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

In The Matter of the Application of San Diego Gas & Electric Company (U 902 G) and Southern California Gas Company (U 904 G) for a Certificate of Public Convenience and Necessity for the Pipeline Safety & Reliability Project	Application 15-09-013 (Filed September 30, 2015)

REPLY BRIEF OF SAN DIEGO GAS & ELECTRIC COMPANY (U 902 G) AND SOUTHERN CALIFORNIA GAS COMPANY (U 904 G) ON PHASE ONE ISSUES

PUBLIC VERSION

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I. INTRODUCTION

A. Overview

San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) (jointly, Utilities or Applicants) seek California Public Utilities Commission (Commission) authorization to construct the Pipeline Safety & Reliability Project (PSRP or Proposed Project) to provide safe and reliable natural gas service to approximately 849,000 residential customer meters (serving over 3.2 million San Diego County residents), 30,000 commercial and industrial customer meters, and to electric generation facilities, military installations, schools, and hospitals.[1] Because SDG&E relies upon gas-fired electric generation in San Diego County to meet its customer demand for electricity above its import limit, the Proposed Project also enhances SDG&E's ability to provide reliable electric service.

As set forth in the Utilities' Opening Brief, Phase 1 of this proceeding presents the Commission with three critical issues: (1) the future of Line 1600; (2) the Commission's reliability standard, and whether the reliability and resiliency provided by the proposed Line 3602 is reasonable; and (3) the viability of firm deliveries of gas to Otay Mesa as an alternative

[1] Exhibit (Exh.) SDGE-13 (Rebuttal Testimony at 83:3-14).

to the PSRP. The parties generally agree on some points, but disagree on others, both on factual and policy grounds. The Utilities summarize key issues as follows.

B. Line 1600 Should Be De-Rated to Distribution Service

All parties agree that safety is a priority. The Utilities propose to enhance the safety of their integrated natural gas transmission system by de-rating Line 1600 to distribution service and replacing its transmission function with a state-of-the-art proposed Line 3602.[2] The Utility Reform Network (TURN) agrees that the "evidence in Phase 1 suggests that applicants' proposed solution – to de-rate Line 1600 to a pressure below 20% of SMYS – is the safest alternative."[3] The Utility Consumers' Action Network (UCAN) recommends that Line 1600 "come out of service as soon as practicable," but in the alternative asks that that "the Commission follow TURN's recommendation and derate line 1600, and require SDG&E to observe the enhanced pipeline inspection requirements they propose."[4] Sierra Club and Southern California Generation Coalition (SCGC) take no position.[5] The Office of Ratepayer Advocates (ORA) "recommends against keeping Line 1600 at 512 psig."[6]

Only Protect Our Communities Foundation (POC) urges that Line 1600 be pressure tested and maintained in transmission service at 512 psig or more. POC contends: "There is <u>no evidence</u> that derating Line 1600 to 320 psig would make the line more safe."[7] POC's claim ignores the host of evidence presented by the testimony of Mr. Sera, Mr. Rosenfeld and Mr. Sawaya, summarized in the Utilities' Opening Brief at 60-63. Among other points, Mr. Rosenfeld testified: "The benefit of reducing the pressure in Line 1600 to distribution service is

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2 Exh. SDGE-1 (Schneider Prepared Testimony at 1:14-2:6).
3 TURN Opening Brief at 48.
4 UCAN Opening Brief at 5.
5 Sierra Club Opening Brief at 29; SCGC Opening Brief at 69.
6 ORA Opening Brief at 71.
7 POC Opening Brief at 29-30 (emphasis added).

to greatly reduce the probability of a failure occurring as a rupture. This also reduces consequences in the event of failure. However, at transmission service pressure, a rupture is more likely and could be expected to propagate the length of at least two pipe joints."[8] POC is simply wrong.

De-rating Line 1600 to distribution service will not only enhance safety, it will avoid the need to pressure test the pipeline under California Public Utilities Code (P.U. Code) § 958, thus saving ratepayers an estimated $112.9 million in direct costs. ORA seeks to compel a pressure test, despite admitting a lack of any safety or operational benefit, claiming that Line 1600 would or should remain a transmission line for various reasons. None are supported by evidence in the record. The evidence establishes that Line 1600 de-rated to a Maximum Allowable Operating Pressure (MAOP) of 320 psig would be a distribution line under 49 Code of Federal Regulations (CFR) § 192.3 because it would (a) operate at a hoop stress less than 20% of its Specified Minimum Yield Strength (SMYS) and (b) gas entering Line 1600 at Rainbow Metering Station is primarily for consumption, not re-sale.

ORA's claims of "discovery evasion" and "unreliable records" are either not supported by evidence, contrary to regulation, or both. ORA asks the Commission to assume "adverse inferences" that contradict evidentiary facts, to the detriment of ratepayers. In the end, ORA only asked for historical documents for six segments and it did not question those documents.[9] Indeed, ORA stated: "ORA does not dispute the assertion that SoCalGas/SDG&E located additional documentation that support the identified specified minimum yield strengths for these 6 segments."[10] To the extent that the Commission would like its Safety and Enforcement

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[8] Exh. SDGE-12 (Supplemental Testimony, Attachment C at 10).

[9] Exh. SDGE-13 (Rebuttal Testimony at 13:1-6, 40:1-4, Attachment B-5 at 42-115 (Utilities' Response to ORA DR-84, Q1-Q6 and attached documentation)).

[10] Exh. SDGE-14-C (ORA Response to Utilities DR-12, Q1-Q6).

Division (SED) to review the Utilities' documentation of Line 1600 attribute values again—after it did so in August 2017—the Utilities have no objection.

While the Utilities have proposed to de-rate Line 1600 to distribution service, to further enhance its safety, the Utilities offered to incorporate various safety measures normally applied to transmission lines, and do not object to the Commission ordering the Utilities to do so. The Utilities believe that reducing Line 1600's pressure to an MAOP of 320 psig, which results in a hoop stress less than 20% of its SMYS, plus the additional safety measures, enhances Line 1600's safety to an acceptable level. That said, the Commission must determine the acceptable level of risk tolerance. If the Commission wishes to pursue abandonment of Line 1600, either with or without proposed Line 3602, then those alternatives should be the subject of a cost-effectiveness review in Phase 2 of this proceeding because they will entail considerable additional work and cost to rebuild SDG&E's gas distribution system.

The Utilities believe the evidence shows, and most parties support, that Line 1600 should not be pressure tested and instead should be de-rated to distribution service. The Utilities submit that the Commission's project objectives should include removing Line 1600 from transmission service. The Utilities look forward to the Commission's guidance on the future of Line 1600.

C. Replacing Line 1600 with Proposed Line 3602 Provides Safe and Reliable Gas Service, Just as the Commission Has Directed the Utilities to Do

As the Utilities set forth in their Opening Brief, Section VII.A, the Commission, in Decision (D.) 06-09-039, stated that its "goal" is to ensure "the overall adequacy of the intrastate infrastructure not only to meet normal demand, but also to respond to emergencies."[11] To meet that goal, the Commission directed the Utilities to meet two specific design standards and also plan for emergencies, including "the failure of a major component of the delivery or storage

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[11] D.06-09-039 at 61.

system."[12] While SDG&E's gas system currently complies with the Commission's design standards, the Utilities have shown that they cannot ensure reliable gas service in the event of a Line 3010 outage or an outage of the Moreno Compressor Station. The Proposed Project allows the Utilities to comply with the Commission's direction.

Notwithstanding the Commission's direction in D.06-09-039, TURN, Sierra Club, and SCGC assert that the Proposed Project is not needed to meet the Commission's reliability standard because SDG&E's gas system complies with the Commission's design criteria.[13] TURN, Sierra Club and SCGC fail to recognize that the Commission's reliability standard seeks to ensure that SDG&E's gas system will deliver gas to customers, even under emergency conditions, not simply meet design criteria when all facilities are in operation.

The Commission recently emphasized its expectations in an October 17, 2017 letter to SoCalGas regarding concerns about gas service this winter. In part, the Commission stated:

> Given multiple recent and unexpected operational limitations on Southern California Gas Company's (SoCalGas) system, we are concerned with SoCalGas' ability to meet <u>its obligation to provide safe and reliable service</u> this winter.
> …
> • Currently, three pipelines critical to importing natural gas into SoCalGas' service territory are out of service. According to ENVOY, one will not be returned to service until the end of December 2017 (line 4000) and another until May 2018 (line 3000). No date for return to service has been established for the third line (line 235-2). Collectively, these pipelines represent 42 percent of the natural gas import capacity into the Los Angeles region.
> …
> We are concerned that SoCalGas will not be able to meet demand for core customers if there are high demand days in December 2017 or January

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12 D.06-09-039 at 170; *see generally* Exh. SDGE-12 (Supplemental Testimony at 55:10-58:25). (discussing D.06-09-039).

13 TURN Opening Brief at 9-10 ("the project is not needed for meet reliability standards"); Sierra Club Opening Brief at 15 ("No. The Commission's established reliability standard for the backbone transmission system is to have sufficient capacity to meet 'one-in-ten year cold and dry conditions.'"); SCGC Opening Brief at 41 ("The Commission's Reliability Standard for Service to SDG&E On-System Customers Is 1-in-10 Year Cold Day Demand.").

> 2018. There may also be problems on lower demand days and service to noncore customers appears to be at risk, including electric generators and refineries.
>
> …
>
> Ultimately, it is SoCalGas' responsibility to ensure safe and reliable service to all SoCalGas customers, and it is especially important that you avoid curtailment to core customer. To that end, SoCalGas must plan how to meet the challenges it is facing this winter.[14]

The Utilities have presented unchallenged evidence that, if Line 3010 experiences an unplanned outage in the north, the Utilities will be unable to provide gas service to core customers (or non-core customers), either with Line 1600 in transmission service or with Line 1600 de-rated to distribution service.[15] If Line 3010 is out of service after Line 1600 is de-rated, SDG&E's gas system essentially may have no capacity (depending upon the location of the outage) without another firm supply source. The Utilities seek to serve their customers, and comply with the Commission's reliability standard, by constructing the Proposed Project to make SDG&E's gas transmission system resilient enough to withstand a single pipeline outage.[16]

Given that the Commission in October 2017 directed SoCalGas to plan to ensure reliable gas service despite three pipelines being out of service, the Utilities believe they have correctly interpreted the Commission's reliability standard as including planning for emergency conditions. Intervenors note that pipeline outages are infrequent and Line 3010 has only had one

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[14] Commission October 17, 2017 letter to Bret Lane, President and Chief Operating Officer, SoCalGas, http://www.cpuc.ca.gov/uploadedfiles/cpuc_public_website/content/news_room/news_and_updates/10.17.17%20bret%20lane%20socalgas_dec%20and%20jan%20mitigation_2.pdf. (Emphasis added). The Commission may take official notice of its own official acts. Commission Rule of Practice & Procedure 13.9; P.U. Code § 1701; Cal. Evid. Code § 452(c); *Pratt v. Coast Trucking, Inc.*, 228 Cal. App. 2d 139, 143-44 (1964) (taking judicial notice of files and order of the CPUC).

[15] *See* Utilities Opening Brief, Section VII.B.2, at 64-70.

[16] Doing so also has other benefits, including the operational flexibility to handle intra-day fluctuations in demand, and reducing emissions and costs at Moreno Compressor Station. Exh. SDGE-1 (Schneider Prepared Testimony at 199-20:10, 22:2-19); Exh. SDGE-3-R (Bisi Prepared Testimony at 10:7-15:19); Exh. SDGE-8-R (Kohls Prepared Testimony at 4:10-15).

unplanned outage.[17] While pipeline outages are rare, they do occur and can have serious consequences.[18] Intervenors also note that proposed Line 3602 will not prevent a loss of gas service arising from inadequate gas supply.[19] True, but that is no reason not to guard against the risk of losing Line 3010 or the Moreno Compressor Station. Sierra Club argues that natural gas use will decline,[20] and that electric projects could increase SDG&E's import limit,[21] but even Sierra Club recognizes that Californians will rely on natural gas for decades to come.[22]

The Proposed Project is a reasonable, cost-effective, and prudent way to ensure that SDG&E can deliver safe and reliable gas service to San Diego, as directed by the Commission. If the Commission agrees that the public convenience and necessity requires assurance that SDG&E can serve its customers in an emergency, and that the risk of gas and/or electric curtailments to the 3.2 million residents, businesses, military installations, and public buildings in San Diego should be avoided, then the Commission should provide such guidance to the parties and Energy Division in its Phase 1 Decision. If the Commission concludes the risks are too small to raise a concern, or that the cost of mitigating the risk is too great, the Commission may deny the Utilities' Application. If the Commission believes the risks should be addressed, then it may consider whether the Proposed Project or feasible alternatives are more cost-effective over the long-term in Phase 2 of this proceeding.

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[17] TURN Opening Brief at 15; SCGC Opening Brief at 46-48; Sierra Club Opening Brief at 18; POC Opening Brief at 22-23.
[18] Utilities Opening Brief at 12-13, 65-69.
[19] TURN Opening Brief at 14-15; Sierra Club Opening Brief at 19-20.
[20] Sierra Club Opening Brief at 9-12.
[21] Sierra Club Opening Brief at 20-22.
[22] *E.g.,* Sierra Club Opening Brief at 11 ("the Air Resources Board's 2017 Scoping Plan, recognize the RPS will need to be increased to at least <u>80 percent by 2050</u>"), at 12 ("While the <u>exact pathway</u> to 2050 and the full extent of end-use electrification <u>has not yet been established</u>…") (emphasis added). Further, while SDG&E would welcome an upgrade of the Imperial Irrigation District (IID) S Line, Sierra Club has presented no evidence that the IID has reversed its opposition to such an upgrade.

D. The Available Evidence Shows That Otay Mesa Alternatives Are Not Feasible At a Reasonable Cost; If the Commission Wishes to "Test the Market" with a Request for Offers, Such a Request Should be Developed As Soon As Feasible

As set forth in the Utilities Opening Brief at 16-19, 26-50, the available evidence demonstrates that the Otay Mesa Alternatives are not feasible at a reasonable cost nor comparable to a physical pipeline asset owned and operated by the utility. Among other reasons and in brief: (1) reliance on interruptible capacity or "as available" supplies is not prudent to ensure reliable service to customers as sufficient gas is not likely to be available, and certainly is not "firm.";[23] (2) there is insufficient firm capacity available on the North BC Pipeline System and constructing a new 226-mile pipeline from Ehrenberg to TGN is estimated to be more expensive than constructing the 47-mile proposed Line 3602;[24] and (3) purchasing re-gasified liquified natural gas (LNG) through Energía Costa Azul (ECA) will be very costly given the mandatory daily withdrawals from stored LNG, the costs of LNG (at international market price), shipping LNG to ECA, ECA storage and regasification, and pipeline delivery from ECA to Otay Mesa, and the uncertain availability of ECA after 2028.[25]

In the event of a Line 3010 outage, gas would need to flow into SDG&E's system at Otay Mesa within an hour, depending on system conditions to prevent curtailments. Given that gas would move slowly through the 226-miles of pipeline from Ehrenberg to Otay Mesa, or the over 50 miles of pipelines from ECA to Otay Mesa,[26] all Otay Mesa Alternatives essentially rely on gas already in Mexican pipelines being "available" in an emergency. There is no evidence that

[23] Utilities Opening Brief at 31-36.
[24] Utilities Opening Brief at 27-31; Exh. ORA-1 (Sabino Prepared Testimony at 7:7-8); Exh. SDGE-1 (Schneider Prepared Testimony at 1:6-8); Exh. SDGE-12 (Supplemental Testimony at 39, Figure 4).
[25] Utilities Opening Brief at 37-47.
[26] Exh. SDGE-12 (Supplemental Testimony at 16:13-14) ("Natural gas moves slowly through a pipeline network."); Utilities Opening Brief at 46-47; http://www.northbajapipeline.com/downloads/documents/GBN_NBPPresentatin2008.pdf.

shippers, or the Mexican authorities, would direct such gas to San Diego if it required curtailing Mexican customers, including electric generation facilities providing electric service to Mexican customers.[27] Proposed Line 3602, by contrast, provides available gas that is under the direct control of the Utilities every day in support of customer demands, and thus gas is immediately available in the event of an unplanned outage of Line 3010 or the Moreno Compressor Station.

