

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

**DECLARATION OF JIMMIE I. CHO
REGARDING CONFIDENTIALITY OF CERTAIN DATA/DOCUMENTS
PURSUANT TO D.16-08-024**

I, Jimmie I. Cho, do declare as follows:

1. I am the Senior Vice President of Gas Operations and System Integrity for San Diego Gas & Electric (“SDG&E”) and Southern California Gas Company (“SoCalGas”). I have reviewed ORA 66 Question 7 submitted concurrently herewith (“ORA 66_Confidential.pdf”). I am personally familiar with the facts and representations in this Declaration and, if called upon to testify, I could and would testify to the following based upon my personal knowledge and/or belief.

2. I hereby provide this Declaration in accordance with Decision (“D.”) 16-08-024 to demonstrate that the confidential information (“Protected Information”) provided in the ORA-66_Confidential.pdf, submitted concurrently herewith, is within the scope of data protected as confidential under applicable law including, but not limited to, Public Utilities Code § 583, General Order (“G.O.”) 66-C, as described in specificity in Appendix A hereto.

3. In accordance with the legal authority described herein, the Protected Information should be protected from public disclosure.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge.

Executed this 10th day of February, 2017, at Los Angeles, California.



Jimmie I. Cho
Senior Vice President - Gas
Operations and System Integrity

APPENDIX A

SDG&E and SoCalGas Request for Confidentiality on the following Protected Information in its response to ORA 66 Question 7 (ORA 66_Confidential.pdf)

Location of Data	Description of Data	Applicable Confidentiality Provisions	Basis for Confidentiality
<p>ORA 66_Confidential.pdf</p> <p>Question 7</p>	<p>Maximum Allowable Operating Pressure</p> <p>Minimum Operating Pressure (Min Op)</p>	<p>Critical Energy Infrastructure Information (CEII): 18 CFR § 388.113(c) ; Federal Energy Regulatory Commission (FERC) Orders 630, 643, 649, 662, 683, and 702 (defining CEII)</p>	<p>18 C.F.R. § 388.113(c) defines “critical energy infrastructure information” as “specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure” that:</p> <ul style="list-style-type: none"> (i) Relates details about the production, generation, transportation, transmission, or distribution of energy; (ii) Could be useful to a person in planning an attack on critical infrastructure; (iii) Is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552; and (iv) Does not simply give the general location of the critical infrastructure.

**SAN DIEGO GAS & ELECTRIC COMPANY
SOUTHERN CALIFORNIA GAS COMPANY
PIPELINE SAFETY & RELIABILITY PROJECT (PSRP)
(A.15-09-013)
(DATA REQUEST ORA-66)**

**Date Requested: January 19, 2017
Date Responded: February 16, 2017**

PRELIMINARY STATEMENT

1. These responses and objections are made without prejudice to, and are not a waiver of, SDG&E and SoCalGas' right to rely on other facts or documents in these proceedings.
2. By making the accompanying responses and objections to these requests for data, SDG&E and SoCalGas does not waive, and hereby expressly reserves, its right to assert any and all objections as to the admissibility of such responses into evidence in this action, or in any other proceedings, on any and all grounds including, but not limited to, competency, relevancy, materiality, and privilege. Further, SDG&E and SoCalGas makes the responses and objections herein without in any way implying that it considers the requests, and responses to the requests, to be relevant or material to the subject matter of this action.
3. SDG&E and SoCalGas will produce responses only to the extent that such response is based upon personal knowledge or documents in the possession, custody, or control of SDG&E and SoCalGas. SDG&E and SoCalGas possession, custody, or control does not include any constructive possession that may be conferred by SDG&E or SoCalGas' right or power to compel the production of documents or information from third parties or to request their production from other divisions of the Commission.
4. A response stating an objection shall not be deemed or construed that there are, in fact, responsive information or documents which may be applicable to the data request, or that SDG&E and SoCalGas acquiesces in the characterization of the premise, conduct or activities contained in the data request, or definitions and/or instructions applicable to the data request.
5. SDG&E and SoCalGas objects to the production of documents or information protected by the attorney-client communication privilege or the attorney work product doctrine.
6. SDG&E and SoCalGas expressly reserve the right to supplement, clarify, revise, or correct any or all of the responses and objections herein, and to assert additional objections or privileges, in one or more subsequent supplemental response(s).
7. SDG&E and SoCalGas will make available for inspection at their offices any responsive documents. Alternatively, SDG&E and SoCalGas will produce copies of the documents. SDG&E and SoCalGas will Bates-number such documents only if SDG&E and SoCalGas deem it necessary to ensure proper identification of the source of such documents.
8. Publicly available information and documents including, but not limited to, newspaper clippings, court papers, and materials available on the Internet, will not be produced.

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9. SDG&E and SoCalGas object to any assertion that the data requests are continuing in nature and will respond only upon the information and documents available after a reasonably diligent search on the date of its responses. However, SDG&E and SoCalGas will supplement its answers to include information acquired after serving its responses to the Data Requests if it obtains information upon the basis of which it learns that its response was incorrect or incomplete when made.
 10. In accordance with the CPUC's Discovery: Custom And Practice Guidelines, SDG&E and SoCalGas will endeavor to respond to ORA's data requests by the identified response date or within 10 business days. If it cannot do so, it will so inform ORA.
 11. SDG&E and SoCalGas object to any ORA contact of SDG&E and SoCalGas officers or employees, who are represented by counsel. ORA may seek to contact such persons only through counsel.
 12. SDG&E and SoCalGas objects to ORA's instruction to send copies of responses to entities other than ORA.

