – 1) Health, Safety & Environmental, 2) Operational and Reliability, 3) Regulatory, Legal & Compliance, and 4) Financial. Among these four categories, SoCalGas/SDG&E also determined that Health, Safety & Environmental was relatively more significant in terms of potential impact, and, accordingly, assigned a higher weight (40%). The other categories were assigned the same weights (20%), as the utilities considered the impacts to be generally equivalent.

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Q. IS 01-04: Explain how the frequency rating values provided in response to CUE Request 1, Question 2, were derived.

Response IS 01-04:

The frequency rating values were derived by using the logarithmic midpoints of each frequency bucket, rather than simply using the midpoint. For example, frequency rating of 2 is calculated as $10^{((\text{LOG}(0.0333)+\text{LOG}(0.01))/2)}$, which is the logarithmic midpoint of once every 30 years (0.0333) and once every 100 years (0.01), resulting in 0.018. Similarly, frequency rating of 3 is calculated as $10^{((\text{LOG}(0.1)+\text{LOG}(0.0333))/2)}$, which is the logarithmic midpoint of once every 10 years (0.1) and once every 30 years (0.0333), resulting in 0.058. Other frequency ratings were derived using the same methodology. Below is the complete table:

Frequency rating	Value
1	0.005
2	0.018
3	0.058
4	0.183
5	0.577
6	3.162
7	31.623

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Q. IS 01-05: Identify all threats analyzed individually in assessing the risks identified in Chapter 4.

Response IS 01-05:

The eight threats analyzed for this risk can be found starting on page SCG 4-3, with the bulleted list at the bottom of the page. As stated in the chapter, these threats align to the threats categorized in ASME B31.8S, and adopted by the U.S. Department of Transportation Pipeline and Hazardous Materials and Safety Administration (PHMSA).

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Q. IS 01-06: SoCalGas identifies six categories of “2015 controls” on page SCG 4-1.

- a. For each category, please specify the regulation(s) mandating the specified activity (e.g., Maintenance).
- b. Please identify, for each category, 2015 investment or work undertaken by SoCalGas for which the regulation(s) underlying the investment or work mandated which assets must be addressed or the nature of the work required to meet the regulation’s requirements.
- c. For each category, specify the decisions in which SoCalGas exercised its discretion in meeting the requirements of the governing regulation. By way of example only, to what extent do PHMSA regulations for transmission pipeline integrity specify which pipelines must be addressed? To what extent is the required work left to SoCalGas’s judgment?

Response IS 01-06:

- a. The regulation mandating the categories listed on page SCG 4-1 are summarized in the table below.

1	Maintenance	Code of Federal Regulation (CFR) Part 192 Subpart M - Maintenance
2	Qualifications of Pipeline Personnel	CFR Part 192 Subpart N - Qualifications of Pipeline Personnel
3	Requirements for Corrosion Control	CFR Part 192 Subpart I - Requirements for Corrosion Control
4	Operations	CFR Part 192 Subpart L—Gas Transmission Pipeline Integrity Management
5	Pipeline Integrity	CFR Part 192 Subpart O—Gas Transmission Pipeline Integrity Management
6	Pipeline Safety Enhancement Plan	California Public Utility Code 957 and 958

- b. Spreadsheet “*IS RAMP DR Question 01-06b.xlsx*” provides the projects and programs presented in the cost workpapers for SoCalGas chapter 4, the regulatory requirements and asset type for those projects/programs. A majority of the activities are mandated pursuant to the Code of Federal Regulation. The Code of Federal Regulation is available electronically and details the assets that must be addressed and intervals, please refer to the website for details (<https://www.ecfr.gov/cgi-bin/text-idx?SID=a309def3c15f6433170974ebacc79784&mc=true&node=pt49.3.192&rgn=div5>).

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Response IS 01-06: -Continued

- c. The Code of Federal Regulation (CFR) is generally prescriptive in nature and details the requirements to maintain compliance. As such, SoCalGas is not in the position to exercise discretion in performing the work. For example, PHMSA within CFR Part 192 Subpart O §192.921 prescribes that “an operator must assess the integrity of the line pipe in each covered segment by applying one or more of the following methods depending on the threats to which the covered segment is susceptible”; therefore, SoCalGas must include all covered segments within an assessment plan. However, SoCalGas has the discretion regarding the proposed funding levels through the General Rate Case process and, in some cases, the timing or pace of which the work is performed, such as through TIMP.

The California Public Utility Code, that mandated a PSEP, is less prescriptive compared to the CFR. SoCalGas has some discretion on how to implement California Public Utility Code 957 and 958 and has done so in various regulatory proceedings including, but not limited to the PSEP forecast application and the upcoming General Rate Case.