Nonetheless, TURN, SCGC, Sierra Club, and POC all contend that gas delivered to Otay Mesa can solve both (a) the temporary violation of the Commission's design criteria if Line 1600 is de-rated before 2023, and (b) the risk to reliable gas and electric service in the event of a Line 3010 or Moreno Compressor Station outage.[28] The Utilities disagree and address their claims below. However, the Utilities conditionally agree with TURN on one point. TURN states:

> The optimal path forward is to use alternative gas supplies at Otay Mesa both to enhance reliability and expedite the de-rating of Line 1600. Thus, <u>even prior to continuing with Phase 2</u>, TURN recommends that the Commission order the Sempra Utilities to <u>meet with Energy Division and stakeholders to craft the requirements and parameters for a Request for Offers for firm gas supplies at Otay Mesa</u>. Such offers should include products with small quantities for the entire year, so as to facilitate expeditious de-rating of Line 1600, as well as larger quantities of products required only during emergency conditions to provide back-up reliability in case of outages or maintenance on existing Line 3010, 1600 or the Moreno Compressor Station. The results of this RFO would provide useful information that could impact the consideration of alternatives for Phase 2 of this proceeding.

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[27] Utilities Opening Brief at 29-30; Phase 1 Evidentiary Hearing Transcript (Tr.) at 1027:11-24 (Utilities-Bisi) ("To my thinking, it would depend on what the demand is on the Mexican pipelines for the Mexican customers. If they're running full because they have that level of Mexican demand there, there's not going to be enough capacity to divert those supplies from Ehrenberg into Otay Mesa because that would leave the Mexican customers short."); Tr. at 721:10-13 (Utilities-Borkovich) ("A nonstandard transaction between SDG&E and SoCalGas and an affiliate in Mexico could require, I believe, approvals by the Mexican Energy Regulatory Commission.").

[28] TURN Opening Brief at 21-30; Sierra Club Opening Brief at 23-24; SCGC Opening Brief at 20-31; POC Opening Brief at 25-26.

The Utilities strongly agree that, if the Commission still believes the Otay Mesa Alternatives are viable, the parties and Energy Division should meet as soon as possible (without waiting for the Commission's Phase 1 Decision) to prepare a Request for Offers (RFO) for Commission review and approval. The Utilities are concerned that the untested hope for an Otay Mesa Alternative threatens to delay a determination on the Proposed Project. It is one thing for the Commission to make a conscious decision that the Utilities' obligation to San Diego customers in an emergency extends only to buying whatever gas is available at Otay Mesa. It is another thing for a Commission determination on the Proposed Project to be deferred or derailed by mere speculation that firm gas supplies can be timely obtained when needed at Otay Mesa.

Such a meeting should include the assigned Administrative Law Judge (ALJ) Kersten and the Assigned Commissioner to ensure that their concerns are met and there is resolution of any disputed issues. The Utilities provided a draft RFO to Energy Division on July 15, 2016 for review and input, but have never received any response.[29] Commission approval of the RFO terms is critical to assure potential bidders that the RFO is serious, to avoid concerns about affiliate transactions, and to ensure that the Commission obtains the information it seeks to make a decision.[30] To determine whether an Otay Mesa Alternative is potentially feasible at a timely point during Energy Division's California Environmental Quality Act (CEQA) review, the Utilities respectfully request that, if the Commission wishes to proceed with an RFO, a meeting of the relevant parties be scheduled in January 2018 and an RFO be completed in February 2018, so that it can be issued and any responses received in April 2018 (prior to circulation of Energy Division's administrative draft of its Draft Environmental Impact Report).

The Utilities note the following issues that must be addressed in developing an RFO:

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[29] Exh. SDGE-13 (Rebuttal Testimony at 136:27-137:2); Exh. SCGC-15-C-R.

[30] Tr. at 826:9-827:21 (Utilities-Borkovich).

- TURN suggests that the Utilities may be able to contract for firm delivery on a daily basis of 20 MMcfd at Otay Mesa, from now until 2023, and thus be able to de-rate Line 1600 to distribution service and still meet the Commission's 1-in-10 year cold day design criteria.[31] The Utilities do not recommend de-rating Line 1600 before an alternative source of gas is available to serve San Diego because of the increased risk to reliability. Without Line 3010 and with Line 1600 de-rated, a firm supply of 20 MMcfd at Otay Mesa would make no difference—it would simply slightly slow the de-pressurization of SDG&E's gas system and loss of gas service.[32] Even though Line 1600 cannot ensure service to all of SDG&E's customers in a Line 3010 outage event, it could serve some customers for a time.[33] As a prudent operator, the Utilities do not consider it sensible to make SDG&E's system less reliable.

- The RFO must set a quantity of gas for delivery that will provide reliable gas service to SDG&E's customers in the event of a Line 3010 or Moreno Compressor Station outage. It must provide assurances of firm physical delivery to Otay Mesa. The Commission recently emphasized that SoCalGas must seek to serve its core customers even with three pipelines out.[34] The peak day demand forecast for the core under the Commission's 1-in-35 year cold day design criteria ranges from 395 MMcfd in 2017/18 to 403 MMcfd in 2035/36.[35] However, to serve all customers under the Commission's 1-in-10 year cold day design criteria after 2023 would require approximately 570 MMcfd (and more before 2023). Otay Mesa's current receipt capacity is 400 MMcfd and it would cost roughly $100 million to expand it to 570 MMcfd. The Utilities seek to provide reliable gas service to all customers and the Proposed Project would do so. A comparable Otay Mesa Alternative would be able to provide at least 570 MMcfd when needed.

- The RFO must require delivery of sufficient gas in time to avoid widespread curtailments. With Line 1600 in transmission service at 640 psig, Mr. Kikuts testified that a Line 3010 outage in the north would result in core curtailments within 6 hours and non-core curtailments earlier.[36] Without Line 1600 in transmission service, curtailments would begin more quickly.[37] To avoid curtailments, gas must start to flow

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[31] TURN Opening Brief at 18.

[32] As described by Mr. Kikuts, in a scenario where Line 3010 experiences an outage in the north, core customer curtailments would begin in six hours even with Line 1600 operating at 640 psig providing 150 MMcfd. Exh. SDGE-5 (Kikuts Prepared Testimony at 4:1-8:8).

[33] Tr. at 1000:12-28 (Utilities-Bisi).

[34] *See* Commission October 17, 2017 letter to SoCalGas, http://www.cpuc.ca.gov/uploadedfiles/cpuc_public_website/content/news_room/news_and_updates/10.17.17%20bret%20lane%20socalgas_dec%20and%20jan%20mitigation_2.pdf.

[35] Exh. SDGE-12 (Supplemental Testimony at 159, Table 5).

[36] Utilities Opening Brief at 65-66.

[37] Exh. SDGE-13 (Rebuttal Testimony at 99:16-19).

into SDG&E's system at Otay Mesa even sooner to avoid the pressure loss that will cause involuntary curtailments. The Utilities believe gas flow should begin within one hour of notification up to the full requested amount by the start of the next scheduling cycle of an unplanned outage and within 5 days of notification of a planned outage. Because such outages could occur at any time, this obligation exists 365 days per year. Any and all volumes required for reliability shall consider "elapsed pro rata" rules which may also require increased hourly volumes to compensate for the hours that have elapsed during the gas day.

- TURN astutely recognized: "The critical question with any such contract is whether the damage provisions are sufficient to ensure that the seller will hold their own firm capacity and gas supply contracts so as to be able to deliver the product whenever requested."[38] The Utilities might call for gas delivery only rarely (unplanned and planned outages), but ratepayers would be paying for the assurance gas would be delivered when needed. A bidder cannot walk away if it fails to provide gas when the time comes. If the Utilities must shut down gas service to customers, the damages will be (a) the economic losses of all customers impacted by the outage and (b) the Utilities' costs to restore service. The Utilities believe that the RFO should include an Alternative Damages clause to address indemnity and reimbursement costs for such damages.

- The RFO must have an alternative Force Majeure clause that expressly excludes any *force majeure* defense based on governmental restrictions, planned outages or other contractual obligations. The Utilities' ratepayers would be paying for delivery of gas when needed. When the Utilities call for the gas, a successful bidder should not be able to excuse non-performance by claiming that Mexican authorities would not allow diversion of gas to San Diego, that other pipelines are unavailable due to a planned outage, or that its other contracts required it to deliver gas to customers in Mexico.[39] Bidders need to resolve such issues before entering into a contract to supply gas to the Otay Mesa receipt point when needed.

- The RFO must seek a contract of sufficient duration. The need for reliable gas service will continue so long as natural gas continues to be used in San Diego, though the quantity of gas needed may decline as the decades pass. If the Commission seeks the flexibility of shorter-term contracts, then the Commission must set the minimum duration required to maintain bargaining power. As the alternative to renewing an Otay Mesa contract would be constructing a pipeline, and authorization and construction of a pipeline would take at least five years (or more, as shown by this Application), the

[38] TURN Opening Brief at 22.
[39] Mexican regulatory approval may be needed. Tr. at 720:26-721:13 (Utilities-Borkovich).

Utilities recommend that the minimum term be 10 years, with evergreen renewal provisions thereafter subject to a five-year notice for cancellation.

- The RFO must give Utilities the unilateral right to evaluate and determine the ability of the respondent to perform relative to the terms of their offer including all credit support arrangements that must be negotiated prior to contract execution.

- The RFO must not allow assignment of any resulting contract in whole or in part without the consent of the Utilities, and any assignment should not allow relief from liability to the assigning party.

- The RFO should specify that all gas delivered under any resulting contract shall meet the terms of SDG&E and SoCalGas' Rule 30 delivery requirements, including gas quality specifications.

- The RFO should specify that Seller pays all taxes, fees, levies, penalties, licenses, or charges imposed by any governmental authority on gas prior to and upon delivery to Otay Mesa.

- The RFO should also address early contract termination for non-performance, including the length of nonperformance that triggers the option, procedures for the exercise of the option, compensation for damages attributable to non-performance, and how liquidation costs will be calculated.

- The RFO should also address voluntary contract termination, including the procedures for the exercise of the option, compensation for damages attributable to early termination, and how liquidation costs will be calculated.

The RFO must require Commission approval and provide SDG&E and the respondents with the right to terminate any contracts conditionally approved by the Commission. The Utilities do not believe that Otay Mesa Alternatives are feasible at reasonable cost. Such alternatives also would not provide operational flexibility, nor would such alternatives allow the Utilities to reduce operations and costs at Moreno Compressor Station, because gas would not normally flow into the Utilities' gas system. However, if the Commission wishes to "test the market" through an RFO, the Utilities join with TURN in requesting that such an RFO be developed in coordination with the Commission, Energy Division, and intervenors as soon as feasible.

The Utilities now turn to Intervenors' specific arguments.

II. SCOPING MEMO ISSUE 1: PLANNING BASELINE AND HORIZON

Scoping Memo Issue 1: "What is an appropriate planning baseline, including base year and planning horizon, as it relates to current energy resources (including contracts), gas/electric import/export capability, and expected peak load?"

As set forth in the Utilities Opening Brief at 20-22, the "the base year is 2015 when the Application was filed, the appropriate planning baseline is the 2015 system condition, the planning horizon to make a safety determination regarding Line 1600 is 'as soon as practicable' per P.U. Code § 958, and the planning horizon for the overall safety and reliability of natural gas system operations is in perpetuity, as stated in past Commission decisions. The cost-effectiveness of the Proposed Project and potential alternatives should be determined based on the costs and benefits over the expected useful life of project components."[40]

Sierra Club and SCGC propose different definitions of base year and planning horizon. It seems to the Utilities that the effort to "define" these terms obscures fundamental agreement. The Utilities understand "base year" and "planning baseline" as the current status (the physical plant and its ability to serve customers), and the "planning horizon" to be the period over which the need for, and benefits and costs of, the Proposed Project are to be measured. The evidence for this analysis (such as gas and electric demand forecasts) is the most recently available at the time when prepared testimony is served because at some point the evidentiary record must be closed.[41] Benefits and costs may arise, exist, and end during the planning horizon, and all such evidence should be considered. The effort to "define" these terms should not exclude evidence.

[40] Exh. SDGE-12 (Supplemental Testimony at 19:11-17).

[41] In some cases, prepared testimony regarding forecasts can be updated via errata or orally during testimony without depriving other parties of a material opportunity to respond.

That said, the Utilities respond to Intervenors' proposed definitions. Sierra Club asserts that the "base year for assessing the purpose and need of the Proposed Project is 2023, the earliest Line 3602 would be operational."[42] As stated above, the Utilities understand "base year," as part of the "planning baseline," as the status against which the Proposed Project is measured. Sierra Club's proposal would begin the assessment in 2023, but decisions about SDG&E's gas transmission system must be made based upon its current status. Should Line 1600 be pressure tested or should it be de-rated and, if so, when? That determination, in part, is based on its current condition—and a decision should be made "as soon as practicable." Can the Utilities maintain gas service under emergency conditions, *e.g.*, a Line 3010 outage? Again, that determination depends upon the current assets of SDG&E's gas transmission system and any expected future additions (none) or retirements (Line 1600 to be determined). The "base year" and "planning baseline" are appropriately set as of the filing of the Application, even though proposed Line 3602's benefits would begin when it is in service.

SCGC asserts that the "base year" should be "the most recent twelve month period for which system conditions are known, 2016 at the earliest."[43] While the definition of "base year" should not blind the Commission to changes in operations, the "base year" should not be a moving target. The Application was filed in 2015, and that should be the base year.

SCGC also asserts that the "planning horizon component of the planning baseline for this proceeding should the most recent forecast of SDG&E demand that is available to the Commission as it prepares its decision in this proceeding."[44] Again, the planning horizon should not be a moving target. Further, the planning horizon is not limited to the forecast period. The

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[42] Sierra Club Opening Brief at 4.
[43] SCGC Opening Brief at 11.
[44] SCGC Opening Brief at 12.

Commission specifically stated that, with respect to safety, natural gas systems "must include a planning horizon commensurate with that of the pipelines; that is, in perpetuity."[45] Similarly, the planning horizon to maintain reliability should be in perpetuity.[46] The Commission should consider the most recent long-term gas and electric forecasts available when prepared testimony is served, but the planning horizon is not so limited.

SCGC states: "The point of time in the planning horizon when Line 3602 would be placed in service should be forecasted realistically in order to assess the need for Line 3602."[47] The Utilities agree that the date when proposed Line 3602 could be in service is a relevant consideration. The Utilities project that it would be approximately 3.5 years after Commission approval.[48] SCGC contends that by the time proposed Line 3602 would be placed in service, it will not be "needed to meet SDG&E demand," by which SCGC means it would not be needed to meet the Commission's 1-in-10 year cold day design criteria, assuming all facilities are service.[49] But SCGC ignores the Commission's direction that the Utilities plan to maintain reliable service in an emergency, including "the failure of a major component of the delivery or storage system."[50]

III. SCOPING MEMO ISSUE 2: FUTURE GAS AND ELECTRIC DEMAND FORECASTS

Scoping Memo Issue 2: "Should such data include 2017 California annual gas report data as well as California Energy Commission (CEC) electricity demand forecasts for SDG&E's service area? What is the impact on gas demand for the proposed project when accounting for

[45] D.12-12-030 at 43 (emphasis added).
[46] Exh. SDGE-12 (Supplemental Testimony at 23:21).
[47] SCGC Opening Brief at 12.
[48] Exh. SDGE-8-R (Kohls Prepared Testimony at 26).
[49] SCGC Opening Brief at 14.
[50] D.06-09-039 at 170.

California's decarbonization laws (e.g., Senate Bill 350 and Senate Bill 32) and other state and local mandates?"

As set forth in the Utilities Opening Brief at 23-26, the Proposed Project is meant to address safety and reliability concerns, not to expand capacity to address growing demand or to meet the Commission's design criteria. For this reason, relatively small changes in gas and electricity demand in the near term do not impact the justifications for the Proposed Project (though any such changes may determine when Line 1600 could be de-rated without violating the Commission's design criteria, albeit de-rating Line 1600 without another firm supply of gas would further impair reliability).

While certain Intervenors point to California's "decarbonization" laws as reducing the demand for natural gas, current projections see continued natural gas use for decades. Even Sierra Club's speculation about how California may achieve its 2050 greenhouse gas reduction target still includes substantial use of natural gas in 2050 (likely including efforts to "decarbonize" such gas through capturing methane emissions as renewable natural gas (RNG)). Thus, the Commission must determine whether to enhance the safety and reliability of SDG&E's gas transmission system between now and a potential unknown future date when natural gas use may (or may not) end. San Diego gas and electric service is dependent on Line 3010, which will be 70 years old in 2030, and Moreno Compressor Station.