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QUESTION 1:

Subject: SDG&E Newsletter, Volume 1, Issue 1

<https://www.sdge.com/sites/default/files/documents/1350655837/SDGE%20Newsletter%201.1.pdf?nid=19941>

Page 3 of the Newsletter identifies 4 criteria for selecting a route. Please explain where the phrases “minimize impact to private properties” and “avoid conflicts with mission-critical operations at MCAS Miramar”, are in the:

- a. Testimony of SoCalGas/SDG&E;
- b. Applicants’ CEA; and
- c. Applicants’ PEA.

RESPONSE 1:

SDG&E and SoCalGas (Applicants) object to this request for an explanation of “where the phrases ‘minimize impact to private properties’ and ‘avoid conflicts with mission-critical operations at MCAS Miramar’” are located in publicly available documents on the grounds that it is unreasonably burdensome and seeks information equally available to ORA. Subject to and without waiving these objections, and after a reasonably diligent review of their prepared direct testimony, Proponent’s Environmental Assessment (PEA) and Cost-Effectiveness Analysis (CEA), Applicants responds as follows:

- a. Please see the Prepared Direct Testimony of Neil Navin at page 7.
- b. The routing criteria are not discussed in the Applicants’ CEA.
- c. Applicants’ routing criteria are identified and described in Section 4.2 of Applicants’ PEA.

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QUESTION 2:

Since construction is indicated to run between 2018 through 2021, at page 3 of the Newsletter, a period of approximately 4 years, please explain how “construction of the pipeline will support approximately 3,300 full-time equivalent jobs over the next 10 years”. In particular, please identify which of these jobs will be for pipeline safety (such as construction, traffic control, etc. versus work such as accounting), and explain what they will be doing related to pipeline safety.

RESPONSE 2:

Applicants object to this question on the grounds that it seeks information not relevant to any issue within the scope of this proceeding, which addresses Line 1600, compliance with Public Utilities Code § 958 and D.11-06-017, and whether the Proposed Project best serves the public convenience and necessity. The impact of the Proposed Project on jobs is not part of the need for the Proposed Project. However, if ORA and the other intervenors agree that economic impact information is admissible in this proceeding, Applicants will then respond to questions regarding the impact to jobs and other economic impacts.

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QUESTION 3:

Page 5 of the Newsletter states:

“Testing would cost over \$100 million to complete, and place the entire natural gas system at risk, creating the potential for significant customer impacts. At the end of testing, we would still be left with the same system we have today - a system that includes a 70-year-old pipeline, is undersized to meet peak needs and continues to rely on a single transmission pipeline for nearly 90 percent of its natural gas deliveries.”

- a. Please explain how testing “place[s] the entire natural gas system at risk”.
- b. Does Sempra maintain that past testing of any pipes on the system has placed the entire natural gas system, or any part of it, at risk? If so, please identify which tests, and include the pipelines, and the dates of the tests.
- c. Please confirm that with Line 1600 pressure tested and Line 3010 operational that SoCalGas/SDG&E meets current and forecasted 1-in-10 and 1-in-35 cold weather demand forecasts provided by SoCalGas/SDG&E.

RESPONSE 3:

- a. Please refer to Attachment B: Line 1600 Hydrotest Study and Cost Estimate of the Prepared Direct Testimony of Neil Navin for a detailed description of the technical complexities associated with hydrotesting Line 1600. In order to complete the hydrotest as proposed in this Application and keep customers in service, Line 1600 would be broken up into 19 separate test segments with testing scheduled for seasonal periods that avoid peak demand. During the nearly 3 years when testing would be underway, segments of the pipeline would be out of service for extended periods of time, essentially blocking the unrestricted flow of Line 1600, and thus limiting the functionality and capacity of the pipeline.

Attachment B: Line 1600 Hydrotest Study and Cost Estimate of the Prepared Direct Testimony of Neil Navin at page 4, discusses that there are approximately 152,000 customers supplied by Line 1600 via 50 connections where service would need to be maintained through a complex strategy of bypasses, compressed natural gas (CNG) bottles, CNG trucks and backfeeding through other distribution sources. During testing, the system supplying these customers will be in an abnormal operating configuration that relies on temporary equipment, connections and supply sources. Equipment malfunction or higher than anticipated demand could leave those customers more vulnerable to outages than if supplied through the normal fully functional pipeline system.

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In addition, with segments of Line 1600 out of service, there would in effect be a loss of functional redundancy and resiliency of Applicants' integrated gas transmission system. This would put the system at higher levels of risk should there be any operational issues or system emergencies on other parts of the transmission system such as Line 3010, the Moreno Compressor Station or the transmission cross ties that would allow Line 1600 to be backfed, and could severely constrain the system leading to curtailments or gas outages. Please refer to the page 5 of the Prepared Direct Testimony of David Bisi for further information on this matter. Moreover, an example of what could happen should there be a disruption of Line 3010 is presented in the Prepared Direct Testimony of Jani Kikuts. This situation would be further exacerbated should segments of Line 1600 be out of service. Additionally, beginning on page 6 of Mr. Bisi's direct testimony, he further discusses the resiliency of the SDG&E gas system and goes on to explain that the proposed Line 3602 would provide significant benefits to the system in the form of additional resiliency and operational flexibility to improve overall reliability.

- b. Applicants object to this question on the grounds that it is vague and ambiguous, and seeks information beyond the scope of this proceeding. Without waiving this objection, and subject thereto, Applicants respond as follows: As discussed in the response to Question 3(a) above, testing of pipelines usually involves removing from service or restricting the normal operations of segments of a pipeline so that the test can take place. During this period, there would in effect be a loss of functional redundancy and resiliency of the transmission system. This would put the system at higher levels of risk should there be any operational issues or system emergencies on other parts of the system.