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Q. IS 01-07: Please provide all workpapers developed in SoCalGas's most recent assessment of its transmission pipelines pursuant to PHMSA's Transmission Integrity Management Rule (49 CFR Part 192, Subpart O) (Gas IM Rule). State how frequently such an analysis occurs.

Response IS 01-07:

SoCalGas has not developed workpapers. SoCalGas on a continual basis maintains an assessment plan to execute the Integrity Management Rule.

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Q. IS 01-08: With respect to Table 1, page SCG 4-3, please respond to the following questions:

- a. What percentage of Total High-Pressure Miles is a part of the backbone transmission system for which costs are recovered in the Backbone Transmission Service rate?
- b. What percentage of Transmission High Consequence Area Miles is a part of the backbone transmission system for which costs are recovered in the Backbone Transmission Service rate?
- c. What percentage of Total High-Pressure Miles are transmission pipelines for which costs are recovered in the Transmission Level Service end-use rate?
- d. What percentage of Transmission High Consequence Area Miles are pipelines for which costs are recovered in the Transmission Level Service end-use rate?
- e. Does SoCalGas apply the same methodology used to comply with PHMSA's Gas IM Rule for all Transmission pipeline miles identified in Table 1?
 - 1) If not, specify the percentage of each of the Total High Pressure Miles and High Consequence Area Miles which are assessed using the methodology SoCalGas uses to meet the Gas IM Rule.
 - 2) If not, please state how SoCalGas's assessment methodology used to comply with the Gas IM Rule differs from the methodology used to assess other transmission pipeline miles?

Response IS 01-08:

Utilizing the definitions as defined per the Code of Federal Regulation Part 192 for "Transmission Line" and "High Consequence Area" the approximate percentages for responses to subparts a. – d. are as follows:

- a. 31%
- b. 31%
- c. 44%
- d. 31%

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Response IS 01-08: -Continued

- e. Yes, SoCalGas applies the Integrity Management Rule to its inventory of transmission pipelines (3,509 miles) identified in Table 1 on page SCG 4-3. However, the mileage listed in Table 1 is for high pressure, which is defined in Chapter SCG-4 as pipelines operating above 60 psig. The miles of transmission are referenced in the paragraph before Table 1 on page SCG 4-3, “In total, SoCalGas operates 6,741 miles of high-pressure pipelines in its service territory, which includes the 3,509 miles of transmission defined pipelines”.

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Q. IS 01-09: With respect to SoCalGas's compliance with the Gas IM Rule, please respond to the following questions:

- a. Identify the number of pipeline segments assessed for compliance with the Gas IM Rule.
- b. Identify all threats analyzed for each segment.
- c. Explain the risk assessment methodology used to analyze each pipeline segment.
- d. Identify the data sources used to assess pipeline segments.
- e. Explain in detail how compliance with the Gas IM Rule is used in the Company's Enterprise Risk Management (ERM) process.

Response IS 01-09:

- a. The Transmission Integrity Management Program (TIMP) is not managed on a segment level basis, given the number of segments can fluctuate depending on how the pipeline is segmented. The TIMP manages 3,509 miles of transmission pipeline.
- b. Subject to SoCalGas' response to Question 01-09a. TIMP considers the following threats as prescribed within CFR Part §192.917(a):
 - a. external corrosion
 - b. internal corrosion
 - c. stress corrosion cracking
 - d. manufacturing-related
 - e. welding- or fabrication-related defects
 - f. equipment failures
 - g. third party/mechanical damage
 - h. incorrect operations
 - i. weather-related and outside force damage
 - j. cyclic fatigue
 - k. all other potential threats

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- c. Subject to SoCalGas' response to Question 01-09a, SoCalGas implemented a relative risk model for ranking per ASME B318.S section 5.5 "Risk Assessment Approaches".
- d. Subject to SoCalGas' response to Question 01-09a, TIMP assesses pipelines through in-line inspection, pressure testing, direct assessment or other technology as prescribed in CFR Part §192.921.
- e. The "compliance with the Gas IM Rule" is one of many controls and mitigations that mitigate the risk of a high pressure pipeline incident risk that is represented in this chapter. This control, along with others, are assessed together using the 7x7 matrix to determine the residual impact and frequency of the risk (residual, meaning the risk evaluation with current controls in place), which ultimately translates into a risk score that is then prioritized across the enterprise.

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Q. IS 01-10: SoCalGas states in Section 4.1 that its analysis uses the “reasonable worst case.”

- a. Is the reasonable worst case evaluated on a pipeline segment basis?
If not, why not?
- b. If the answer to subpart a is no, at what level of system granularity is risk scored?