A. The Latest Gas and Electric Demand Forecasts Do Not Impact the Need for the Proposed Project

Both Sierra Club and SCGC contest the details of Utilities' gas and electric demand forecasts. Even if their criticisms were valid, which they are not, they are inconsequential.

Sierra Club asserts: "The 2016 California Gas Report and the California Energy Commission ("CEC") 2016-2027 demand forecast in the 2016 Integrated Energy Policy Report

("IEPR") Update are the most recent respective forecasts for electric and gas demand in the San Diego area." SDG&E's 2016 Long-Term Peak Day Demand Forecast, including the 1-in-10 Year Cold Day Demand (Cold Day Gas Demand Forecast), is "essentially an extension of the forecast that SDG&E filed in its 2016 CGR [California Gas Report]."[51] The CGR forecasts will not be updated until 2018.[52] SDG&E's Cold Day Gas Demand Forecast "uses the electricity demand forecast for SDG&E's service territory from the 2015 Integrated Energy Policy Report (IEPR) California Energy Demand Forecast, 2016-2026 (CED 2015) and not the more recent California Energy Demand Update Forecast, 2017-2027 (CEDU 2016)."[53] In response to SCGC's claims that the CEDU 2016 would impact SDG&E's Cold Day Gas Demand Forecast, the Utilities demonstrated that the changes would be immaterial.[54]

Sierra Club complains "both the 2016 California Gas Report and the 2016-2027 CEC demand forecast overestimate future demand because they do not account for the 'cumulative doubling of statewide efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030' required under Senate Bill 350."[55] While that is true, it is not responsive to Scoping Memo Issue 2. "The CEC has yet to produce any preliminary estimates of an AAEE forecast consistent with SB 350."[56] When the CEC includes such estimates in its forecasts, it will be reflected in SDG&E's Cold Day Gas Demand Forecast. Regardless, it will not impact the safety and reliability need for the Proposed Project, which will exist as long as natural gas use continues in San Diego.

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51 Exh. SDGE-12 (Supplemental Testimony at 83:7-8).
52 Exh. SDGE-12 (Supplemental Testimony at 29:11-21).
53 Exh. SDGE-13 (Rebuttal Testimony at 64:17-65:1) (footnotes omitted).
54 Utilities Opening Brief at 79-80; Exh. SDGE-13 (Rebuttal Testimony at 64:17-70:2).
55 Sierra Club Opening Brief at 6.
56 Exh. SDGE-13 (Rebuttal Testimony at 70:12-13).

Sierra Club next asserts: "In addition, the CEC forecast has a range of iterations that assume different levels of demand and Additional Achievable Energy Efficiency ("AAEE"). Consistent with Commission precedent, the mid-case/mid-AAEE forecast should be used for system planning in the San Diego area, not the mid-case/no AAEE forecast relied on by the Sempra Utilities."[57] As an initial matter, Sierra Club is not attacking the Utilities' gas demand forecast. The "Utilities' EG component of the Cold Day Gas Demand Forecast is based on the CED 2015 electricity demand forecast and already accounts for the CED 2015 forecasted AAEE savings in electricity demand. In both the CED 2015 and CEDU 2016, the forecasted AAEE savings are the same."[58] In fact, SDG&E's inadvertent use of forecasted AAEE savings from the Revised CED 2013 means that incorporating the CEC's "Mid-AAEE" from the CEDU 2016 would "increase the Cold Day Gas Demand Forecast, not decrease it."[59]

Instead, Sierra Club's attack is on the extent to which the electrical demand of SDG&E's customers exceeds SDG&E's import capability for electricity[60]—in other words, how many customers would lose electric service without natural gas-fired electric generation (EG) in San Diego. Sierra Club notes that "Sempra Utilities' peak load estimate of 4,860 MW in 2017 relies on a CEC demand forecast that assumes no AAEE."[61] Utilizing the "Mid-AAEE" case, Sierra Club asserts: "In 2023, when Line 3602 would first be operational, 1-in-10 peak demand in SDG&E's service area would be 4,593 MW, decreasing to 4,424 MW in 2027."[62] Sierra Club

[57] Sierra Club Opening Brief at 6.
[58] Exh. SDGE-13 (Rebuttal Testimony at 68:10-13).
[59] Exh. SDGE-13 (Rebuttal Testimony at 69:6-7, 68 n.163).
[60] Sierra Club Opening Brief at 6-7.
[61] Sierra Club Opening Brief at 6
[62] Sierra Club Opening Brief at 7.

also claims this number will further decrease when estimates of SB 350 efficiency gains are included.[63]

Sierra Club's points do not impact the need for the Proposed Project. First, even if SDG&E's electric demand was less than SDG&E's electricity import limit (which it is not and Sierra Club does not claim otherwise), SDG&E's 849,000 residential customer meters and 30,000 business customer meters still need a reliable gas supply.[64] Second, even accepting Sierra Club's prediction of future electric demand, 4,424 MW of customer demand far exceeds SDG&E's maximum power import capability of 3,500 MW (which exists when in-basin, natural gas-fired EG is available)[65] and even further exceeds SDG&E's 2,627 MW maximum power import capability without in-basin, natural gas-fired EG.[66] Third, the Utilities provided the conservative "no-AAEE" electric demand forecast because "AAEE can be uncertain since forecasts rely on changes in laws, regulations and policies,"[67] and an over-estimation of AAEE would underestimate the extent of electric service interruption. Fourth, in CEDU 2016, the CEC developed a Peak Shift Scenario Analysis, including mid-level AAEE and photovoltaic (PV) generation, that recognizes that electric system demand peaks are moving later in the day. The CEC Final Adjusted Managed Peak forecasts electric demand in SD&E's planning area as 4,686 MW in 2023, increasing to 4,808 MW in 2027.[68] Note that Sierra Club also predicts "electrification of end uses such as gas heating,"[69] which likely would further increase electric

[63] Sierra Club Opening Brief at 7.
[64] As stated by Sierra Club's witness, Mr. Caldwell: "I leave it to other Intervenors to weigh in on any justification for the Proposed Project on matters solely within the gas supply system itself—including clearly legitimate safety concerns and other impacts on core gas customers." Exh. Sierra Club-1 (Caldwell Prepared Testimony at 28:23-25).
[65] Exh. SDGE-4-R (Yari Prepared Testimony at 14:18-21).
[66] Exh. SDGE-13 (Rebuttal Testimony at 106:1-107:18).
[67] Exh. Sierra Club-2 at 187 (Utilities Response to Sierra Club DR-6, Q4); *see also* Exh. SDGE-13 (Rebuttal Testimony at 121:12-122:2).
[68] Exh. SDGE-13 (Rebuttal Testimony at 121, CEC Table 34).
[69] Sierra Club Opening Brief at 6.

demand in the evening peak. In short, forecast SDG&E electric demand far exceeds SDG&E's ability to serve it without natural gas-fired EG in San Diego.

Sierra Club then complains that, in assessing the gap between SDG&E electric demand and SDG&E's ability to serve it without in-basin, natural gas-fired EG, the Utilities have not accounted for "preferred resources" (non-fossil fuel-fired EG) that the Commission authorized SDG&E to obtain to meet electrical demand, but which have not yet been approved.[70] Again, Sierra Club's points do not impact the need for the Proposed Project. "Preferred resources" do not address the need for a reliable gas supply, but only the amount of electrical load dropped without in-basin, natural gas-fired EG. Further, even adding in all of Sierra Club's authorized, but unidentified or unapproved, "preferred resources (which Sierra Club estimates should be "between 289.5 and 389.5 MW" rather than 127 MW)[71] does not close the gap between SDG&E's estimated 2,627 MW maximum power import capability and over 4,000 MW of electric demand. As Mr. Yari explained:

> As I mentioned, since there are no plans, since it has not been identified, it would be difficult for me as an operator to include something and try to rely on something that hasn't been identified. But these numbers you're talking about is really not that significant in terms of the impact that it will have on the amount of load drop that we're looking at. It would at most reduce the amount of load that has to be dropped a minimum amount which is not that significant.
>
> Therefore, as the proposals are put together, as the internal resources are developed, we will include them as part of the internal resources. But at this point having absolutely no plans, it would be difficult for me to include that in the internal resources.[72]

70 Sierra Club Opening Brief at 7-9.
71 Sierra Club Opening Brief at 9.
72 Tr. at 247:6-24 (Utilities-Yari) (emphasis added).

Without natural gas-fired EG in San Diego, SDG&E's current electric system would not be able to serve all of SDG&E's electric customers on most days.[73]

SCGC repeats Ms. Yap's claims that "Applicants forecast of SDG&E's 1-in-10 cold day demand is overstated for four reasons."[74] The Utilities specifically rebutted each of these claims in their Rebuttal Testimony and Opening Brief,[75] and will not repeat all of the responses here. However, the Utilities will respond to several specific SCGC claims. First, to avoid confusion, the Utilities note that what SCGC calls "2017 CEDU" is what the Utilities call "CEDU 2016."[76]

Second, SCGC states: "Applicants assume that after an appliance is used for ten years it will break down and not be replaced with an appliance of greater efficiency."[77] That is not completely accurate—as Mr. Chaudhury explained, it depends upon whether the standard has changed since that appliance was installed:

> A We basically assume that after ten years when somebody replacing their appliance, they will, at a minimum, put the standard applicable at that time.
>
> Q And that standard will be the same as what was ten years before?
>
> A It depends.
>
> …
>
> Q And the assumption is it's a standard that was adopted at the time that now broken piece of equipment was installed?
>
> A Well, it depends. Because codes and standard changes over time, right. So to the extent that codes, minimum standard has changed for building and appliance standard since applicant has installed the old appliances. So the new applicable appliance would apply in that case. If the applicable standard did not change in the ten hours, then it will be the same.
>
> Q Ten hours or ten years?
>
> A Ten years. Sorry.

[73] Exh. SDGE-13 (Rebuttal Testimony at 107:9-108:8 & Figure 3).
[74] SCGC Opening Brief at 16.
[75] Exh. SDGE-13 (Rebuttal Testimony at 63:12-72:6, 78:1-79:13); Utilities Opening Brief at 78-82.
[76] SCGC Opening Brief at 16 & n.78; Exh. SDGE-13 (Rebuttal Testimony at 64:19-65:1 & n.154.
[77] SCGC Opening Brief at 17.

> …
>
> Q I was asking what you would be assuming.
>
> A I would be assuming that when they are putting in a new appliance, they will look at what is the minimum standard appliance available in the market at that time, if they are not participating in a utility program.[78]

Third, SCGC admits that the CEC has not yet incorporated potential SB 350 efficiency gains in its forecasts, but suggests that it may do so soon and the Commission should take official notice of a future "2017 Integrated Energy Policy Report" (IEPR) when it is issued. The Utilities disagree. Until the final 2017 IEPR is issued, it is impossible to say whether or how it may impact SDG&E's gas demand forecasts, and expert testimony may be required.[79] When it is issued, SCGC may make a motion for official notice if it deems it appropriate at that point.

Finally, SCGC reiterates its claim that SDG&E customers served through distribution gas lines 1025 and 1600 (once de-rated) should be removed from the level of gas demand that must be served by SDG&E's gas transmission system. As Mr. Bisi explained, this is incorrect:

> Any supplies entering Line 1600 from Rainbow Metering Station, or the other two regulator stations, will reduce the pressure on Line 3010 and require the transport of supply on Line 3010 in the case of Escondido/Poway and Kearny Villa. These incremental supplies that are transported through Line 3010 for delivery to Line 1600 use some of the transport capacity of the pipeline and take it away from other areas of the SDG&E system. Similarly, if the incremental supplies are only delivered to Line 1600 at Rainbow, the pressure available to Line 3010 is reduced, which again lowers the transportation capacity of Line 3010. The throughput or transmission capacity of the SDG&E, therefore, remains unchanged.[80]

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[78] Tr. at 391:21-394:6 (Utilities-Chaudhury).

[79] SCGC Opening Brief at 18. SCGC claims that the CEC has an estimate, however, the AAEE estimates are not yet usable. While it is true that the CEC has high level, state-wide estimates of AAEE savings due to SB 350, the Utilities cannot incorporate them into their demand forecasts yet as the estimates have not been allocated to the specific utilities and the different sources of efficiency savings (*i.e.*, building standards vs appliance standards; emerging technologies vs other program measures).

[80] Exh. SDGE-13 (Rebuttal Testimony at 81:1-11).

The Utilities believe that the SDG&E long term gas forecasts are the most accurate available at this time. Regardless, the quibbling over relatively minor adjustments would only impact when Line 1600 could be de-rated without violating the Commission's design criteria. The need for proposed Line 3602 to provide reliability in the event of a Line 3010 or Moreno outage is not affected by the claimed adjustments.

B. California's Decarbonization Laws Do Not Affect the Need for the Proposed Project

Sierra Club asserts: "California's decarbonization laws are the reason Line 3602 is not needed."[81] Sierra Club is mistaken. The Proposed Project, including proposed Line 3602, is meant to ensure the Utilities can provide safe and reliable gas and electric service. As set forth in the Utilities Opening Brief at 64-67, if Line 3010 (now 57 years old) or the Moreno Compressor Station is out of service, the Utilities will not be able to maintain gas service to some or all of their customers, with significant economic and social consequences. As set forth in Utilities Opening Brief at 67-69, without natural gas-fired generation in San Diego, SDG&E likely would have to interrupt electric service to many customers on many days. The Utilities seek to solve these problems, and the Proposed Project would do so.

California's decarbonization laws, and the State agencies' efforts to implement them, do not require or contemplate the elimination of natural gas. While they do contemplate a reduction in combustion of geologic natural gas, and an increase in decarbonized natural gas, these policies will be implemented over decades. During all of that time, natural gas (and increasingly decarbonized natural gas) will need to be delivered safely and reliably. Natural gas is used in millions of homes, businesses, manufacturing, and public services.[82] Further, natural gas-fired

[81] Sierra Club Opening Brief at 9.
[82] Exh. SDGE-13 (Rebuttal Testimony at 82:10-84:11).

EG facilitates integration of renewable energy. This is not just the Utilities' viewpoint. The CEC's 2016 IEPR Update finds that "[n]atural gas-fired power plants offer the most flexibility for ramping up or down to balance supply and demand" and that "California relies on the ramping capabilities of natural gas even as it is moving away from using it."[83] The California Independent System Operator (CAISO), International Energy Agency (IEA), and National Renewable Energy Laboratory (NREL) agree.[84] Natural gas also will reduce transportation emissions,[85] store energy through power to gas (P2G) technology,[86] and capture methane for use as renewable natural gas (RNG).[87]

Sierra Club cobbles together references to various studies on how greater greenhouse gas (GHG) reductions may be achieved to meet California's 2030 and 2050 goals, but such studies show that natural gas will continue to meet energy needs for decades, even as progress is made toward reducing GHG emissions. Sierra Club states: "long-term planning documents, such as the Air Resources Board's 2017 Scoping Plan, recognize the RPS [Renewables Portfolio Standard] will need to be increased to at least 80 percent by 2050," citing to Appendix D, Pathways Modeling.[88] Sierra Club also asserts: "There is broad consensus that the transition to a low-carbon energy system requires nearly fully decarbonized electricity generation, paired with

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[83] Exh. SDGE-13 (Rebuttal Testimony at 87:13-18) (CEC, 2016 IEPR Update (February 2017) at 6); *see generally* Exh. SDGE-12 (Supplemental Testimony at 31:1-32:6).
[84] Exh. SDGE-12 (Supplemental Testimony at 32 n.42, (citing California ISO, *What the Duck Curve Tells Us About Managing a Green Grid* (2016), 32:7-33:2 & n.53, citing NREL and IEA studies).
[85] Exh. SDGE-13 (Rebuttal Testimony at 86:4-87:8). Exh. SDGE-12 (Supplemental Testimony at 34:15-35:13).
[86] Exh. SDGE-13 (Rebuttal Testimony at 88:3-89:8, 90:11-92:16).
[87] Exh. SDGE-13 (Rebuttal Testimony at 85:4-14); Exh. SDGE-12 (Supplemental Testimony at 34:13-18).
[88] Sierra Club Opening Brief at 11. Sierra Club cites to the January 2017 Draft Appendix D. Note that CARB gave notice on November 30, 2017 of the Final Proposed 2017 Scoping Plan Update (November 2017), including an updated Appendix D, https://www.arb.ca.gov/cc/scopingplan/2030sp_appd_pathways_final.pdf.

the fuel switching of direct uses of energy (such as heating) from natural gas to low-carbon electricity."[89]

In fact, these studies show that natural gas use is expected to continue for decades. CARB's 2017 Scoping Plan does not achieve an 80% RPS until 2050, over 30 years from now, and even then it is only 80% – and that does not address natural gas used for heating, cooking, etc. in millions of buildings. Among other things in CARB's 2017 Scoping Plan:

- The Proposed Scoping Plan Scenario states: "Fossil-fuel-based natural gas is a significant fuel source for both in-State electricity generation and electricity imported into California. It is also used in transportation applications and in residential, commercial, industrial, and agricultural sector end uses. … Greenhouse gas-reduction strategies should focus on efficiency, reducing leakage from well and pipelines, implementing the SLCP strategy, and studying the potential for renewable natural gas (RNG) fuel switching (i.e., renewable hydrogen blended with methane or biomethane)."[90]

- The Proposed Scoping Plan Scenario does "not include fuel-switching of natural gas or diesel end uses to electric end-uses."[91] The November 2017 Final Proposed Scoping Plan Update recognizes: "Heating fuels used for activities such as space and water heating in the residential, commercial, and industrial sectors represent a significant source of GHG emissions. Transitioning to cleaner heating fuels is part of the solution …."[92] But that effort is not proposed to meet California's 2030 goal, and no timetable is given for such an effort.