For the pipelines that make up the backbone transmission system in SDG&E's service territory, Line 1600 is the only pipeline that was not hydrotested at the time it was initially constructed prior to being placed in service. Given this, and per California Public Utilities Code Section 958 and D.11-06-017, Line 1600 must be pressure tested or replaced, or have its transmission function replaced so that it may be derated and operated as a distribution pipeline. Given that all SDG&E backbone pipelines have already been hydrotested except Line 1600, there has not been a requirement to take any of these lines out of service to perform a hydrotest that would have introduced additional risk as described above.

- c. Please refer to the response to Question 3 of ORA DR 50 and the response to Questions 1(a) and (b) of ORA DR 44.

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Date Responded: February 16, 2017
Updated Response Submitted: June 12, 2018**

QUESTION 4:

Line 1600

Can Line 1600 be inspected using In-Line Inspection (ILI) tools if the pressure is reduced to 320 psig or less? Please explain, and provide the lowest pressure at which Line 1600 can operate and still have ILI occur. Would any changes to Line 1600 allow ILI at lower pressures?

RESPONSE 4:

Regarding the ILI tools that have been utilized on Line 1600, the vendor's minimum recommended operating pressures required to perform axial magnetic flux leakage (AMFL) and circumferential MFL (CMFL) inspections are 500 psi and 435 psi, respectively. Inspection below the vendor's recommended pressure is possible, but likely not practical since there is risk both in terms of the tool becoming lodged at low pressures, and/or the ILI tool surging intermittently through the pipeline resulting in speeds that exceed tool specification. Both scenarios can result in damage to the ILI tool and are contributing factors to degradation of data quality. The lowest recorded operating pressures for Line 1600 during an ILI are listed in the table below.

ILI Phase	Inspection Date	Technology	Lowest Recorded Operating Pressure (psi)
1	12/5/2012	AMFL & Geometry	531
1	2/6/2013	CMFL	523
2	12/19/2013	AMFL & Geometry	455
2	3/20/2014	CMFL	514
2	10/20/2016	AMFL & Geometry	424
1	11/3/2016	AMFL & Geometry	446

UPDATED RESPONSE 4:

In "ORA Updated Response to SDG&E/SoCalGas Data Request SCG/SDG&E-ORA-DR-05" dated March 26, 2018, ORA informed SDG&E/SoCalGas of an article within Issue 1 (2018) of the Pipeline Technology Journal titled "Inspection of Multi-Diameter Pipelines Operating at Low Pressure" by Stefan Vages of the ROSEN Group (ROSEN). In response, SDG&E/SoCalGas contacted ROSEN to request a feasibility analysis for performing an inspection (with the 12/16" RoGeo XT and 12/16" RoCorr MFL-A tools) for Phases 1 and 2 of Line 1600 at an operating pressure of 320 psig using the current pipeline attributes. ROSEN determined that it is feasible to use both tools for the AMFL and geometry inspections.

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The article did not discuss whether ROSEN has a commercially available low-pressure CMFL inspection tool. SDG&E/SoCalGas inquired with ROSEN and they confirmed a low-pressure CMFL inspection tool is not commercially available. In response, SDG&E/SoCalGas requested ROSEN conduct a feasibility analysis for a commercially available CMFL tool for Phases 1 and 2 of Line 1600 at the current MAOP (512 psig) and using the current pipeline attributes. ROSEN confirmed the use of their 16" RoCorr MFL-C inspection tool would not be feasible on the pipeline given the operating pressure and pipeline attributes.

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QUESTION 5:

In response to ORA DR-55, Question 13, SoCalGas/SDG&E stated that “Applicants cannot confirm [the SYMS] until inspection and test results from the retired pipe segment are received and validated.”

- a. Has SoCalGas/SDG&E received the test results? If so, please provide them.
- b. [blank per ORA]
- c. If SoCalGas/SDG&E has not yet received the results, when are they expected? If the results are not yet available, please provide them immediately once they become available.
- d. If the results are not yet available as of the date of this data request, please explain why not.

RESPONSE 5:

- a. No.
- b. N/A
- c. Applicants anticipate receipt of the results by the end of March 2017. Applicants will update this data request response when the results become available.
- d. Samples were submitted to the vendor toward the end of December 2016 due to the timeframe required for reaching agreement on contractual terms with the vendor and the vendor’s workload priority.

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QUESTION 6:

In response to ORA DR-55, Question 14, which sought clarification to the response to ORA DR-46 Question 4, SoCalGas/SDG&E provided two different pipeline specification sheets, one from SDG&E in 1962 which superseded the 1956 specifications, and one from SoCalGas dated to 1968.

- a. ORA infers that neither of them would have governed when Line 1600 was installed in 1949. Is that accurate? If not, please explain.
- b. Please provide the pipeline specification sheet that would have governed at the time Line 1600 was installed.

RESPONSE 6:

- a. Yes.
- b. Please see the confidential attachment provided to ORA in response to ORA DR 39, Question 4.

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QUESTION 7:

Please provide a listing of the interconnection points Line 1600 would have with transmission pipelines south of Rainbow Station. For each interconnection point provide:

- a. The name and designation of the interconnecting line;
- b. The maximum allowable operating pressure (MAOP) of the interconnecting line;
- c. The maximum and minimum operating pressure of the interconnecting line;
- d. At each interconnection point, what pressure and for how far Line 1600 would experience that pressure if the pressure limiting valve at the interconnection point failed.
- e. The milepost on Line 1600 of each interconnecting line.

RESPONSE 7:

This response contains confidential information (shaded in gray) and is provided pursuant to Cal. Pub. Util. Code § 583, General Order 66-C and D.16-08-024. Accordingly, a confidentiality declaration is included with this submission.