Response IS 01-10:

- a. No. The high pressure pipeline incident risk evaluation included in the RAMP was based on the risk assessment completed for the 2015 enterprise risk registry. As stated in SCG Chapter 4, the enterprise risk registry assessment for the high pressure pipeline risk relates to the potential public safety and property impacts that may result from the failure of high-pressure pipelines, not the segment level.
- b. The risk scope covers the entire high pressure pipeline system as a whole, and that is the level where it is scored for this risk and for RAMP.

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- IS 01-11** On page SCG 4-16, SoCalGas states that “[t]he baseline mitigations below are maintaining their current levels in the proposed plan. These mitigations are needed to keep the risk from increasing.”
- a. Explain the relationship of this statement to Figure 4 at SCG 4-28.
 - b. Specify for each mitigation the methodology applied to determine whether a reduction in cost would result in increased risk.?
 - c. To the extent the analysis relies on a “worst case” comparison, please specify the point of comparison.
 - d. Did SoCalGas examine each type of failure of high pressure pipelines in the worst-case jurisdiction? Specify the different types of failure examined and the baseline data to which SoCalGas compared its program.
 - e. Provide copies of all workpapers supporting the conclusions provided in subpart a.

Response IS 01-011:

- a. The values shown in Figure 4 at SCG 4-28 are the calculated ranges of risk spend efficiencies (mitigation benefit divided by dollars). The statement above relates to the mitigation benefit in terms of off-setting the potential increase in risk if the mitigations are not performed.
- b. In general, the methodologies were based on SME reasonable assumptions of the increase in risk should the mitigation not be performed. The SMEs used PHMSA performance data as a reference and filtered the cause codes as they apply to the mitigations to estimate the potential increase in risk should the mitigations no longer be performed. Below are the specific methodologies for each of the mitigation groupings.

Integrity Management:

If the integrity management mitigation is not performed, the incident rate for causes impacted by corrosion and Material/Weld failure was estimated to increase to the worst performing company on the PHMSA chart. This assumption was applied only for the proportion of the assets that are targeted in the mitigation.

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This is the assumed deterioration and risk increase if the mitigation is not performed.

PSEP:

If the PSEP mitigation is not performed, the incident rate related to corrosion, equipment material and other was estimated to shift to the national average performance.

Training:

If the training mitigation is not performed, the incorrect operations were estimated to go to 1/3 of worst state's performance.

Compliance Activities:

If the compliance mitigation is not performed, the performance was estimated to drift to the worst state's performance for the causes codes of corrosion, material, equipment, excavation, other.

- c. The analysis does not rely on a comparison to a "worst case". The analysis leverages applicable PHMSA data as a point of reference in order to develop a reasonable SME estimate of the expected risk increase if the mitigation is not performed. Please see Question 01-11b for reference.
- d. No. SoCalGas did not examine each type of failure. However, PHMSA cause codes were used to filter applicable data to match to the drivers controlled by that mitigation group.
- e. As noted in the response to question 01-01, all of the workpapers for SoCalGas' RAMP Chapter 4 were provided in response to CUE's first data request, dated December 16, 2016.

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Q. IS 01-12: Regarding Table 5 at page 4-19, please respond to the following questions:

- a. For each of the six mitigation measures, do the total Capital and total O&M columns include only costs that have been authorized by the Commission for recovery?
- b. If the answer to subpart a is no, please explain the reason and the amounts included that have not been authorized.
- c. If the answer to subpart a is no, please explain the proceeding in which authorization of the costs is pending.

Response IS 01-12:

- a. Yes, each of the six mitigation measures comprise of only costs that have been authorized by the Commission for recovery.
- b. N/A
- c. N/A

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Q. IS 01-13: Are the values in the columns labeled 2017-2019 Capital and 2019 Capital the costs of the expanded baseline mitigations specified on page SCG 4-16 as items 4-6?

Response IS 01-13:

The values provided in Table 6 in the columns labeled 2017-2019 and 2019 O&M are SoCalGas' forecasted costs of performing the entire mitigation as presented in the proposed plan. In other words, the costs represent the baseline amount and, where applicable, the incremental or expanded amount. Items 4-6 on page SCG 4-16 discuss what mitigations have been expanded in the proposed plan. This can also be seen in the cost workpapers of SoCalGas chapter 4 in the "Status" column. Those items with a status of B/P indicate that SoCalGas is proposing to expand such activities.

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Q. IS 01-14: Footnote 21 on page 4-18 states that the 2015 mitigation capital amounts are for illustrative purpose only. Please provide the actual capital expenditures for each of the six mitigation areas shown in Table 5 for 2015.