- The Proposed Scoping Plan Scenario includes CNG for transportation fuel through 2030. In the medium duty fleet "CNG trucks make up 6.2 percent of the fleet in 2030, about 75,000 vehicles," while there also are some 22,000 CNG heavy duty vehicles and 4,000 CNG buses.[93] CARB's 2017 Scoping Plan also projects that, by 2030, "100 percent of CNG is biogas (3.1 percent of total pipeline gas)."[94]

- The Proposed Scoping Plan emphasizes capture of methane emissions and use as renewable natural gas as "decarbonizing" natural gas. "In March 2017, the Board adopted the Short-Lived Climate Pollutant Reduction Strategy (SLCP Strategy)

[89] Sierra Club Opening Brief at 10.
[90] Exh. SDGE-20 (CARB 2017 Climate Change Scoping Plan Update, January 2017, at 87). *See also* Final Proposed 2017 Scoping Plan Update at 66 (November 2017), https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.
[91] Final Proposed 2017 Scoping Plan Update, Appendix D at 7 (November 2017) (emphasis added); *accord id*. at 3, 7.
[92] Final Proposed 2017 Scoping Plan Update at 66 (November 2017).
[93] Final Proposed 2017 Scoping Plan Update, Appendix D at 17-18 (November 2017).
[94] Final Proposed 2017 Scoping Plan Update, Appendix D at 21 (November 2017).

establishing a path to decrease GHG emissions and displace fossil-based natural gas use. Strategies include avoiding landfill methane emissions by reducing the disposal of organics through edible food recovery, composting, in-vessel digestion, and other processes; and recovering methane from wastewater treatment facilities, and manure methane at dairies, and using the methane as a renewable source of natural gas to fuel vehicles or generate electricity."[95]

Sierra Club cites to a 2015 study by Energy and Environmental Economics, Inc. (E3) entitled Policy Implications of Deep Decarbonization in the United States (Deep Decarbonization Report).[96] This study concludes that achieving the 2050 goal of reducing GHG emissions to 80% below the 1990 level will require reductions in natural gas use, but not its elimination. For example:

- "Electrification where possible and switching to lower-carbon fuels otherwise. The share of end-use energy coming directly from electricity or fuels produced from electricity, such as hydrogen, must increase from less than 20% in 2010 to <u>over 50%</u> in 2050, displacing fossil fuel combustion."[97] Not 100%.

- "Network supply. In a deeply decarbonized system, two-thirds of final energy will be delivered through the electricity grid and <u>natural gas pipeline</u>. This energy is supplied by network providers, typically either regulated or publicly-owned utilities."[98]

- "Electricity becomes a much larger share of final energy, due to fuel switching away from fossil fuels toward electricity, and also and electricity-derived fuels such as hydrogen and <u>synthetic natural gas</u> (SNG)."[99] Natural gas continues to be used in electricity generation and in buildings.[100]

- There will be significant investment in low carbon fuels, including synthetic and renewable natural gas.[101] "Network supply of low-carbon energy requires a sustainable business model: In a deeply decarbonized system, the majority of final

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95 Final Proposed 2017 Scoping Plan Update at 3 (November 2017); *see also id.* at 25, 66, 68, 80; Exh. SDGE-20 (CARB 2017 Climate Change Scoping Plan Update, January 2017, at ES-1, ES-4, 4, 13, 88, 90).
96 Sierra Club Opening Brief at 10 n.42 (citing Exh. Sierra Club-1, Attachment 2).
97 Exh. Sierra Club-1, Attachment 2 (Deep Decarbonization Report at 10) (emphasis added).
98 Exh. Sierra Club-1, Attachment 2 (Deep Decarbonization Report at 11) (emphasis added).
99 Exh. Sierra Club-1, Attachment 2 (Deep Decarbonization Report at 20) (emphasis added).
100 Exh. Sierra Club-1, Attachment 2 (Deep Decarbonization Report at 21, Figure 3, 22-23, Figure 4).
101 Exh. Sierra Club-1, Attachment 2 (Deep Decarbonization Report at 43-45); *id*. at 67 ("Higher value uses of biomass lie in other applications, such as biodiesel to replace fossil diesel and renewable pipeline gas to replace fossil natural gas in building and industrial use. A "fork in the road" that California may confront in the 2020s is the unexpected tradeoff between allocation of biomass and the extent of building electrification.").

> energy is delivered through the electric grid and <u>(decarbonized) natural gas pipeline</u>."[102] "This energy is supplied by network providers – the electric power grid and the natural gas pipeline. Network providers have traditionally been regulated (or public) electric and natural gas utilities."[103]

Sierra Club references the City of San Diego's (City) Climate Action Plan, which maps the City's strategies to achieve California's 2050 GHG reduction goal through 2035.[104] The City's plan does not eliminate natural gas use in San Diego. Although the City has set a goal of 100% renewable energy by 2035, the City has not yet identified a viable pathway to achieve it.[105] The City's plan calls for a reduction in residential building energy consumption through energy conservation, but does not mandate or subsidize electrification of homes in San Diego.[106] The Utilities provide gas to over 849,000 residential customer meters in San Diego County. The City's plan also includes converting trash trucks to "compressed natural gas or other alternative low emission fuels,"[107] and capturing methane emissions from landfills.[108]

Sierra Club admits that "the exact pathway to 2050 and the full extent of end-use electrification has not yet been established."[109] In fact, various studies suggest that a

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[102] Exh. Sierra Club-1, Attachment 2 (Deep Decarbonization Report at 52) (emphasis added).
[103] Exh. Sierra Club-1, Attachment 2 (Deep Decarbonization Report at 59).
[104] Sierra Club Opening Brief at 11 & n.47, citing City of San Diego, Climate Action Plan (Dec. 2015) at 35, available at https://www.sandiego.gov/sites/default/files/final_july_2016_cap.pdf).
[105] It will not be easy. *See* Clack, et al., *Evaluation of a proposal for reliable low-cost grid power with 100% wind, water, and solar*, Proceedings of the National Academy of Sciences, vol. 114 no. 26, http://www.pnas.org/content/114/26/6722.full, at 1 ("A number of analyses, meta-analyses, and assessments, including those performed by the Intergovernmental Panel on Climate Change, the National Oceanic and Atmospheric Administration, the National Renewable Energy Laboratory, and the International Energy Agency, have concluded that deployment of a diverse portfolio of clean energy technologies makes a transition to a low-carbon-emission energy system both more feasible and less costly than other pathways. … Policy makers should treat with caution any visions of a rapid, reliable, and low-cost transition to entire energy systems that relies almost exclusively on wind, solar, and hydroelectric power.").
[106] City of San Diego, Climate Action Plan (Dec. 2015) at 32.
[107] City of San Diego, Climate Action Plan (Dec. 2015) at 36); *see generally* Exh. SDGE-13 (Rebuttal Testimony at 86:10-87:8).
[108] City of San Diego, Climate Action Plan (Dec. 2015) at 40.
[109] Sierra Club Opening Brief at 12.

decarbonized future should incorporate both renewable electricity and natural gas (significantly decarbonized). E3 prepared a January 2015 study entitled Decarbonizing Pipeline Gas to Help Meet California's 2050 Greenhouse Gas Reduction Goal (Decarbonizing Pipeline Gas Study). This study compared two approaches to achieving California's 2050 goal: (1) "Electrification scenario, where all energy end uses, to the extent feasible, are electrified and powered by renewable electricity by 2050; [and (2)] Mixed scenario, where both electricity and decarbonized gas play significant roles in California's energy supply by 2050."[110]

E3 found: "Both scenarios meet California's 2020 and 2050 GHG goals, to the extent feasible, accounting for constraints on energy resources, conversion efficiency, delivery systems, and end-use technology adoption. … The study concludes that a technology pathway for decarbonized gas could feasibly meet the state's GHG reduction goals and may be easier to implement in some sectors than a high electrification strategy."[111] Further, E3 found:

> The results also suggest that decarbonized gases distributed through the state's existing pipeline network are complementary with a low-carbon electrification strategy by addressing four critical challenges to California's transition to a decarbonized energy supply.
>
> - First, decarbonized pipeline gas can help to reduce emissions in sectors that are otherwise difficult to electrify, either for technical or customer acceptance reasons. These sectors include: (1) certain industrial end uses, such as process heating, (2) heavy duty vehicles (HDVs), and (3) certain residential and commercial end uses, such as cooking, and existing space and water heating.
>
> - Second, the production of decarbonized gas from electricity could play an important role in integrating variable renewable generation by

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[110] Exh. Sierra Club-11 (Decarbonizing Pipeline Gas Study at 1). "The term 'decarbonized gas' is used to refer to gaseous fuels with a net-zero, or very low, greenhouse gas impact on the climate. These include fuels such as biogas, hydrogen and renewable synthetic gases produced with low lifecycle GHG emission approaches. The term 'pipeline gas' means any gaseous fuel that is transported and delivered through the natural gas distribution pipelines." *Id.*

[111] Exh. Sierra Club-11 (Decarbonizing Pipeline Gas Study at 1-2) (emphasis added).

producing gas when renewables are generating power, and then storing the gas in the pipeline distribution network for when it is needed.

- Third, a transition to decarbonized pipeline gas would enable continued use of the state's existing gas pipeline distribution network, eliminating the need for new energy delivery infrastructure to meet 2050 GHG targets, such as dedicated hydrogen pipelines or additional electric transmission and distribution capacity.

- Fourth, pursuit of decarbonized gas technologies would help diversify the technology risk associated with heavy reliance on a limited number of decarbonized energy carriers, and would allow consumers, businesses and policymakers greater flexibility and choice in the transition to a low-carbon energy system.[112]

Sierra Club attacks E3's Decarbonizing Pipeline Gas Study on various grounds. First, Sierra Club complains that the study assumes "that California can import up to its population-weighted proportional share of the U.S.-wide biomass feedstock resource potential, or 142 million tons per year by 2030," noting that the East Coast has more biomass than the West Coast.[113] However, natural gas pipelines already transport gas long distances within the United States, CARB has plans to capture methane emissions in California, and reductions of GHG emissions outside of California are still reductions in GHG emissions.

Second, Sierra Club complains that E3's 2050 scenario assumes a P2G supply of 40 gigawatts (GW).[114] Sierra Club notes that this is "equivalent capacity to 20 San Onofre Nuclear Generating Stations," but expresses no concern with the study's assumption that an electrification scenario would include storage capacity of 20 GW or 10 San Onofre Nuclear Generating Stations.[115] Neither currently exists—either would have to be developed by 2050. Sierra Club notes that there is only one pilot P2G project in California thus far, but work on P2G

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[112] Exh. Sierra Club-11 (Decarbonizing Pipeline Gas Study at 2-3) (emphasis added).
[113] Sierra Club Opening Brief at 14 (Decarbonizing Pipeline Gas Study at 30).
[114] Sierra Club Opening Brief at 15.
[115] Sierra Club Opening Brief at 15; Exh. Sierra Club-11 (Decarbonizing Pipeline Gas Study at 46).

technology is ongoing elsewhere in the world.[116] The CEC's 2017 IEPR Scoping Order recognizes: "The state's portfolio of mitigation measures for integrating renewables could also include using excess renewable energy to power desalinization plants or for power-to-gas."[117] Sierra Club notes it would be more efficient to use excess renewable energy directly in electrical appliances than to convert it to gas and then back into electricity.[118] But that is not the point—P2G is a method to store excess renewable energy generated when the sun shines or wind is blowing, and deliver power when such intermittent resources are not generating energy.

Finally, Sierra Club notes that the proposed delivery of decarbonized gas under the Decarbonizing Pipeline Gas Study "represents neither a significant expansion nor contraction of the gas pipeline distribution system."[119] True enough. The natural gas <u>distribution</u> system already goes to most homes and businesses across the United States, and delivery of decarbonized gas would not require its expansion or contraction. That said, both <u>transmission and distribution</u> pipelines will need to remain safe and reliable. That is the purpose of the Proposed Project.

Sierra Club was unable to explain to Utilities when and how existing buildings would be "electrified," claiming it called for speculation.[120] Only 0.049% of SDG&E customers who installed PV electric generation and moved to Net Energy Metering between June 2014 and June 2016 requested that their natural gas service be discontinued by June 2017.[121] Electrification

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[116] Exh. SDGE-13 (Rebuttal Testimony at 88:3-5 & n.213); CEC 2017 IEPR Scoping Order at 3, http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-01/TN216389_20170306T111428_2017_Integrated_Energy_Policy_Report_Scoping_Order.pdf.
[117] Exh. SDGE-13 (Rebuttal Testimony at 88:3-89:2).
[118] Sierra Club Opening Brief at 15.
[119] Sierra Club Opening Brief at 15 (quoting Decarbonizing Pipeline Gas Study at 17).
[120] Exh. SDGE-13 (Rebuttal Testimony at 93:4-17); *id.* Attachment K.1 (Sierra Club Response to Utilities DR-03, Q4).
[121] Exh. SDGE-13 (Rebuttal Testimony at 93:18-94:4).

would be neither easy nor inexpensive, requiring not only replacement of customer equipment, but upgrading of electric systems in homes and on the grid:

> As of April 2017, SDG&E serves over 849,000 meters classified as residential customers based on their tariff. To electrify all of these existing residential buildings would require replacing gas furnaces, gas water heaters, gas clothes dryers, and gas cooking equipment. In addition to replacing such equipment, necessary electrical service would need to be installed in such homes. In addition, the aggregation of the effects of increased electric load due to conversion from gas to electric could result in overloading the capacity of existing utility electric distribution circuits, triggering the need for capacity upgrades to those circuits and possibly substation equipment as well. This could even potentially roll up and affect the transmission system and the amount of generation resources required to supply this added electrical demand.[122]

California has not decided to pursue a 100% electrification strategy at this point, and may never do so. Even if it eventually decides to do so, which is by no means certain, natural gas use will continue for decades to come, and needs to be both safe and reliable.

"In short, California's decarbonization laws do not indicate that natural gas usage will be eliminated in the foreseeable future. To the contrary, California's decarbonization goals are advanced by investments in safe and reliable natural gas infrastructure to support renewable electric generation, petroleum reduction in the transportation sector, and the expanded use of renewable natural gas. Specifically, for the reasons noted above, the Proposed Project will facilitate implementation of SB 350, SB 32, Assembly Bill (AB) 1257, SB 1389 and SB 1383 by: (1) ensuring a reliable gas supply to gas-fired generation that allows the integration of more renewable energy on to the grid; (2) reducing GHG emissions in the transportation sector and movement of goods by shifting use away from petroleum; and (3) supporting the future use of

[122] Exh. SDGE-13 (Rebuttal Testimony at 94:9-17) (emphasis added).

RNG. Safe and reliable natural gas transmission infrastructure is needed to advance all of these laws."[123]

IV. SCOPING MEMO ISSUE 3: OTAY MESA ALTERNATIVES

Scoping Memo Issue 3: "How should the quantity of natural gas supply and amount of pipeline capacity that could be available for firm delivery (e.g., imports) to the Applicants' system at Otay Mesa be reasonably estimated/determined, over what period of time from which suppliers, and pipeline capacity owners, and at what indicative price and price ranges?"

As set forth in the Utilities Opening Brief at 17-18, the record evidence, and policy considerations, show that there is no viable "Otay Mesa Alternative" to the Proposed Project:

- SDG&E customers rarely deliver gas to Otay Mesa because it is more costly than delivering gas to SoCalGas' Ehrenberg receipt point.[124] The Utilities cannot count on such deliveries to maintain reliability.