Line 1600 connects with the integrated transmission system at milepost [REDACTED] with Line 1601, at milepost 6.59 with Line 1032, and at milepost [REDACTED] with Line 3011 and Line 2010. Line 1601 has a minimum operating pressure (MinOP) of [REDACTED] psig and currently a maximum operating pressure (MOP) and MAOP of [REDACTED] psig and [REDACTED] psig, respectively. Line 1032 has a MinOP of [REDACTED] psig, and an MOP and MAOP of [REDACTED] psig and [REDACTED] psig, respectively. Line 3011 and Line 2010 have a MinOP of [REDACTED] psig and an MOP and MAOP of [REDACTED] psig. Company policy and design of the SoCalGas and SDG&E pressure limiting stations will prevent exposing downstream pipelines to pressures in excess of the corresponding MAOP under a failure condition. Please refer to the response to Question 14 below for more information regarding over pressure protection on the SoCalGas/SDG&E transmission system.

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QUESTION 8:

Please provide a list of the unmetered connection points, where additional volumes of gas that are not provided into Line 1600 at Rainbow Station, can be received into Line 1600.

RESPONSE 8:

Please refer to the response to Question 7 above.

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QUESTION 9:

If Line 1600 is operated at or below 320 psig, is there any reduction in demand on the rest of the transmission system (Line 3010, Line 3602, or any other transmission line)? For example, would some of the demand at the northern end of Line 1600 be met via supplies provided at Rainbow 7 Station into Line 1600, rather than through another interconnection point farther south on the system.

RESPONSE 9:

Applicants object to this question on the grounds that it is vague and ambiguous. Line 1600 would continue to be supplied with gas delivered at Rainbow Meter Station when operated at or below 320 psig, as would all other parts of the SDG&E system absent supply delivered at Otay Mesa. Further, Applicants are unfamiliar with the asset described as "Rainbow 7 Station" in the request. Subject to and without waiving these objections, Applicants respond as follows:

The capacity of the SDG&E system with Line 1600 derated and operating as a distribution pipeline at 320 psig, without any other changes to the SDG&E gas transmission system or contracting for firm gas supply at the Otay Mesa receipt point, is 570 MMcfd. This represents a 60 MMcfd loss in capacity relative to the capacity of the SDG&E system with Line 1600 operating at an MAOP of 640 psig. Line 1600 would receive supplies from one of three interconnecting points, all of which can be supplied by Rainbow Meter Station.

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QUESTION 10:

- a. What would the annual cost of performing Transmission Integrity Management Plan (TIMP) programs on Line 1600 be, rather than the proposed Distribution Integrity Management Plan (DIMP) programs?
- b. What methods would SoCalGas/SDG&E perform to verify the integrity of Line 1600 if it was managed under TIMP rather than DIMP?

RESPONSE 10:

- a. Please refer to the response to TURN DR 1, Question 3 (provided to ORA in response to ORA DR 5), which states:

Recurring in-line inspection costs to comply with TIMP requirements are anticipated to approximate the costs incurred for the existing inspection runs on Phase 1 and Phase 2:

Phase 1 (16"): \$660,000

Phase 2 (16"): \$770,000

Phase 3 (14"): estimated \$175,000 - not including construction and field support expenses.

Since TIMP in-line inspections are assumed to be completed on a 7-year cycle, this would equate to an equivalent annualized cost of approximately \$230,000.

Remediation work to address in-line inspection results or modifications to improve the ability to internally inspect the pipeline are not forecasted and would be in addition to the costs outlined above.

- b. It is assumed that in-line inspection would be the primary method to perform re-assessments as necessary if Line 1600 continued to be managed under TIMP.

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QUESTION 11:

In response to SED DR-01, Question 14, SoCalGas/SDG&E stated:

Our plan is to de-rate Line 1600 to a service level of 320 psig. This will allow for the existing operating pressure to act as a satisfactory pressure test for the newly de-rated pipeline because the existing service level is 640 psig which is 1.5x over our intended new operating level.

a. Please confirm whether SoCalGas/SDG&E has isolated Line 1600, which according to PHMSA Interpretation #PI-13-0001 is required to meet the test requirements under 49 Code of Federal Regulation 192.507. If not, please explain how SoCalGas/SDG&E's statement above complies with federal regulations.

RESPONSE 11:

The Applicants have not isolated Line 1600. While PHMSA interpretations may provide guidance, they are not part of the regulations and are generally operator/question specific. For PHMSA Interpretation #PI-13-0001 the entirety of the questions posed by the operator should be reviewed:

With respect to § 192.507, you asked whether a flowing gas test with the maximum test pressure below 20 percent of the pipelines specified minimum yield strength and the pressure maintained at the designated test pressure could be performed without isolating the section of pipeline being tested. You also ask if this testing method is allowed for either a pressure test or high consequence area (HCA) integrity test.

The Applicants do not believe the scenario outlined by the operator can be applied to Line 1600. The question as presented does not detail a margin above the desired test pressure. Based on this scenario, the desired test pressure cannot be maintained throughout the entire pipeline should a pressure fluctuation occur during free flow. In the case of Line 1600, the previous operating pressures provide a significant margin above the desired test pressure requirement ($320 \text{ psig} \times 1.5 = 480 \text{ psig}$) to compensate for free flow conditions.

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QUESTION 12:

- a. Please confirm the response to SED DR-01, Question 10 that SoCalGas/SDG&E performed 19 repairs to Line 1600 prior to 2007.
- b. For each of these repairs, indicate why the repair was conducted and if any discovery of hook-like cracking or other anomalies were discovered at the time of repair.
- c. For each discovery identified in response to question 12b, please indicate which was reported to SED (or its predecessor) and/or PHMSA, and the date of reporting.

RESPONSE 12:

- a. Applicants confirm the nineteen (19) repairs from 1974 through 2006 listed in the response for SED DR-01, Question 12.
- b. The reason each repair was conducted is listed in the table below. Note: hook cracks were not investigated at the time of these repairs.