Response IS 01-14:

The 2015 amounts presented in the RAMP Report are the actual recorded figures. However, as indicated in the RAMP Report, SoCalGas and SDG&E provided the capital baseline costs associated with the current controls (i.e., 2015) pursuant to Decision (D.) 14-12-025 and D.16-08-018. The 2015 capital amounts are for illustrative purposes only because capital projects generally span several years. Therefore, considering only one year of capital may not represent the entire mitigation.

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Q. IS 01-15: Does Figure 4, on page 4-28, show risk spend efficiency for the expanded mitigation spending identified as 2017-2019 Capital and 2019 O&M in Table 6? If so, has the RSE been calculated using both baseline and incremental mitigations?

Response IS 01-15:

Yes, Figure 4 shows the risk spend efficiency for the mitigation spending in Table 6 which includes both baseline and incremental mitigations. The RSE has been calculated using both baseline and incremental mitigations under the assumption that the mitigations maintain the level of residual risk.

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Q. IS 01-16: Regarding Table 6, please respond to the following questions:

- a. Identify how much of the 2017-19 Capital SoCalGas estimated in developing Table 6 it assumed would be recovered from the GRC? PSEP Reasonableness Review? Other cases?
- b. Identify how much of the 2017-19 Capital SoCalGas estimated in developing Table 6 it assumed would be recovered from the GRC? PSEP Reasonableness Review? Other cases?
- c. Which of the categories of mitigation are considered by SoCalGas to be “regulatory compliance”?
- d. For each of the six mitigations, identify the dollars associated with work SoCalGas would classify as regulatory compliance.

Response IS 01-16a:

SoCalGas notes that the costs identified in Table 6 of SCG Chapter 4 are not requests for funding and therefore, cannot represent amounts that SoCalGas “assumed would be recovered.” Rather, as explained in SCG Chapter 4 on pages SCG 4-3 & 4-19, Table 6 provides a potential range of costs that would typically be included in the future General Rate Case (GRC) filing for the identified proposed mitigations. Any funding requests, including any potential refinements to the ranges in Table 6, as considered necessary or appropriate by SoCalGas, will be made in the GRC with supporting testimony. Further, SoCalGas objects to this question to the extent it seeks confidential, privileged, and/or work product protected information and analysis. Subject to this clarification and objection and without waiving them, SoCalGas provides the following response.

2017-2019 CAPITAL RANGES

GRC

PSEP Reasonableness Review

Forecast Application

Forecast Range (Directs, 2015 \$000)

\$301,294 - \$541,458

\$147,000 - \$190,200

\$98,000 - \$126,800

\$546,294 - \$858,458

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Response IS 01-16b:

The question in subpart b. is identical to subpart a. SoCalGas therefore assumed that subpart b. contained an error and that the requesting party sought instead the 2019 **O&M** amount. SoCalGas responds to this question based on this assumption. SoCalGas incorporates by reference as if fully set forth in this response the clarification and the objection in the response to subpart a. Subject to the foregoing and without waiving same, SoCalGas responds as follows.

<u>2019 O&M RANGES</u>	<u>Forecast Range (Directs, 2015 \$000)</u>
GRC	\$85,152 - \$109,765
PSEP Reasonableness Review	N/A (no 2019 Costs)
Forecast Application	<u>\$0 - \$80,000</u>
	<u>\$85,152 - \$189,765</u>

Response IS 01-16c:

All categories of mitigation are considered to be regulatory compliance, as indicated in SoCalGas' response to question 01-06 subparts a and b.

Response IS 01-16d:

All dollars associated with the six mitigations in Table 6 are considered to be regulatory compliance, see response to 01-16c.

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Q. IS 01-17: Please identify the amount and nature of the non-jurisdictional mitigation activities addressed in RAMP, as indicated on page 4-19.

- a. Are these costs included in Table 6?
- b. If so, please specify the costs for each of Capital and O&M in each of the six mitigation areas.

Response IS 01-17:

The statement about the costs in Table 6 that are non-CPUC jurisdictional was meant to state that the costs are non-GRC. The activities and costs shown as non-GRC are entirely the PSEP related activities shown as ID #6 in Table 6, on page 4-19.

- a. Yes.
- b. Please refer to ID#6 in Table 6, on page 4-19.

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Q. IS 01-18: To what extent have the calculations of RSE shown in Figure 4 been broken down based on the risk categories specified in ASME B31.8S?

Response IS 01-18:

The risk categories specified in ASME B31.8S were used to filter data as deemed applicable by the SME to determine risk reduction for specific mitigations. That said, the RSE calculations shown in Figure 4 were not further broken down. For example, for the training mitigation, the applicable cause code was incorrect operations, and this mitigation was assumed to mitigate the risk only associated with this cause.