- As of early 2017, there was only 15 MMcfd of firm capacity available on Gasoducto Rosarito, one of the three pipelines on the path to bring gas from Ehrenberg through Mexico to Otay Mesa.[125] That is not enough to allow SDG&E to maintain gas service to even its core customers or electric generation in the event of a Line 3010 outage.[126]

- Because firm capacity holders on Gasoducto Rosarito serve Mexican customers, particularly electric generation, obtaining 400 MMcfd of firm capacity from Ehrenberg to Otay Mesa likely will require construction of new pipeline.[127] The estimated direct cost of such a pipeline is $977 million.[128] Any entity constructing a new pipeline likely would seek to recover its costs plus profit in an initial 15 to 20-

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[123] Exh. SDGE-12 (Supplemental Testimony at 35:14-36:6).

[124] Exh. SDGE-12 (Supplemental Testimony at 14:1-3, 40:11-13, 44:1-6).

[125] Tr. at 743:14-744:6, 838:4-5, 839:26-840:10 (Utilities-Borkovich); Exh. SDGE-13 (Rebuttal Testimony at 142, Table 3). Another pipeline on this path, Transportadora de Gas Natural de Baja California (TGN), is fully subscribed, but generally is idle as gas is not normally delivered to Otay Mesa. Tr. at 853:16-854:6).

[126] Exh. SDGE-13 (Rebuttal Testimony at 142:1-4).

[127] Exh. SDGE-13 (Rebuttal Testimony at 142:11-143:2); Exh. SDGE-6-R (Borkovich Prepared Testimony at 8:8-9:2); Tr. at 850:15-852:11 (Utilities-Borkovich).

[128] Exh. SDGE-12 (Supplemental Testimony at 45:12-15, 47:7-8 & n.78) (based on public information and a per mile cost). The Utilities estimated the cost of looping the pipelines from Ehrenberg to Otay Mesa. There is insufficient firm capacity available on any of those pipelines to ensure delivery of 400 MMcfd to Otay Mesa. Exh. SDGE-13 (Rebuttal Testimony at 142, Table 3).

year contract,[129] with further payment for contract renewal.[130] This option would cost far more than the Proposed Project and still not provide the same benefits, as it (a) is not flowing gas immediately available if Line 3010 fails; and (b) could not replace the 570 MMcfd capacity of Line 3010 without spending another estimated $100 million to increase the 400 MMcfd capacity of the Otay Mesa receipt point.[131]

- Contracting for firm delivery of re-gasified LNG imported through the ECA facility in Mexico is simply too expensive, among other issues. Commercial deliveries of LNG to ECA have stopped because its cost cannot compete with domestic supplies.[132] Long-term storage of LNG at ECA, to avoid costly LNG purchases and to be drawn down only in the event of an emergency, is not feasible because ECA has a minimum daily withdrawal requirement.[133] Maintaining sufficient LNG in ECA storage will require repeated replenishment. The costs of purchasing LNG, tanker transportation to ECA, ECA storage charges, and TGN pipeline charges render this option non-viable.[134] Further, after 2028, when ECA's existing storage contracts expire, ECA's future is uncertain.[135]

- SCGC's suggestion that the Utilities rely on "as available" gas in the event of an unplanned Line 3010 or Moreno Compressor Station outage is not prudent. While some interruptible capacity may be available on the pipelines from Ehrenberg to Otay Mesa, there is no certainty that it will be sufficient and no reason to believe that firm Mexican customers would give up their gas supply to serve SDG&E's customers.[136] LNG is only being delivered to ECA in sufficient quantities to keep the facility cold, and thus avoid equipment damage; there is no certainty that ECA would send any to SDG&E.[137] This option does not enhance the reliability of SDG&E's gas system and, if Line 1600 is de-rated or abandoned, system reliability will be reduced.

The Utilities believe this evidence is more than sufficient to demonstrate that Otay Mesa Alternatives, however appealing in theory, are not viable in reality.

If the Commission, however, believes that it must "test the market" by authorizing the Utilities to issue an RFO for firm delivery to SDG&E's Otay Mesa receipt point of gas sufficient

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[129] Exh. SDGE-13 (Rebuttal Testimony at 142:15-1434:2).
[130] Exh. SDGE-12 (Supplemental Testimony at 50:8-22).
[131] Exh. SDGE-12 (Supplemental Testimony at 46:15-47:12).
[132] Exh. SDGE-13 (Rebuttal Testimony at 140:20-21).
[133] Exh. SDGE-13 (Rebuttal Testimony at 146:3-11).
[134] Exh. SDGE-13 (Rebuttal Testimony at 147:1-148:12, 154:6-157:2).
[135] *E.g.*, Tr. at 796:18-27 (Utilities-Borkovich).
[136] Exh. SDGE-13 (Rebuttal Testimony at 140:14-18, 142:11-15); Exh. SDGE-6-R (Borkovich Prepared Testimony at 8:11-18); Exh. SDGE-12 (Supplemental Testimony at 40:5-6, 44:7-9).
[137] Exh. SDGE-13 (Rebuttal Testimony at 143:19-144:2, 150:8-14); Exh. SDGE-12 (Supplemental Testimony at 49 & n.80); Exh. SDGE-23 at 3, 21 (IEnova 2016 Annual Report at 24, 129).

to address the Utilities' reliability concerns, then the Utilities support a meeting of ALJ Kersten, the Assigned Commissioner, Energy Division, and Intervenors to develop a binding RFO with agreed-upon terms, as set forth above, as soon as feasible.

The Utilities respond to Intervenors' claims below. As TURN's and POC's arguments are derivative of SCGC's arguments, the Utilities start with SCGC's arguments.

A. The Available Evidence Shows that Firm Deliveries of Gas to SDG&E's Otay Mesa Receipt Point Sufficient to Serve the Core Are Not Available At Reasonable Cost

SCGC asserts: "Core demand could be served through firm deliveries at Otay Mesa if firm rather than less expensive interruptible deliveries were required as assumed in Question 3."[138] SCGC contends that core demand could be served through firm capacity by combining some capacity on the North BC Pipeline System from Ehrenberg to Otay Mesa, purchased on the secondary market, with other firm capacity purchased at the ECA LNG facility. SCGC also would attempt to purchase different levels of capacity during different seasons to reduce the cost.

The Utilities do not consider this approach viable. As an initial matter, depending on the location of a Line 3010 outage, serving the core alone would not provide gas to the in-basin, gas-fired EG needed to maintain reliable electric service.

Further, SCGC understates the level of core demand. SCGC states: "Core demand can reach 350 MMcf/d under winter 1-in-10 year cold day scenario," citing to the Utilities' response to an SCGC Data Request regarding the Cost-Effectiveness Analysis (CEA).[139] The CEA relied upon the SDG&E Long-Term Demand Forecast for core customers in 2016/17 in the October 2015 San Diego Gas & Electric Company Gas Capacity Planning and Demand Forecast Semi-

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[138] SCGC Opening Brief at 21 (emphasis added).

[139] SCGC Opening Brief at 21 & n.106, which cites Exh. SCGC-1 at 21 (Table 6), which in turn cites to "Applicants Response to SCGC-12, SCGC DR 12 Q4 - Scenario Analysis Final_Corrected 022117.xlsx."

Annual Report. SDG&E's 2016 Long-Term Peak Day Demand Forecast was presented in the Utilities' Supplemental Testimony in response to Scoping Memo Issue 9. Under that forecast, the 1-in-10 year cold day demand forecast for core customers ranges from 366 MMcfd in 2016/17 to 381 MMcfd in 2035/36, and, under the 1-in-35 Year Cold Day Demand criteria applicable to the core, ranges from 387 MMcfd in 2016/17 to 403 MMcfd in 2035/36.[140]

SCGC discusses potential gas supply from Ehrenberg and ECA separately.

1. SCGC Has Not Established That Any Significant Firm Capacity Is Available on the North BC Pipeline System When Needed

SCGC suggests: "Firm Capacity on North Baja and Gasoducto Rosarito could be obtained to meet at least some of the core's cold day demand."[141] SCGC and the Utilities agree that "not enough firm capacity would be available through the primary market, the pipelines themselves, for North Baja and Gasoducto Rosarito to meet the full or even a significant amount of the core 1-in-10 year cold day demand if there were a full outage of Line 3010 and a derated Line 1600."[142] As discussed in the Utilities Opening Brief at 29-31, the current capacity holders purchased firm capacity for a reason—to serve their own customers—and are not likely to surrender significant quantities at all or for any significant period of time.

Recognizing that problem, SCGC points to a chart of actual deliveries to Gasoducto Rosarito from June 2014 to February 2017 to state "it is evident that about 200 MDth/d of capacity is generally unused during the winter period so that the capacity could be available on the secondary market basis for firm delivery into TGN for redelivery to Otay Mesa."[143] While past history indicates unused capacity on Gasoducto Rosarito during winter months, that is not

[140] Exh. SDGE-12 (Supplemental Testimony at 84, Table 5).
[141] SCGC Opening Brief at 22 (emphasis added).
[142] SCGC Opening Brief at 22 (emphasis added).
[143] SCGC Opening Brief at 23 (emphasis added).

evidence that the Utilities could obtain firm capacity for material amounts into the future, whether during winter months or other seasons. The current capacity holders are not likely to put their own customers at risk (nor are Mexican regulatory authorities likely to allow it).[144] Further, SCGC notes that the "average unused capacity on Gasoducto Rosarito during the winter is 236 MMcf/d and the minimum is 92 MMcf/d."[145] Even if a capacity holder is willing to give up some firm capacity, it seems more likely that such holder might sell firm capacity for less than its own maximum needs, offering the remainder only as interruptible. And, not knowing how demand may change, any such contracts may be very short-term, perhaps season to season.

To guard against unplanned outages of Line 3010 or the Moreno Compressor Station, even for just the core, the Utilities would need near immediate access to up to 400 MMcfd <u>for decades</u>. Why would the existing capacity holders put their ability to serve their Mexican customers at risk unless they (rather than the Utilities) construct a new pipeline? While it is possible that some capacity holders might sell some firm capacity for over winter months for a short period of time, that does not address San Diego's reliability needs.

SCGC asserts: "The availability of an amount of capacity on the pipelines from Ehrenberg to Otay Mesa in excess of 200 Mdth/d on a firm basis during the winter through the primary and secondary markets combined <u>is confirmed</u> by SoCalGas Advice Letter No. 5213."[146]

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[144] Exh. SDGE-6-R (Borkovich Prepared Testimony at 8:11-9:2) ("Furthermore, based on recent usage history for the North Baja path, a firm capacity release would require gas suppliers serving much of the existing electric generation customers in the North Baja Region to opt for interruptible service to meet their customers' peak demand. Implementation of this option would represent a major change in operational policy for Sempra International and the Mexico energy agencies (Comisión Federal de Electricidad (CFE) and Comisión Reguladora de Energía (CRE)), since the North Baja Pipeline Systems path was constructed in part to provide reliable service to the North Baja electric generation customers that was not available on the SDG&E system. It is doubtful that Sempra International, CFE, and CRE would now agree to accept interruptible service so that SDG&E could increase its reliability); *see also* Tr. at 851:16-852:11, 720:26-721:13 (Utilities-Borkovich).

[145] SCGC Opening Brief at 23.

[146] SCGC Opening Brief at 23 (emphasis added). The Utilities do not object to the Commission taking official notice of SoCalGas Advice Letter No. 5213, and request that the Commission also take official

Not so. The Advice Letter notes that the Commission's Executive Director authorized the SoCalGas Gas Acquisition Department to acquire up to 210,000 MMBtu/d (210 Mdth/d) of pipeline capacity for each month from December 2017 through February 2018. But, as SCGC recognizes, "SoCalGas Advice Letter does not make it clear how SoCalGas will obtain the 210 MMBtu/d of capacity to Otay Mesa."[147]

Even if SoCalGas is successful in acquiring firm capacity for some quantity for three months in winter 2017/18, that does not mean that such firm capacity is available for the decades needed to ensure reliable service to SDG&E's customers in the future. Moreover, SDG&E's core customers would need protection throughout the year, not just during the winter. SCGC admits that "the core's winter demands are nearly four times the minimum available capacity of 92 MMcf/d shown in Table 8. Similarly, core loads during the other three seasons would exceed the minimum available capacity."[148]

In fact, SCGC's discussion of the circumstances giving rise to the SoCalGas Advice Letter demonstrate the need for proposed Line 3602. The "emergency on the SoCalGas system" arises from "pipeline outages on SoCalGas's Lines 235, 4000, and 3000 and a pressure reduction on Line 2000 [that] have reduced the receipt a firm capacity on the SoCalGas system to 2.770 Bcf/d."[149] While pipeline outages are rare, here SoCalGas has three pipelines out of service simultaneously, and they will be or have been out for months.[150] Fortunately, SoCalGas is not dependent on a single pipeline to serve its customers, including the Los Angeles area. By contrast, the Utilities are dependent on a single pipeline, Line 3010, to serve San Diego.

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notice of Resolution G-3535, adopted on November 30, 2017, http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M200/K095/200095284.PDF.

[147] SCGC Opening Brief at 24.

[148] Exh. SCGC-1 (Yap Prepared Testimony at 28:3-5) (emphasis added).

[149] SCGC Opening Brief at 24.

[150] Resolution G-3535, Attachment A (Letter from Executive Director at 1).

In sum, while SCGC suggests that some firm capacity might be available on the North BC Pipeline System, SCGC's claim that gas supply at Otay Mesa can address SDG&E's reliability needs depends on re-gasified LNG from ECA.

2. SCGC Has Not Established That Any Firm Capacity Is Available From ECA When Needed at Reasonable Cost

As set forth in the Utilities Opening Brief at 33-47, supply of re-gasified LNG from ECA when needed cannot be obtained at reasonable cost. The cost of LNG at Sabine Pass, Louisiana (even without shipping to or storage at ECA) is about "double" the cost of gas delivered at SoCalGas' Ehrenberg receipt point.[151] The cost of re-gasified LNG delivered to Otay Mesa must include tanker transportation to ECA, ECA storage charges and TGN pipeline charges. To minimize these costs, SCGC suggests another ECA LNG Alternative— "the long term storage of LNG at ECA that would only be withdrawn when required to address system outages."[152]

While attractive in theory, SCGC's proposal does not work. The flaws include: (a) LNG cannot be stored long-term at ECA, and the Utilities would have to pay repeatedly to replenish the LNG in storage; (b) ECA has a limit on its maximum delivery, and the Utilities would have to have more than half a tank of LNG available to be able to deliver 400 MMcfd to Otay Mesa; (c) SCGC's claim that ECA storage costs will be minimal is mere speculation (and would end in 2028 in any event), and SCGC ignores tanker transportation costs and pipeline charges; (d) SCGC has not shown that ECA could re-gasify LNG and deliver in time to avoid curtailments following a Line 3010 outage; and (e) ECA may close its re-gasification facilities after 2028 unless the Utilities pay the full cost of operating the ECA facility as well as the cost of LNG supply and tanker transportation. The Utilities Opening Brief at 33-47 goes through each point.

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151 Tr. at 801:8-24 (Utilities-Borkovich).

152 Exh. SDGE-13 (Rebuttal Testimony at 151:16-17) (citing Exh. SCGC-1 at 32-36).

SCGC states that, assuming 200 MMcfd of North BC Pipeline System capacity could be purchased, protecting SDG&E's core customers "would still require an additional 150 MMcf/d to meet the 350 MMcf/d core winter 1-in-10 year cold day demand."[153] As discussed above, the forecast long-term 1-in-35 year cold day core demand in 2035/36 is 403 MMcfd, and capacity holders are not likely to release any firm capacity that might be needed to meet their maximum demand, meaning 92 MMcfd based on historical data (which may not apply in the future). If so, the amount of firm re-gasified LNG from ECA needed might be more than 300 MMcfd just for the core.[154] The variance between SDG&E's estimated maximum core demand each season and any firm capacity that could be acquired from North BC Pipeline System capacity holders is uncertain. It is equally uncertain whether any ECA shipper would be willing to vary its price based upon how low it could let LNG in an ECA storage tank go before refilling it.