Action_Description	Action_Comp_Date	Reason for Repair
Grinding	10/28/2006	External linear flaws detected with Magnetic Particle Inspection (MT). Flaws did not impair serviceability of the pipeline.
Grinding	2/1/2006	Third party damage with max. depth of 4% of nominal wall thickness (NWT) caused by hand shovel. Flaw did not impair serviceability of the pipeline.
Grinding	4/27/2005	External corrosion and arc burns with max. depths of 4% and 5% of NWT, respectively. Flaws did not impair serviceability of the pipeline.
Weld Band or Sleeve	4/4/1995	Third party damage with max. depth of 60% of NWT.
Weld metal deposition	5/14/1993	Scratches and gouges caused by third party damage.
Weld Band or Sleeve	1/28/1992	Gouge caused by third party damage.
Weld Band or Sleeve	7/16/1991	External corrosion ranging in depth from 20% to 50% of NWT caused by moisture entering between pipe and above ground pipe support straps.
Grinding	9/13/1990	Gouge with max. depth of 8% of NWT caused by third party damage.
Weld metal deposition	1/28/1988	Gouge with max. depth of 10% of NWT caused by third party damage.
Weld Band or Sleeve	5/23/1984	External corrosion ranging in depth from 16% to 20% of NWT.

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Action Description	Action Comp Date	Reason for Repair
Weld metal deposition	8/30/1982	Three gouges with max. depth of 10% of NWT caused by third party damage.
Grinding		Two scratches with max. depths of 2% and 4% of NWT caused by third party damage.
Weld metal deposition	8/5/1982	Two gouges with max. depths of 8% and 12% of NWT caused by third party damage.
Weld Band or Sleeve	4/12/1982	Multiple gouges caused by third party damage.
Weld Band or Sleeve	5/1/1981	Multiple gouges ranging from 16% to 20% of NWT caused by third party damage
Weld metal deposition	1/29/1979	Three gouges ranging in depth from 16% to 28% of NWT caused by third party damage
Grinding		Eight scratches with depths up to 2.4% of NWT caused by third party damage.
Weld metal deposition	7/8/1977	Two gouges with max. depths of 0% and 8% of NWT caused by third party damage
Weld metal deposition	6/3/1976	Five locations of damage with max. depths of 8% of NWT caused by third party damage
Grinding		Multiple minor scratches caused by third party damage.
Grinding	1/28/1975	External corrosion ranging from 2% to 8% of NWT due to failed pipe coating.
Grinding	3/27/1974	Minor third party damage.

- c. 49 CFR 191.23 (Reporting of safety-related conditions) did not take effect until September 29, 1988. To the Applicant's knowledge, none of the discoveries listed in response to Question 12b were reported as safety-related conditions to SED (or its predecessor) and/or PHMSA.

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QUESTION 13:

In response to ED DR-04, Question 3, SoCalGas/SDG&E stated:

It should be noted that Line 1600 currently serves as an integral part of SDG&E's transmission system. In that role, it not only provides capacity to move gas into SDG&E's service territory, but is also directly connected to SDG&E's high pressure distribution feeder system which generally operates at 400 psig along the Line 1600 corridor. These interconnections are designed to flow gas with Line 1600 as the high pressure source feeding the 400 psig system. Before Line 1600 could be de-rated, system modifications would need to be constructed to prevent flow reversal from the 400 psig system back into the de-rated (320 psig) Line 1600 resulting in over-pressurization.

- a. How would SDG&E's high pressure distribution feeder system function with Line 1600 derated? Specifically what would the source of gas at 400 psig or greater be to this system?
- b. What system modifications would need to be constructed to prevent flow reversal from the 400 psig system back into the de-rated (320 psig) Line 1600 resulting in over pressurization?
- c. Please itemize the modifications provided in response to question b, and provide cost estimates for each one.
- d. Were the cost-estimates provided in response to question c accounted for in the PwC Cost-Effectiveness Analysis?
- e. If the answer to question d is yes, please identify the page and section numbers, and quote the language showing this. If the answer is no, please explain why not.
- f. Were modifications in response to question c accounted for in the Proponents Environmental Assessment?
- g. If the answer to question f is yes, please identify the page and section numbers, and quote the language showing this. If the answer is no, please explain why not.

RESPONSE 13:

- a. The proposed Line 3602 would serve as the 400 psig gas source to the majority of the SDG&E high pressure distribution feeder system currently supplied by Line 1600. Some portions of the distribution high pressure feeder system would still be supplied by Line 1600 and therefore de-rated to an MAOP of 320 psig consistent with Line 1600. Details on the

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scope to de-rate Line 1600 are provided in the Prepared Direct Testimony of Neil Navin, Attachment A, Sub-Attachment XI: Line 1600 De-Rating Impact Analysis.

- b. In order to prevent flow reversal from the 400 psig distribution high pressure feeder system into de-rated Line 1600, physical connections / regulator stations between the two pipeline systems would be abandoned, check valves will likely be installed in place of two of the removed regulator stations in order to maintain operational flexibility in the event of scheduled or unscheduled maintenance of the proposed Line 3602.
- c. The cost estimate for the abandonment/removal and reconfiguration of the piping connections of the five existing regulator stations and the installation of two check valves associated with preventing flow reversal from the 400 psig system back into the de-rated (320 psig) Line 1600 is summarized in table below. Please note this only represents a portion of total direct costs for distribution system modifications required to facilitate the de-rate of Line 1600 as outlined in the Prepared Direct Testimony of Neil Navin, Attachment A, Sub-Attachment XI: Line 1600 De-Rating Impact Analysis.