Regardless, SCGC presents no evidence that a long term ECA solution is feasible at reasonable cost. The flaws discussed in the Utilities Opening Brief remain:

- SCGC asserts "only half an LNG tank would be needed to meet full SDG&E core demand in the winter."[155] This ignores ECA's Minimum Daily Delivery Quantity, which will deplete the stored LNG daily and require it to be replenished repeatedly. *See* Utilities Opening Brief at 38-42.
- SCGC states "if there were an outage on Line 3010 and the Applicants expect it to last longer than five days, additional LNG could be purchased for delivery at Energia Costa Azul."[156] SoCalGas Line 4000 has been out of service since September 18, 2017 and will be out of service until December 30, 2017; Line 3000 will be out of service until May 1, 2018, and Line 235-2 has been out of service since October 1, 2017 with no estimate for when it will return to service.[157] A Line 3010 outage could be lengthy.

[153] SCGC Opening Brief at 25.
[154] The calculation is 403 MMcfd forecast demand less 92 MMcfd minimum unused capacity, or 311 MMcfd.
[155] SCGC Opening Brief at 26.
[156] SCGC Opening Brief at 26.
[157] Resolution G-3535, Attachment A (Letter from Executive Director at 1).

- SCGC renews its assertion that the holders of ECA storage capacity (IEnova LNG (50 percent), Shell Mexico (25 percent), and Gazprom Mexico (25 percent)) "should be expected to offer a very substantial discount below the tariff rate."[158] As discussed in the Utilities Opening Brief at 44-45, that is simply speculation. It is equally likely that they will see a chance to profit, particularly if a short-term contract can derail the Proposed Project, giving bidders enormous leverage in renewal negotiations.

- To address the constant decline in stored LNG through boil-off (and presumably also through the Minimum Daily Delivery Quantity), SCGC states "it is possible to install liquefaction facilities at ECA so that the boil-off gas could be reinjected as LNG into a storage tank."[159] While it may be "possible" to install such facilities, currently they do not exist. As discussed in the Utilities Opening Brief at 47, it is unknown if ECA will install liquefaction facilities to export LNG, whether it would continue to import LNG if it does so, or whether it will close after 2028. If SCGC is suggesting the Utilities' ratepayers fund ECA's liquefaction facilities, there is no evidence that is feasible or cost-effective. Moreover, ECA will continue to take 1.25% of the Minimum Daily Delivery Quantity in any event, as that gas is necessary to operate the ECA facility (*see* Utilities Opening Brief at 41). Any proposal in the near future will require repeated replenishment of the stored LNG at costs far greater than obtaining gas at Ehrenberg.

- SCGC notes that the prices of LNG at Sabine Pass "vary month to month" and state that, at one past price, "one half of a tank of LNG at Costa Azul would cost approximately $5 million."[160] LNG prices vary and are likely to vary in the decades ahead. But absent a significant loss of U.S. domestic natural gas production, gas at Ehrenberg likely will remain much less expensive than purchasing LNG, paying for tanker transportation to ECA, paying for ECA storage and re-gasification, and paying for pipeline transport from ECA to Otay Mesa. SCGC's $5 million figure reflects only the cost of LNG at a certain price needed to fill half an ECA tank—it ignores all other costs. Moreover, SCGC ignores the need to repeatedly replenish the LNG in the tank given ECA's Minimum Daily Delivery Quantity (and for the same reason the need to start with more than half a tank to have enough LNG to supply sufficient gas when needed). Nor does SCGC address what happens when ECA's existing capacity contracts expire in 2028, at which point any speculative "discounts" from existing capacity holders would end. At that point, the Utilities might have to pay the full operating cost of ECA (if the import market remains the same), compete with other shippers (if the import market unexpectedly turns around), or ECA may close.[161]

The record evidence indicates that there is no Otay Mesa Alternative involving re-gasified LNG from ECA available at reasonable cost.

[158] SCGC Opening Brief at 26-27.
[159] SCGC Opening Brief at 27.
[160] SCGC Opening Brief at 27-28.
[161] Utilities Opening Brief at 45, 47.

3. SCGC (and the Other Intervenors) Have Not Established That Sufficient Gas Would be Available at Otay Mesa In Time to Prevent Core Curtailments

Neither SCGC nor other Intervenors have shown that, under any Otay Mesa Alternative, sufficient gas would begin flowing into SDG&E's gas system at the Otay Mesa receipt point in time to prevent widespread core curtailments in the event of an unplanned Line 3010 outage. The Utilities are dependent on Line 3010 and the Moreno Compressor Station to serve its SDG&E's customers. As Mr. Kikuts described, a Line 3010 outage in the north would result in core curtailments within 6 hours even with Line 1600—without Line 1600, the core would lose service more quickly.[162] As gas moves slowly through a pipeline system,[163] significant quantities of gas need to begin flowing into SDG&E's system at Otay Mesa within 1-2 hours of a Line 3010 outage (depending on the outage location and gas demand at that time) to avoid loss of pressure, and curtailments, on parts of SDG&E's gas system.

No Intervenor has submitted any evidence that the Utilities can acquire firm rights to delivery of sufficient gas within that time frame from either the North BC Pipeline System or ECA. Even if the Utilities already had firm capacity contracts on pipelines from Ehrenberg to Otay Mesa when a Line 3010 outage occurred, gas would not arrive from Ehrenberg in time to prevent core curtailments in San Diego. Even if gas at Ehrenberg could be purchased and delivered into the North Baja pipeline immediately, it would still need to travel through 226 miles of pipeline to get to Otay Mesa. Similarly, as discussed in the Utilities Opening Brief at

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[162] *See* Utilities Opening Brief at 65-66; Exh. SDGE-13 (Rebuttal Testimony at 99:16-19).
[163] Exh. SDGE-12 (Supplemental Testimony at 16:13-14).

46, LNG at ECA would need to be re-gasified and travel the over 50 miles of pipelines from ECA to Otay Mesa.[164]

As a result, to protect the core, the Utilities would need to have a fully developed contractual relationship with the existing shippers whereby they agree to divert their flowing supplies from their pipeline delivery point(s) to Otay Mesa, thereby taking priority over Mexican customers. At the same time, Mexican customers would need to quickly comply with any curtailment orders issued by pipeline operators along the North BC Pipeline System path (North Baja Pipeline, Gasoducto Rosarito, TGN) necessary to ensure an adequate quantity of gas at sufficient pressure is available to flow at Otay Mesa. Whether full compliance with curtailment orders could be obtained, and how long it would take, are unknown. Failure to achieve the necessary curtailment in a timely manner could lead to insufficient quantities of gas flowing into SDG&E's system, potentially resulting in curtailments and gas outages to SDG&E's core customers. SCGC presents no evidence that pipeline operators, or the Mexican authorities, would curtail Mexican customers, or EG serving Mexican customers, to direct such gas to San Diego,[165] and SCGC presents no evidence that even if a curtailment order were issued, that there would be full and timely compliance by customers in Mexico. Proposed Line 3602, by contrast, provides flowing gas every day, and thus gas is immediately available in the event of an unplanned outage of Line 3010 or the Moreno Compressor Station.

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[164] Exh. SDGE-12 (Supplemental Testimony at 16:13-14) ("Natural gas moves slowly through a pipeline network."); Utilities Opening Brief at 46-47; http://www.northbajapipeline.com/downloads/documents/GBN_NBPPresentatin2008.pdf.

[165] Utilities Opening Brief at 29-30; Tr. at 1027:11-24 (Utilities-Bisi) ("To my thinking, it would depend on what the demand is on the Mexican pipelines for the Mexican customers. If they're running full because they have that level of Mexican demand there, there's not going to be enough capacity to divert those supplies from Ehrenberg into Otay Mesa because that would leave the Mexican customers short.").

B. Otay Mesa Alternatives Do Not Solve the Risk to Reliable Electric Service

As set forth in Utilities Opening Brief at 67-69, depending upon the nature of a Line 3010 outage, there is a high likelihood of not only a lengthy gas outage, but also that some SDG&E customers will experience a loss of electric service because of limits on SDG&E's ability to import electricity without natural gas-fired EG in San Diego County.

SCGC asserts that "a combination of firm pipeline capacity and firm supplies delivered to Otay Mesa could meet minimum electric generation requirements."[166] SCGC relies upon the Aliso Canyon Winter Risk Assessment Report to contend that only 96 MMcfd is needed for natural gas-fired electric EG in the combined SoCalGas and SDG&E service territories to maintain reliable electric service after an N-1 contingency event and only 22 MMcf/d would be needed under pre-contingency conditions.[167] SCGC then asserts that "the 400 MMcf/d capacity of Otay Mesa as supplied from Ehrenberg, from Energia Costa Azul, or both would be sufficient to meet both the 1-in-10 year cold day core demand and the 22 MMcf/d assumed to be required to maintain electric system reliability and to avoid electric load shedding."[168]

SCGC's assertion and reliance on the Aliso Canyon Winter Risk Assessment Report are misplaced for numerous reasons:

(1) Whatever the quantity of gas required to maintain electric service, SCGC's claim fails for the same reason that Otay Mesa Alternatives are not a viable solution to protect the core customers – there is no evidence that rights to firm delivery of sufficient gas in time to prevent widespread curtailments following a Line 3010 or Moreno Compressor Station outage can be obtained at reasonable cost, over the short- or long-term, on primary or secondary markets, over the North BC Pipeline System or from ECA, or by "shaping" such contracts. Nor is it an option to obtain <u>only</u> 22 MMcfd for natural gas-fired EG. Without Line 3010 and with Line 1600 de-rated, a firm

[166] SCGC Opening Brief at 29.
[167] SCGC Opening Brief at 31.
[168] SCGC Opening Brief at 31.

supply of 22 MMcfd at Otay Mesa would make no difference—it would simply slightly slow the de-pressurization of SDG&E's gas system and loss of gas service.[169]

(2) As discussed above, SCGC has understated forecast core demand for a 1-in-10 year cold day and not addressed the Commission's 1-in-35 year cold day criteria applicable to the core. Under SDG&E's 2016 forecast, the 1-in-35 Year Cold Day Demand ranges from 387 MMcfd in 2016/17 to 403 MMcfd in 2035/36.[170] The Otay Mesa receipt point capacity of 400 MMcfd may not be enough even if as little as 22 MMcfd were needed for reliable electric service (which the Utilities doubt).

(3) The estimated "minimum gas burn" identified in the Aliso Canyon Winter Risk Assessment Report has not been tried in operation. When SoCalGas requested the Los Angeles Department of Water & Power (LADWP), one of the authors of the report and an SCGC client, to curtail a single power plant so that pipeline repairs could proceed, LADWP claimed that the plant was too critical to reliability to be taken off-line, despite advance notice and lack of an extreme operating condition.[171]

(4) The Aliso Canyon Winter Risk Assessment Report assessed winter conditions due to concerns that SoCalGas might lack sufficient gas to meet winter demand without Aliso Canyon. SDG&E electrical demand is higher in the summer than in the winter.[172] The power flow studies in the Aliso Canyon Winter Risk Assessment Report assumed the SDG&E electric demand was 3,417 MW.[173] This is far lower than the CEC predicted in the California Energy Demand Updated Forecast, 2017-2027, with or without its "peak shift adjustment." With the peak shift adjustment, the CEC forecast ranged from 4,448 MW in 2016 to 4,808 MW in 2027.[174] The Aliso Canyon Winter Risk Assessment Report analyzed a scenario with over 1,000 MW less electric demand. In other words, more gas would be needed to maintain electric reliability in San Diego if a Line 3010 outage (depending on location) occurred during a non-winter season.

In short, there is no Otay Mesa Alternative that mitigates the risk to electric reliability at reasonable cost.

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[169] As described by Mr. Kikuts, in a scenario where Line 3010 experiences an outage in the north, core customer curtailments would begin in six hours even with Line 1600 operating at 640 psig providing 150 MMcfd. Exh. SDGE-5 (Kikuts Prepared Testimony at 4:1-8:8).

[170] Exh. SDGE-12 (Supplemental Testimony at 84, Table 5).

[171] Exh. SDGE-13 (Rebuttal Testimony at 75:3-18).

[172] Exh. SDGE-13 (Rebuttal Testimony at 65:18-19).

[173] Exh. SCGC-1, Attachment W (Aliso Canyon Winter Risk Assessment Report at 32-33).

[174] Exh. SDGE-13 (Rebuttal Testimony at 120:3-121:10 & CEC Table 34).

C. SCGC's Proposed Electrical Projects Do Not Solve the Risk to Reliable Electric Service, Much Less Provide Reliable Gas Service

In lieu of delivering gas at Otay Mesa or via proposed Line 3602 to address electric reliability risk, SCGC also asserts: "Electric System Alternatives Are Available to Address the Alleged Limitation on SDG&E Electricity Import Capability."[175]

SCGC's proposal is flawed for several reasons. First and fundamentally, potential electric solutions to SDG&E's electricity import limit do not solve the loss of gas service from a Line 3010 outage, and thus are not cost-effective.[176] While SDG&E seeks to provide reliable electric service, it also seeks to provide reliable natural gas service to over 849,000 residential gas customer meters, 30,000 business gas customer meters, military installations, hospitals, and public buildings.[177] Proposed Line 3602 provides both gas and electric reliability.

Second, the limit on SDG&E's electric import capability is not "alleged," but very real. Mr. Yari, who is responsible for operating SDG&E's electric system, testified in detail about the thermal limit and voltage stability limits arising from the North American Electric Reliability Corporation (NERC), Peak RC and CAISO reliability criteria.[178] "Under the 2022 summer peak load operating condition which occurs around sunset, the total IV [Imperial Valley] area generation is expected to be about 1,000 MW. Under these conditions, SDG&E could serve up to 2,627 MW of customer load, but approximately <u>2,000 MW of customer load would need to be shed</u> (based on the latest CEC load forecast cited by Intervenors). This is an unacceptable

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[175] SCGC Opening Brief at 32. Although not related to Scoping Memo Issue 3, SCGC addresses it there and so Utilities respond here.
[176] Exh. SDGE-13 (Rebuttal Testimony at 104:3-131:2).
[177] Exh. SDGE-13 (Rebuttal Testimony at 83:3-14).
[178] Exh. SDGE-13 (Rebuttal Testimony at 104:3-107:18, 111:9112:18), as corrected by Exh. SDGE-13 Errata.

outcome and is not isolated to annual peak load conditions, but would essentially be a daily problem."[179]

SCGC complains that the "2,500 MW limit on imports in the absence of local gas-fired generation is based on the 'current system configuration and current resource availability' as of 2015," and that the Utilities failed to account for "three synchronous condensers that were to be completed in 2017."[180] SCGC is referring to the voltage stability limit identified in Mr. Yari's prepared testimony, and Ms. Yap's criticism of it.[181] However, following Ms. Yap's and Sierra Club's criticism that planned projects were not included, the Utilities re-ran their analysis using Sierra Club's list of missing projects, which included the three synchronous condensers that Ms. Yap claimed were missing.[182]

As set forth in the Utilities' Rebuttal Testimony, the voltage stability limit increased to 3,300 MW, but it makes no difference. "[A]lthough the voltage stability limit increased, the SDG&E import capability based on the thermal limit essentially remains the same. Given realistic operating scenarios where Imperial Valley (IV) area generation at 8:00 PM is about 1,000 MW, SDG&E's system is thermally limited by the S Line. The voltage stability and S Line thermal limits are independent of each other, but applicable depending on operating conditions."[183]

SCGC recognizes the thermal limit, but improperly describes it as "a thermal limit on imports which can further reduce the SDG&E import limit if generation that is connected to

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179 Exh. SDGE-13 (Rebuttal Testimony at 107:9-14) (emphasis added).
180 SCGC Opening Brief at 32, citing to Exh. SCGC-1 p. 54.
181 SCGC Opening Brief at 32 n.156 (citing to Ex. SDGE-4-R at 16, Table 2) and n.158 (citing to Exh. SCGC-1 p. 54).
182 Exh. SDGE-13 (Rebuttal Testimony at 104:20-105:12 & n.249). Footnote 249 specifically references Ms. Yap's testimony at Exh. SCGC-1 p. 54).
183 Exh. SDGE-13 (Rebuttal Testimony at 105:12-18, 106, Figure 2) (emphasis added).

SDG&E's Imperial Valley [IV] Substation were to drop from 1,000 MW to lower levels."[184] In fact, the thermal limit varies based upon the level of generation connected to the IV Substation, as shown in Figure 2 of SDG&E's Rebuttal Testimony.[185] The Utilities testified that, under the 2022 summer peak load operating conditions, which occur around sunset, the total IV area generation is expected to be about 1,000 MW.[186] If it were less, the thermal limit would drop and SDG&E would have to interrupt electric service to even more customers.