Station to Abandon/Remove/Reconfigure	Approximate Estimated Cost
Abandon Reg 1516, Install Check-Valve	\$247k
Abandon Reg 141	\$232K
Abandon Reg 1500, Install Check-Valve	\$259k
Abandon Reg 1494	\$219k
Abandon Reg 1051	\$220k

- d. Yes. Costs associated with de-rating L1600 are accounted for in the CEA where applicable.
- e. Please refer to the CEA at pages 19 – 20, which states: “For the Proposed Project and all the Alternatives except the Hydrotest Alternative (Alternative B) and Replace Line 1600 in Place with a New 16-inch Transmission Pipeline Alternative (Alternative D), Line 1600 would be de-rated and operate as a distribution asset. The costs for de-rating Line 1600 are included in the fixed cost estimate for all the Alternatives except Alternatives B and D.” For additional detail, please refer to the response to ORA 26, Question 1.
- f. Yes.

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g. Please refer to the PEA Supplement (filed in this proceeding on March 21, 2016) at Chapter 2 – Project Description Supplement. Specifically, see page 2-1 for a summary of the modifications:

“[T]o complete the conversion of Line 1600 and utilize the existing pre-lay segment, several changes to SDG&E’s distribution system are required, including the following:

- Remove 10 existing regulator stations
 - Regulator Station 1316
 - Regulator Station 1101
 - Regulator Station 1516
 - Regulator Station 141
 - Regulator Station 1500
 - Regulator Station 1248
 - Regulator Station 1494
 - Regulator Station 1051
 - Regulator Station 1335
 - Regulator Station 982
- Replace two removed regulator stations with check valves
 - Regulator Station 1519
 - Regulator Station 1500
- Replace one existing regulator station with a new regulator station
 - Regulator Station 939
- Construct three new regulator stations and connection pipelines
 - Regulator Station A
 - Regulator Station B
 - Regulator Station C
- Construct an approximately 0.88-mile long, eight-inch-diameter extension
 - Mira Mesa Extension
- Replace an approximately 0.70-mile long segment of Line 49-31B with six-inch-diameter pipe
 - Line 49-31B Replacement
- Install approximately 1.08 miles of eight-inch-diameter distribution pipeline along the pre-lay segment of pipeline in Pomerado
 - Pre-lay Segment Replacement

The following subsections describe the components of the Distribution System Modifications and their locations in detail.”

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QUESTION 14:

- a. What would the maximum operating pressure (MaxOP) of Line 1600 be, if it is derated to an MAOP of 320 psig?
- b. If the MOP is the same as the MAOP, please explain what consequences could result if the line was over pressurized, and explain if any over pressurization events have occurred where SoCalGas/SDG&E has followed this policy elsewhere on its system.
- c. If the MOP is the same as the MAOP, please identify the steps SoCalGas/SDG&E would take following the over pressurization event to comply with federal and state safety requirements?

RESPONSE 14:

Applicants object to this question on the grounds that it is vague, ambiguous, misleading, and in part unduly burdensome and beyond the scope of this proceeding. The consequences of an overpressure event depend upon a variety of factors, including but not limited to the level of exceedance, the characteristics of the pipeline material, the existence of defects, and the class location. These factors vary even on the same pipeline. Subject to and without waiving these objections, Applicants respond as follows:

The maximum operating pressure would match the derated MAOP of 320 psig. The pipeline would be protected from overpressure events through the use of regulator stations, which are designed with two regulator valves to provide continuous protection in the event that one valve should fail. The first valve, the “monitor”, is set to a pressure such that the MAOP of the pipeline is not exceeded at any point under a static flow condition. The second valve, the “service”, is set at a pressure approximately 10-15 psig lower than the monitor for control purposes. This method is in compliance with 49 CFR § 192.195: Protection against accidental overpressuring. Applicants have reported any required incidents in response to and following federal and state safety requirements, and will continue to do so. Any additional steps that the Applicants would take following an over pressurization event would be determined at the time of the incident based on the specific circumstances related to the event.

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QUESTION 15:

- a. Have any gas curtailments occurred on Line 1600 since October 1, 2016?
- b. If so, please explain for each event:
 - a. How much curtailment has occurred;
 - b. If any customers were curtailed;
 - c. Why the curtailment occurred;
 - d. Whether the curtailment was planned.

RESPONSE 15:

- a. Yes, there has been one curtailment event on Line 1600 since October 1, 2016. The curtailment was on October 25, 26, 27 and November 1, 2, 3 through 17.
- b. See below:
 - a. Delivery was limited to 60 MMcfd or 2.5 MMcfh
 - b. The following customers were curtailed:
 - Orange Grove Energy Center (100%);
 - Goal Line (100%);
 - CalPeak – Escondido (100%); and
 - Palomar (limited to one gas turbine and one steam turbine operating).
 - c. To comply with Resolution SED-1, SoCalGas/SDG&E scheduled natural gas transportation service reduction to specific noncore customers located in the San Diego North County area south of Pala Norte Road, west of Lilac Road, north of Harmony Grove Road, east of Citricado Parkway.

During this service reduction, noncore gas service was available on a reduced basis and transmission pipeline pressures were lower than normal. Prior to the curtailment, SDG&E provided each affected noncore customer with their maximum usage during the curtailment.

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d. The curtailment was planned for October 25 through 27 and November 1 through 4. However, after encountering a pigging issue on November 4, the curtailment was extended and ended on November 17.

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QUESTION 16:

Electric Generation

In response to SCGC DR-7, Question 7.3, SoCalGas/SDG&E stated “Yes, the lack of gas-fired local generation in the San Diego area will impact the ability to import energy into the San Diego load center.”

Are there other alternatives, such as constructed or proposed synchronous condensers in SDG&E’s service area, that can increase the ability to import energy into the San Diego load center if gas-fired local generation was not operating?