SCGC correctly notes that "[u]pgrading the IID S-Line capacity from 407 MW to 800 MW would have the benefit of eliminating the thermal limit of the S-Line on total SDG&E imports when generation connected to the Imperial Valley Substation drops below 1,000 MW."[187] SDG&E has supported such an upgrade and would welcome it. But SCGC provides no evidence it is feasible or within SDG&E's control. IID expressly considered upgrading the S Line and rejected doing so based on its own economic interests.[188] "The S Line is wholly owned by IID. CAISO and SDG&E cannot unilaterally upgrade the line or plan a new parallel line into the IID system. Given these circumstances, the Utilities do not believe this alternative to be feasible or that it can be reasonably assumed to occur in the future."[189]

SCGC asserts there "are options beyond adding synchronous condensers and upgrading the IID S-Line that were ignored by the Applicants."[190] The Utilities reviewed Ms. Yap's suggestions and explained why each did not solve the problem. SCGC suggests that the Utilities rely on power from the Presidente Juarez power plant in Rosarito, Mexico to be dispatched by

184 SCGC Opening Brief at 32.
185 Exh. SDGE-13 (Rebuttal Testimony at 106, Figure 2).
186 Exh. SDGE-13 (Rebuttal Testimony at 107:9-10).
187 SCGC Opening Brief at 33.
188 Exh. SDGE-13 (Rebuttal Testimony at 124:6-125:16, Attachments P.1 to P.3).
189 Exh. SDGE-13 (Rebuttal Testimony at 125:17-20).
190 SCGC Opening Brief at 33.

Mexico's Centro Nacional de Control de Energía (CENACE) in an emergency.[191] As the Utilities testified: (a) SCGC did not conduct any power flow studies to determine whether this would mitigate the problem, (b) reliance upon dispatch of Mexican electric generation to San Diego is risky because it is not part of the CAISO balancing area, but rather CENACE and CFE (the operator of the power plant) are subject to Mexico's expansion plans and operational obligations; and (c) in the Utilities' past experience collaborating with CENACE, CENACE has been resource deficient and "imports upwards of 400 MW of power into Mexico from CAISO" during heavy load periods.[192]

SCGC also asserts "inverters could be installed to provide reactive power from existing solar and wind generators."[193] Again, this fails to solve the problem. As a practical matter, SCGC was unable to identify "a single existing wind or solar generator connected to SDG&E's East County and Ocotillo substations that has inverters capable of producing reactive power," or explain how the Utilities could make renewable generators install them.[194] Moreover, following an N-2 event, "the renewable generation facilities connected to East County and Ocotillo are isolated from SDG&E, rendering them unuseful to the SDG&E service territory."[195] In all events, while reactive power in the right place may mitigate the voltage instability limit, it does not affect the S Line thermal limit, which impacts SDG&E's electricity import limit at a lower level then the voltage stability limit.[196] "Therefore, even in the case the generators were willingly augmenting their facilities to provide reactive power control, it does not address the

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[191] SCGC Opening Brief at 33-34. In its Opening Brief, SCGC presents power from the Presidente Juarez plan and an agreement with CENACE as two separate options, but they are simply two parts of the same option.
[192] Exh. SDGE-13 (Rebuttal Testimony at 126:1-127:12).
[193] SCGC Opening Brief at 34.
[194] Exh. SDGE-13 (Rebuttal Testimony at 129:3-9).
[195] Exh. SDGE-13 (Rebuttal Testimony at 129:9-13).
[196] Exh. SDGE-13 (Rebuttal Testimony at 106, Figure 2, 128:9-12).

SDG&E import limit constrained by the S Line thermal limitation or the N-2 voltage stability limit."[197]

Finally, SCGC's claim that electric projects could solve the risk to reliable electric service from a Line 3010 outage relies upon a report by Z-Global. "According to Z-Global: 'Realistically, the solution is a <u>mix of all of the above</u>, with a focus on maximizing the use of existing transmission capacity via imports and re dispatch, augmented by system upgrades such as adding capacity to the IID S line.' Z-Global also admits that all of these potential electric projects would require additional study by CAISO and WECC [Western Electricity Coordinating Council] to determine their impacts on the electric grid."[198] SCGC has not shown that any of the projects is feasible, much less "all of the above." Moreover, these electric projects do not address the need for reliable gas service.

D. TURN's, Sierra Club's, and POC's Arguments Regarding Otay Mesa Alternatives Fail for the Same Reasons

TURN provides a survey of potential Otay Mesa options, but relies upon SCGC's testimony to claim that such options are viable.[199] The Utilities have addressed SCGC's claims in their Opening Brief at 27-47 and above. The Utilities note the following issues in TURN's discussion of the Otay Mesa options:

- TURN states "**if** the Commission ordered applicants to de-rate Line 1600 prior to 2023, applicants would need to purchase about 20 MMcfd of daily firm supply for the five winter months," and argues "daily spot market purchases at Otay Mesa should be available to meet this level of need" though "the Commission could order Applicants to issue an RFO for seasonal (winter) firm supplies at Otay Mesa."[200] With respect to complying with the Commission's 1-in-10 year cold day design criteria, the

[197] Exh. SDGE-13 (Rebuttal Testimony at 129:16-18).
[198] Exh. SDGE-13 (Rebuttal Testimony at 123:12-17) (footnotes omitted, citing Exh. SCGC-1, Attachment C (Z-Global Report at 10, 14).
[199] TURN Opening Brief at 21-30, discussing Ms. Yap's testimony and citing to Exh. SCGC-1 (Yap Prepared Testimony).
[200] TURN Opening Brief at 18 (emphasis in original).

Commission stated that the Utilities' "systems must be designed to provide service" during such an event.[201] The Utilities have not interpreted the Commission's design criteria to be satisfied by the possibility of "spot market" purchases by the Utilities. Further, as discussed above, without Line 3010 and with Line 1600 de-rated, a firm supply of 20 MMcfd at Otay Mesa would make no difference—it would simply slightly slow the de-pressurization of SDG&E's gas system and loss of gas service.[202]

- Referring to the North BC Pipeline System, TURN states "Two of the pipelines presently have available, meaning not subscribed by other shippers, <u>firm</u> capacities of more than 400 MMcfd," citing to "Exh. ORA-01, p. 35."[203] TURN has misconstrued ORA's testimony, which provides available capacity for specific days and recognizes that the "difference in the available capacity amount between these dates indicate that these are likely for interruptible capacity."[204] The latest available information on firm capacity available in the record is no available firm capacity on TGN, only 15 MMcfd on Gasoducto Rosarito, and approximately 167 MMcfd on North Baja.[205]
- Regarding the ECA facility, TURN asserts "Sempra Energy has plans to convert it to an LNG export terminal."[206] According to the 2016 IEnova Annual Report: "The Company may opt for offering both regasification and liquefaction, or only liquefaction services to its customers, or for continuing to provide regasification services only."[207] ECA's future is uncertain at this point.
- TURN asserts "The economic risk is that potential that the pipeline capacity may not be needed on some days but cannot be resold or used to deliver gas for resale. This risk can be minimized by purchasing firm capacity only for certain months, a so-called 'shaped' product."[208] First, because the Utilities would need to retain firm capacity rights (or preferably a firm right to gas delivery) for use immediately upon an unplanned Line 3010 or Moreno Compressor Station outage, such rights could not be sold on the secondary market. Second, though perhaps the quantity of gas needed

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201 D.06-09-039 at 49-50; *see also id*. at 52-61 (standard applies to all customers, not just firm non-core).
202 As described by Mr. Kikuts, in a scenario where Line 3010 experiences an outage in the north, core customer curtailments would begin in six hours even with Line 1600 operating at 640 psig providing 150 MMcfd. Exh. SDGE-5 (Kikuts Prepared Testimony at 4:1-8:8).
203 TURN Opening Brief at 20 & n5 (emphasis added).
204 Exh. ORA-1 (Sabino Prepared Testimony at 35:7-17). ORA cites to Attachments 2 and 3 (ORA Exh. 01-SA at 477 & 478), which refer to "Projected Available Capacity" for specific days, not "firm" capacity.
205 Exh. SDGE-13 (Rebuttal Testimony at 142, Table 3); Tr. at 839:26-840:23, 853:16-854:6 (Utilities-Borkovich); Exh. SDGE-12 (Supplemental Testimony at 47:7-8). 1,000 Dth is roughly 1 MMcfd.
206 TURN Opening Brief at 20.
207 Exh. SDGE-23 at 4 (2016 IEnova Annual Report at 25).
208 TURN Opening Brief at 21.

could be "shaped" for particular seasons, the risk of an unplanned outage exists during all months.

- TURN notes: "Rather than buying capacity and/or gas, a buyer could also contract for "firm supplies' from a shipper."[209] Given that, in the event of an unplanned outage, gas would need to flow into SDG&E's Otay Mesa receipt point as quickly as within an hour, the Utilities agree that firm gas supplies, rather than firm capacity, is best. Similarly, the Utilities agree with TURN: "The critical question with any such contract is whether the damage provisions are sufficient to ensure that the seller will hold their own firm capacity and gas supply contracts so as to be able to deliver the product whenever requested."[210]

- TURN recognizes that "these capacity holders [on Gasoducto Rosarito] supply gas to the large gas-fired power plants in Mexico, including La Rosita and Termoelectrica de Mexicali."[211] These capacity holders are unlikely to divert gas to SDG&E if it will mean electric outages in Mexico.

- TURN points to interruptible capacities that have existed on the North BC Pipeline System during various months in the past, and then asserts it "appears undisputed that spot market purchases could make up any winter capacity shortfall due to de-rating Line 1600" and "interruptible supplies could provide at least 100 MMcfd during the winter to meet core demand."[212] To the contrary, SDG&E's gas customers will require reliable gas service for decades. There is no evidence that past interruptible capacity on the North BC Pipeline System will exist in the future. Moreover, given the potential need for gas to flow into SDG&E's system at Otay Mesa within hours of a Line 3010 outage, the possibility of interruptible capacity does not assure reliability.

- TURN notes "[i]nterruptible supplies from ECA are less expensive" than firm supplies and "SoCalGas's System Operator historically purchased about 180 Mdth/d from ECA for delivery to Otay Mesa during a gas shortage in early February 2011."[213] This 2011 purchase does not represent the current market condition.[214] As set forth in both the 2015 and 2016 IEnova Annual Reports, LNG is not being

[209] TURN Opening Brief at 22.
[210] TURN Opening Brief at 22.
[211] TURN Opening Brief at 23.
[212] TURN Opening Brief at 24.
[213] TURN Opening Brief at 26.
[214] Exh. SDGE-13 (Rebuttal Testimony at 149:10-18). Recently, under the emergency conditions described in SoCalGas Advice Letter 5213-A, some re-gasified LNG from the ECA facility is being received at the Otay Mesa receipt point. However, this does not represent the normal current condition.

shipped to ECA other than as necessary to keep the facility cold and thus avoid damage to the equipment.[215] Interruptible supplies likely are not available.[216]

- TURN discusses Ms. Yap's cost estimates for an Otay Mesa Alternative relying on ECA LNG, which are flawed as set forth in Utilities Opening Brief at 42-45. TURN then states that, if more than 5 days of gas is needed, then "More gas could be purchased for delivery by paying only additional commodity costs, without any additional storage fees."[217] That is not accurate. In addition to the LNG purchase cost, there will be charges for tanker transportation to ECA, ECA's storage services to receive, store and re-gasify the LNG,[218] and for pipeline transportation to Otay Mesa.

- Noting the Utilities' identification of ECA's Minimum Daily Delivery Quantity (MinDDQ) as depleting stored LNG, TURN claims that the Utilities "never actually explain why Ms. Yap's accounting for boil-off gas costs 'is mistaken.'"[219] To the contrary, the Utilities pointed out the ECA Terms & Conditions establishing the MinDDQ, recognizing the loss of boil-off gas, the impact of boil off on the remaining gas and ECA's requirement for Shippers to withdraw the remaining gas before it is not usable as natural gas, and ECA's taking of gas as fuel to operate the facility.[220] The Utilities further explained the physics of LNG and "ageing" or "weathering" of LNG, and why ECA thus requires daily withdrawal of LNG.[221] The Utilities also provided an ECA presentation stating that the "minimum" send out from ECA is 100 MMcfd.[222] Ms. Yap failed to account for the need to withdraw LNG before it becomes unmarketable due to boil off gas, as recognized in ECA's Terms & Conditions and scientific studies, as well as ECA's operational gas needs.

- TURN asserts: "With respect to obtaining gas supplies through the Otay Mesa receipt point, TURN does not see a clear conflict between the interests of the Mexican jurisdictional authorities and the interests of California. There seem to be adequate

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[215] Utilities Opening Brief at 33-35.
[216] Tr. at 835:17-27 (Utilities-Borkovich).
[217] TURN Opening Brief at 27.
[218] Exh. SDGE-13, Attachment Q at 414 (ECA Terms & Conditions, § 1.75). ("'Storage Service' shall mean the services provided by ECA to the Shippers in the System, including the receipt of LNG at a Receipt Point, the storage and regasification of LNG and the delivery of an equivalent quantity of Natural Gas (less the System Operation Gas) at the Send-Out Point, either on a firm or interruptible base.").
[219] TURN Opening Brief at 27-28.
[220] *See* Exh. SDGE-13 (Rebuttal Testimony at 145:12-146:11, n.337 & 338 (citing attached ECA Terms & Conditions)
[221] *See* Exh. SDGE-13 (Rebuttal Testimony at 152:9-154:5 & n.345 (citing attached scientific articles on the issue), 155:7-14).
[222] Exh. SDGE-27 at 6 (ECA Presentation at 15).

supplies for all parties to create a win-win outcome."[223] The Utilities cannot agree. In the event of a Line 3010 outage (depending on location and demand at the time), the Utilities will need up to 400 MMcfd flowing into SDG&E's system at Otay Mesa within hours. That would require diversion of gas from Mexican customers to San Diego on the North BC Pipeline System or someone to have paid to keep LNG available at ECA, which is not cost-effective.

- TURN states: "The Commission should not allow the Sempra Utilities to use the affiliate transaction rules, designed to prevent self-dealing by the Applicants by signing high-cost contracts with affiliates, as a shield to advance exactly the opposite goal – preventing the signing of contracts which could be beneficial to ratepayers."[224] The Utilities provided a draft RFO to Energy Division on July 15, 2016 for review and input, but have never received any response.[225] The Utilities seek to comply with the Commission's affiliate transaction rules, not use them as a "shield."

Similar to TURN, Sierra Club calls for an RFO for Otay Mesa gas supply. Sierra Club suggests: "The duration of any such contract should not exceed five years to allow for readjustment based on expected declines in gas demand and any transmission improvements, such as upgrades to the S Line, that reduce reliance on in-basin gas generation."[226] If the Commission believes an RFO would provide useful information, the Utilities believe that the contract duration should be a minimum of 10 to 15 years for the following reasons:

- First, until gas demand in San Diego is close to zero, which is not expected for decades even if California seeks a future without natural gas, a firm supply of gas delivery at Otay Mesa will be needed to ensure reliable gas service without a new pipeline. Further, the current 1-in-10 year cold day demand forecast for all customers ranges from 578 MMcfd in 2016/17 to 546 MMcfd in 2035/36, and, under the 1-in-35 Year Cold Day Demand criteria applicable to the core, ranges from 387 MMcfd in 2016/17 to 403 MMcfd in 2035/36.[227] Thus, the risk of a contract that is either too long or for too much gas is unlikely.
- Second, such contracts will need to be re-negotiated. If the Utilities have no alternative but to accept whatever terms are offered, ratepayers will pay a high price.

[223] TURN Opening Brief at 29.
[224] TURN Opening Brief at 30-31.
[225] Exh. SDGE-13 (Rebuttal Testimony at 136:27-137:2); Exh. SCGC-15-C-R.
[226] Sierra Club Opening Brief at 23.
[227] Exh. SDGE-12 (Supplemental Testimony at 84, Table 5).

> The alternatives to a new contract are for the Utilities to construct a new pipeline or expose SDG&E's customers to the risk of losing gas service in the event of a Line 3010 or Moreno outage. The former will take at least 5 years (or longer, as shown by this Application) and the latter should not be acceptable. Therefore, negotiations for a new contract should start more than 5 years ahead of the expiration of an existing contract. Sierra Club's proposed 5-year contract duration does not allow time to develop an alternative to accepting whatever terms are offered, and thus leaves the Utilities with no bargaining power.