RESPONSE 16:

Synchronous condenser projects may mitigate voltage stability issues allowing for greater import capability. Identification of such projects, and their impact on import capability, would require study through the California Independent System Operator (CAISO) Transmission Planning process. Regardless, it is prudent to distinguish the difference between a synchronous condenser and an electric generator. The latter can act like a synchronous condenser, but also produces megawatts that are readily available to serve customer demand. Furthermore, it is critical to emphasize that solely becoming reliant on imports puts at risk SDG&E customers who may suffer from electric curtailments during impacts to import-serving interconnections. The risks of greater reliance on transmission lines to import electricity to serve SDG&E’s customers would have to be evaluated in the CAISO Transmission Planning process pursuant to North American Electric Reliability Corporation (NERC), Western Electricity Coordinating Council (WECC), and CAISO reliability and planning standards, and greater redundancy may be required if lack of gas-fired local generation must be considered. Ultimately increasing imports is valuable, but in concert with responsible development of localized generation resources.

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QUESTION 17:

Please provide a copy of the map provided in response to Sierra Club DR-02, Question 8.

RESPONSE 17:

Please see the response to Question 26 below. The map provided as part of the response to SCGC DR 10, Question 10.4.3 contained the same map that was provided to Sierra Club in DR-02, Question 8. However, the map provided in SCGC 10 contained additional detail that SCGC requested be included in the submission.

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QUESTION 18:

What is the maximum volume of gas that can be delivered into Rainbow Station? If this volume changes if Line 3602 is built, please provide the new volume, and explain the difference.

RESPONSE 18:

The capacity of the SoCalGas Rainbow Corridor pipeline network, operating between its maximum and minimum allowable pressures, is 1 billion standard cubic feet per day (Bcfd) to the Rainbow Metering Station, independent of the facilities in service downstream of the station.

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QUESTION 19:

Is SoCalGas/SDG&E aware of any operators that use a particular MAOP of a pipeline to determine if it is managed as a transmission versus distribution line? Please explain.

RESPONSE 19:

The Applicants object that this Question calls for information not in Applicants' possession, custody or control, and thus calls for speculation. Subject to and without waiving their objections, the Applicants respond as follows. The Applicants cannot comment as to how other operators define transmission pipelines as the Applicants do not have certain knowledge of their policies and definitions and/or how their pipelines systems are designed, constructed, tested, operated, maintained and rated.

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QUESTION 20:

Without using the definition under 49 CFR Section 192.3 that defines transmission line as one that “Operates at a hoop stress of 20 percent or more of SMYS”, is SoCalGas/SDG&E aware of any other operator that defines a natural gas line in their system using one of the other two available definitions of transmission line under 49 CFR Section 192.3? For reference, those two definitions include a line that “[t]ransports gas from a gathering line or storage facility to a gas distribution center, storage facility, or large volume customer that is not down-stream from a gas distribution center; or a line that “[t]ransports gas within a storage field”.

RESPONSE 20:

The Applicants object that this Question calls for information not in Applicants’ possession, custody or control, and thus calls for speculation. Subject to and without waiving their objections, the Applicants respond as follows. The Applicants cannot comment as to how other operators define transmission pipelines as we do not have certain knowledge of their policies and definitions and/or how their pipelines systems are designed, constructed, tested, operated, maintained and rated.

The Applicants note that Line 1600 currently qualifies as a transmission line as it operates at a hoop stress of greater than 20% of SMYS. As for the other two available definitions cited in this question, Line 1600 does not meet either of those. If Line 1600 were to be de-rated to an MAOP of 320 psig, it would operate at a hoop stress of less than 20% of SMYS and would not meet any of the three criteria of 49 CFR 192.3 for a transmission line. It would then be defined as a distribution line per 49 CFR 192.3.

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QUESTION 21:

- a. Who would bear the costs if customers currently connected to Line 1600 were moved to a higher pressure pipeline?
- b. Has SoCalGas/SDG&E considered these costs when comparing construction of Line 3602 versus the in-situ replacement of Line 1600?
- c. Are the consideration of these costs within the scope of the PwC CEA?
 - a. If so, please identify the language showing that and page numbers.
 - b. If not, please explain why not.
- d. Are the consideration of the impacts of moving customers currently connected to Line 1600 in the Proponents Environmental Assessment??
 - a. If so, please identify the language showing that and page numbers.
 - b. If not, please explain why not.

RESPONSE 21:

- a. The only option that Applicants have considered that moves existing customers from Line 1600 to a new higher pressure pipeline is Alternative D. Alternative D is described in the CEA at page 12 and relates to constructing a new pipeline in the existing Line 1600 right-of-way. Customers currently connected to Line 1600 would be connected to this new pipeline. It is proposed that this new pipeline would have an MAOP of 800 psig, which is higher than the maximum pressure of 512 psig that Line 1600 currently is limited to, and higher than the 640 psig MAOP in place prior to the July 7, 2016 Safety Enforcement Division directive that reduced the operating pressure to a maximum pressure of 512 psig. It is assumed that if this was the alternative selected in the Commission's final decision related to this Application, the Commission would determine who would pay for this work as part of that final decision.
- b. Within the context of the response provided to Question 21(a) above; Yes.
- c. Yes. The costs to connect customers that are currently connected to Line 1600 to the project alternative described as Alternative D in the CEA are included in the costs presented for Alternative D. Cost estimate assumptions for Alternative D are presented on page 25 of the CEA. Cost estimates for all alternatives, including Alternative D and the Proposed Project, are presented in Table 8 in the CEA at page 32.

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- d. Yes. Please reference footnote 29 at page 12 of the CEA which describes that information related to Alternative D is presented in the PEA at Chapter 5.2.2, pages 5-9.

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QUESTION 22:

What features make the southernmost 4.7 miles of Line 1600 unique from the northern 45 miles of Line 1600? Was this differentiation identified in the SoCalGas/SDG&E PSEP?

RESPONSE 22:

Over its approximate 50 mile length, from its northern beginnings in Rainbow, to its southern terminus near the Mission Valley in the urban core of San Diego, Line 1600 passes through a variety of geography. In the north, it is more rural and open and as it traverses south, the population density increases as the pipeline passes through primarily residential sections of the communities of Escondido, Rancho Bernardo, Rancho Penasquitos and Mira Mesa. Line 1600 then crosses the Marine Corps Air Station Miramar before entering the Kearny Mesa area that consists of primarily commercial and industrial business before passing through the residential areas of Serra Mesa reaching its terminus at the Mission City Gate.

Line 1600, originally installed in 1949, has evolved over the years in how it serves the San Diego region. What was once a simple stand-alone pipeline from Rainbow to Mission City Gate has now been integrated and interconnected into a larger network of transmission pipelines that serve San Diego County. In addition to the transmission interconnections, Line 1600 now has over 50 connections that support the gas distribution system along its length providing service to an estimated 152,000 customers. From an integrated transmission system, the function of the northern 45 miles of Line 1600, being interconnected to other large transmission lines, is very important to the system for moving large amounts of gas across the service territory during peak conditions, and when the system is in abnormal configuration for maintenance or should a system emergency occur.

The southern approximately 4.7 miles of Line 1600 are unique in the sense that they are below the last interconnection point with other transmission pipelines and this transmission line segment's primary benefit is to serve the distribution system in the Kearny Mesa and Serra Mesa areas, and serve as a high volume, high pressure supply source for the high pressure distribution network connecting at the Mission City Gate.

Upon its construction in 1949, Line 1600 was not pressure tested before being placed in service. As such, and per California Public Utilities Code Section 958 and D.11-06-017, Line 1600 must be tested or replaced, or have its transmission function replaced so it can be de-rated and operated as a distribution pipeline, thus removing it from transmission service. The statute or Commission decision did not specify how this must be accomplished, only that, all segments of Line 1600 that did not have a valid pressure test, would need to be tested or replaced. It is up to the Applicants to propose how this would be accomplished.

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The Applicants have proposed addressing this requirement for the northern 45 miles of Line 1600 in the proposed Pipeline Safety & Reliability Project (A.15-09-013). As proposed, the PSRP recognizes the need to have an integrated transmission system that provides safe and reliable service, as well as resilience, operational flexibility and suitable capacity to reduce the vulnerabilities associated with relying on Line 3010 to transport approximately 90% of the gas used in the San Diego region. The Proposed Project's scope includes replacing the transmission function of the northern 45 miles of Line 1600 between Rainbow in the north and Line 2010 near the Kearny Pressure Limiting station in the south. This will be accomplished by constructing a new 36-inch diameter pipeline that will be interconnected to other transmission lines (Line 1601 and Line 2010) and Line 1600 will be de-rated to a distribution line allowing it to remain in safe operation providing service to those customers connected to it. The southern 4.7 mile segment of Line 1600 is below this point of transmission interconnection, outside the scope of this Application, and determination of whether it will be tested or replaced (or de-rated and repurposed as a distribution line), will be determined separately.

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Availability of other Party Discovery on the SCG website as of 1/18/2017
<https://www.socalgas.com/regulatory/A15-09-013.shtml>

QUESTION 23:

Please provide any data requests from TURN, and all responses to TURN, after TURN-05.

RESPONSE 23:

There are no data requests (or responses) from TURN after TURN DR 5.

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QUESTION 24:

Please provide any data requests from UCAN, and all responses to UCAN, after UCAN-02.

RESPONSE 24:

Please refer to SoCalGas' and SDG&E's website for public responses to other parties' data requests. Also, enclosed are the attachments and confidential information associated with responses to UCAN DR 4-6. Some of the responses contain **confidential information and is provided pursuant to General Order 66-C and Public Utilities Code § 583 and D.16-08-024. Accordingly, a confidentiality declaration is included with this submission.** Note: UCAN DR 4 simply asked for copies of other parties' data request response attachments, which have already been provided to ORA.

UCAN issued DR 7, however the Applicants' response is not due until March 7, 2017. Attached is a copy of UCAN DR 7 and the Applicants' response will be provided after it is submitted to UCAN.

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QUESTION 25:

Please provide any data requests from Sierra Club, and all responses to Sierra Club, after Sierra Club-05.

RESPONSE 25:

There are no data requests (or responses) from Sierra Club after Sierra Club DR 5.

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QUESTION 26:

Please provide any data requests from SCGC, and all responses to SCGC, after SCGC-09.

RESPONSE 26:

Please refer to SoCalGas' and SDG&E's website for public responses to other parties' data requests. Also, enclosed are the attachments and confidential information associated with responses to SCGC DR 10 and 11. Some of the responses contain **confidential information and is provided pursuant to General Order 66-C and Public Utilities Code § 583 and D.16-08-024. Accordingly, a confidentiality declaration is included with this submission.**

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QUESTION 27:

Please provide any data requests from POCF, and all responses to POCF, after POCF-01.

RESPONSE 27:

There are no data requests (or responses) from POCF after POCF DR 1.

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QUESTION 28:

Please provide any data requests from SED, and all responses to SED, after SED-04.

RESPONSE 28:

The data requests from SED in this proceeding are posted on SDG&E's and SoCalGas' website. ORA received the confidential versions of Applicants' responses to SED's data requests in response to ORA DR 19 Question 6. There are no data requests (or responses) in this proceeding from SED after SED-04.

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QUESTION 29:

Please provide any data requests from ED, and all responses to ED, after ED-04.

RESPONSE 29:

The data requests from ED in this proceeding are posted on SDG&E's and SoCalGas' website. ORA received the confidential versions of Applicants' responses to ED's data requests in response to ORA DR 19 Question 6. There are no data requests (or responses) in this proceeding from ED after ED-04.