Sierra Club also argues that "firm capacity has not been necessary for the Sempra Utilities to import gas through Otay Mesa to meet system needs," and suggests the Utilities can purchase interruptible capacity on the North BC Pipeline System or "as available" supplies from ECA.[228] This is neither an adequate nor prudent solution for numerous reasons, including: (a) past purchases of relatively small quantities of gas does not mean that enough gas would be available in the future to respond to a Line 3010 or Moreno Compressor Station outage; (b) interruptible capacity on the North BC Pipeline System, even in winter, is far below what would be needed and would be less in summer; (c) "as available" supplies from ECA are unlikely as IEnova Annual Reports indicate only enough gas to keep the facility cold is being delivered because LNG cannot compete on price; (d) past purchases of gas at Otay Mesa have been for planned outages, not unplanned outages, and there is no evidence that gas could be delivered from Ehrenberg via interruptible capacity, or re-gasified LNG from ECA, in time to avoid core curtailment in the event of a Line 3010 outage (depending on location and gas demand).[229]

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[228] Sierra Club Opening Brief at 23-24.

[229] *See* Utilities Opening Brief at 31-36; *supra* at 36-43; Exh. SDGE-13 (Rebuttal Testimony at 143:16-144:2) ("interruptible service to Otay Mesa is not readily available during periods of high sendout during the peak summer months in the North Baja region. At other times up to 150 MMcfd has been available to the Operational Hub for use in support of recently scheduled maintenance activities."); Exh. SDGE-12 (Supplemental Testimony at 84, Table 5) (potential gas demand); Exh. Sierra Club-02 at 195-96 (Sierra Club Data Request 6, Q.11) (small quantities delivered in past).

POC simply references SCGC's testimony,[230] which the Utilities addressed in their Opening Brief at 27-47 and above. POC also references SoCalGas Advice Letter 5213-A and the Commission's authorization for SoCalGas to seek some pipeline capacity for deliveries to Otay Mesa from December 2017 through February 2018.[231] As set forth above, even if SoCalGas is successful in obtaining some firm capacity rights for this short period, that does not mean that the Utilities could contract for firm deliveries of sufficient gas at Otay Mesa in time to prevent widespread curtailments in the event of an unplanned Line 3010 or Moreno Compressor Station outage for as long as San Diego relies on natural gas. In fact, the emergency situation giving rise of SoCalGas Advice Letter 5213-A supports the need for proposed Line 3602.

V. SCOPING MEMO ISSUE 4: CATALYST FOR FUTURE INFRASTRUCTURE DEVELOPMENT?

Scoping Memo Issue 4: "Will the proposed Line 3602 be a catalyst for proposed future infrastructure development in the region and increased natural gas use? If so, what are the long-term implications?"

As stated in the Utilities Opening Brief at 51, the Utilities "do not expect the Proposed Project to be a catalyst for future infrastructure growth in San Diego. The need for proposed Line 3602 is not based on an expected increase in natural gas use in the future, or any expectation that construction of proposed Line 3602 would cause development of infrastructure that requires natural gas for operations."[232]

SCGC claims: "If Line 3602 were approved and placed in service, it would enable the future expansion of gas infrastructure both north of the U.S./Mexico international border and

[230] POC Opening Brief at 25, citing "See SCGC-01 (Yap)."
[231] POC Opening Brief at 25-26.
[232] Exh. SDGE-12 (Supplemental Testimony at 52:5-10).

south of the border."[233] SCGC, however, provides no evidence that proposed Line 3602 is likely to result in such "future expansion." The evidence is that it is neither contemplated nor likely.

SCGC asserts: "If Line 3602 were placed in service and Moreno compression were increased, Lines 2010 and 3012 were looped, or both, additional capacity would become available across the SDG&E system north to south to transport gas to Baja California."[234] As an initial matter, the Utilities have not proposed such projects. Further, as Mr. Bisi explained:

> [T]he calculation of the capacity of the SDG&E system with the Proposed Project was made with the SDG&E system operating between its extremes: maximum operating pressures in the north and minimum operating pressures in the south. If more gas supply is transported to Otay Mesa for delivery to TGN, the pressures on the SDG&E system would fall below the minimum operating pressure requirement, putting service to the SDG&E distribution systems at risk.[235]

SCGC cites to Kern River adding compression to expand capacity, but SCGC ignores the need for gas supply to be compressed. As Mr. Bisi testified, additional compression cannot be added at the Moreno Compressor Station without further improvements on the upstream SoCalGas side:

> Similarly, additional compression at the Moreno Compressor Station will not result in increased volumes to transport to the SDG&E system or Mexico. The capacity calculation performed by the Utilities fully utilized all existing assets – inlet pressure to the Moreno Compressor Station fell to minimum levels and all installed compression was used. While this resulted in the outlet pressure being a bit less than the MAOP, any additional volume compressed at Moreno with the installation of new compressor units would need to be transported across the SoCalGas system, and would be delivered a pressure lower than the minimum levels for the existing compression to operate.[236]

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[233] SCGC Opening Brief at 34.
[234] Exh. SCGC-1, Attachment B at 4 (emphasis added).
[235] Exh. SDGE-13 (Rebuttal Testimony at 177:10-15) (emphasis added).
[236] Exh. SDGE-13 (Rebuttal Testimony at 177:16-178:4); *accord* Tr. at 996:17-998:3 (Utilities-Bisi) ("compression doesn't really help like that").

SCGC also asserts that, <u>if</u> such projects did occur (for which there is no evidence), then "[i]ncreased volumes of gas could be transported to serve Baja California core and noncore demand" or "to the Energia Costa Azul LNG terminal for liquefaction and export."[237] As an initial matter, any future ECA LNG export terminal is uncertain. While ECA's website indicates that ECA has filed certain permit applications, the 2016 IEnova Annual Report says: "The Company may opt for offering both regasification and liquefaction, or only liquefaction services to its customers, or for continuing to provide regasification services only."[238]

Regardless, the Utilities doubt that shippers would choose to transport gas though SDG&E's gas system because of the Commission's limits on Off-System Delivery (OSD) service.[239] As Mr. Borkovich explained the impact of those requirements (extra charges, less reliable), and concluded:

> IEnova avoids this hassle and expense by fully utilizing all of the available capacity on the North Baja and Gasoducto Rosarito systems and then through an open season and expansion on the North Baja and Gasoducto Rosarito systems to meet their potential liquefaction facility requirements. Contracting for OSD service on the SoCalGas and SDG&E systems impose higher costs and lower reliability for access to essentially the same gas supply. … Contracting for what amounts to be an interruptible service on the Utilities' system when firm service on North Baja and Gasoducto Rosarito is probably available at a lower cost does not make sense to a shipper requiring firm supply."[240]

SCGC suggests that, if proposed Line 3602 is built, a hypothetical shipper seeking to transport gas to a hypothetical ECA liquefaction facility might be willing to pay for additional projects needed to "complet[e] a 36-inch pipeline path across the SDG&E system north-to-south."[241] Assuming an ECA liquefaction facility is built, and assuming that a shipper is

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[237] SCGC Opening Brief at 36.
[238] Exh. SDGE-23 at 4 (2016 IEnova Annual Report at 25).
[239] *See generally* Exh. SDGE-13 (Rebuttal Testimony at 162:16-165:4).
[240] Exh. SDGE-13 (Rebuttal Testimony at 164:12-165:4).
[241] SCGC Opening Brief at 38-39.

undeterred by the cost of all of the necessary projects, a shipper still is not likely to accept the lack of reliability arising from the Commission making OSD service second in priority to all on-system services.[242] "Shippers contracting for liquefaction services require reliable transportation service to deliver gas to the plant for liquefaction when required."[243]

Finally, even if all of SCGC's speculation should come true, for which there is no evidence, the end result is that it would reduce the cost for the Utilities' on-system customers, who would pay less for the Proposed Project. This is because "each Dth of gas delivered to Otay Mesa pays both the G-BTS rate to gain entry into the SoCalGas and SDG&E system and the OSD rate to leave. These services increase both the throughput and revenue which effectively lowers G-BTS rates paid by all on-system customers."[244]

Sierra Club similarly argues that "Line 3602 will also serve as a catalyst for gas export to Mexico."[245] Most of Sierra Club's arguments are derivative of SCGC's arguments, relying on Ms. Yap's testimony, to which the Utilities have responded above. Sierra Club also cites to a Sempra Energy 2014 slide presentation regarding the possibility of converting ECA to an export facility and noting it said: "Additional pipeline capacity required."[246] However, the Sempra Energy presentation does not state either that ECA will be converted to export or that the "additional pipeline capacity required" would be through SDG&E's gas system.

As Mr. Borkovich testified, the Commission's OSD requirements make that unlikely. Under D.11-03-029, OSD service requires "the payment of both the G-BTS transmission charge and the OSD charge to move gas across the SoCalGas and SDG&E systems to the TGN receipt

[242] Exh. SDGE-13 (Rebuttal Testimony at 163:3-23).
[243] Exh. SDGE-13 (Rebuttal Testimony at 164:22-165:2).
[244] Exh. SDGE-13 (Rebuttal Testimony at 165:7-13).
[245] Sierra Club Opening Brief at 25.
[246] Sierra Club Opening Brief at 26 (citing and reprinting Exh. Sierra Club-2 at 19).

point at Otay Mesa," and "OSD service [is] second in priority to all on-system services mak[ing] it less reliable than firm service on the North Baja and Gasoducto Rosarito systems."[247] As a result, "[c]ontracting for what amounts to be an interruptible service on the Utilities' system when firm service on North Baja and Gasoducto Rosarito is probably available at a lower cost does not make sense to a shipper requiring firm supply."[248]

POC also contends that "Line 3602 will be a catalyst for proposed future infrastructure development" on the ground that its allegedly "excess capacity will be a necessary source of natural gas for the ECA LNG export facility" and that the Utilities' true motivation is "a massive new pipeline to facilitate the export of American natural gas to Mexico."[249] As with SCGC's claims: ECA's LNG export facility is speculative; additional projects to expand north-south capacity are speculative; if more gas is transported across SDG&E's system to TGN, "the pressures on the SDG&E system would fall below the minimum operating pressure requirement, putting service to the SDG&E distribution systems at risk";[250] more compression cannot be added at the Moreno Compressor Station without further improvements on the upstream SoCalGas side; and OSD service is not attractive to shippers due to price and second priority.[251] The Utilities respond to POC's related attacks in response to Scoping Memo Issues 8 and 10.

VI. SCOPING MEMO ISSUE 5: SHOULD THE UTILITIES CONDUCT AN "OPEN SEASON"?

Scoping Memo Issue 5: "Should applicants be required to conduct an open season to test the need for expansion beyond that indicated by the application of any approved planning criteria?"

[247] Exh. SDGE-13 (Rebuttal Testimony at 163:18-23).
[248] Exh. SDGE-13 (Rebuttal Testimony at 165:2-4).
[249] POC Opening Brief at 11.
[250] Exh. SDGE-13 (Rebuttal Testimony at 177:10-15) (emphasis added).
[251] *See supra* at 57-60.

As set forth in Utilities Opening Brief at 52-54, the "open season" concept is not applicable to the PSRP, which is a safety and reliability project. SCGC states: "The experience with open seasons for firm capacity on the SDG&E system demonstrated that they are not a viable substitute for the Commission's established capacity planning standards."[252]

Only ORA argues for an "open season."[253] ORA repeats arguments made in its prepared testimony, but never responds to points made in the Utilities' Rebuttal Testimony.[254] Specifically, the Utilities pointed out that, in response to discovery, ORA could not explain "who it should be directed to or what would be offered to such entities."[255] Does ORA suggest notice to every SDG&E gas customer asking if they want to pay some amount for safe and reliable gas service? If they say no, would the Commission ignore safety? ORA did not say in response to discovery or in its Opening Brief. Further, the Utilities testified: "To the Utilities' knowledge, the Commission has never instructed a utility to query all utility customers to determine the appropriate level of safety and reliability desired of a gas system."[256] ORA's Opening Brief does not identify any such direction by the Commission.

In fact, ORA's discussion of past Commission decisions shows that the open season concept does not apply here. ORA quotes D.02-11-073: "'Open seasons are a vehicle to allocate firm noncore capacity between existing customers, incremental new load of existing customers, and new customers.'"[257] Other ORA quotes of D.02-11-073 also refer to "allocation of firm

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[252] SCGC Opening Brief at 40.
[253] ORA Opening Brief at 77-83.
[254] *See* Exh. ORA-1 (Sabino Prepared Testimony at 39-48); Exh. SDGE-13 (Rebuttal Testimony at 171:5-173:7).
[255] Exh. SDGE-13 (Rebuttal Testimony at 173:5-7).
[256] Exh. SDGE-13 (Rebuttal Testimony at 173:5-7).
[257] ORA Opening Brief at 78 (quoting D.02-11-073 at 46).

capacity."[258] The Proposed Project is not about allocating firm capacity, it is about enhancing safety and reliability, in part by constructing proposed Line 3602 so that the Utilities can maintain gas service (also needed for electrical service) during a Line 3010 or Moreno Compressor Station outage.

ORA quotes a portion of D.06-09-039 to point out that it required open seasons for certain purposes. Yet even the portion of D.06-09-039 that ORA quotes says: "The utilities <u>shall use system planning</u> as well as open seasons, to minimize congestion and <u>assure one-in-ten year reliability</u> for firm customers."[259] In fact, the Commission in D.06-09-039 stated that the Utilities may <u>not</u> rely upon the results of open season bidding in designing their local transmission system, but rather must act to ensure it remains reliable. "<u>If a utility relies exclusively on bids for firm capacity, it could lose accountability for the adequacy of the local transmission system</u> …. This is inconsistent with our goal of ensuring the overall adequacy of the intrastate infrastructure not only to meet normal demand, but also <u>to respond to emergencies</u>."[260] The Commission pointed out: "In order to demonstrate this sort of system-wide ability to serve and <u>to allow for the kind of flexibility needed to meet emergencies</u>, <u>it is not sufficient</u> to demonstrate that the core customers have enough capacity for their purposes, and the noncore customers have as much as they are asking for. The critical questions go to the way the system operates as a whole."[261]

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[258] ORA Opening Brief at 78. The Commission since has eliminated the distinction between "firm" and "interruptible" noncore customers. Exh. SDGE-12 (Supplemental Testimony at 53 & n.87); Exh. SDGE-13 (Rebuttal Testimony at 171-72).
[259] ORA Opening Brief at 78 (quoting D.06-09-039 at 64).
[260] Exh. SDGE-12 (Supplemental Testimony at 54) (quoting D.06-09-039 at 61, emphasis added).
[261] D.06-09-039 at 24 (emphasis added).

ORA refers to Pacific Gas and Electric Company's (PG&E) Line 401 project, noting that it appears that PG&E allocated capacity on its new pipeline via an open season.[262] ORA also references federal statements about gauging interest in new interstate pipelines or allocating capacity on existing interstate pipelines.[263] Again, the Proposed Project is not seeking to allocate firm capacity among potential shippers, but rather to enhance safety and reliability for all users of the Utilities' integrated natural gas transmission system.

ORA recognizes that "In D.16-07-008, the Commission approved and adopted the Curtailment Procedures Settlement Agreement, which included the elimination of the previous open season requirement in potentially constrained areas."[264] ORA asserts that the settlement agreement adopted by D.16-07-008 (eliminating the Utilities' open seasons) is "non-precedential" and, in any event, ORA was not a party to the settlement agreement.[265] ORA was a party in that proceeding and did not oppose the Commission's adoption of the settlement.[266]

In sum, the Commission has stated that the Utilities may <u>not</u> rely upon open seasons to determine whether to meet the Commission's reliability standard, and no identified Commission decision has stated that open seasons should be used to determine interest in a safety or reliability project. ORA has not explained the purpose of an open season. None is needed.

VII. SCOPING MEMO ISSUE 6: RELIABILITY STANDARDS AND REASONABLENESS

Scoping Memo Issue 6: "Is the project needed pursuant to the Commission's reliability standard for natural gas system planning? Is the level of gas transmission system reliability and redundancy that would be provided by the proposed Line 3602 reasonable? What requires the

262 ORA Opening Brief at 82-83.
263 ORA Opening Brief at 83.
264 ORA Opening Brief at 80.
265 Exh. ORA-1 at 44.
266 Exh. SDGE-13 (Rebuttal Testimony at 172, n.386).

Commission to change its current reliability standard to accommodate the proposed Line 3602 pipeline?"

A. The Commission Directed Utilities to Plan Their Systems to Provide Safe and Reliable Gas Service

As set forth in Utilities Opening Brief at 54-58, the Commission has stated its "goal" is to ensure "the overall adequacy of the intrastate infrastructure not only to meet normal demand, but also to respond to emergencies."[267] The Commission held that each utility must study the "adequacy of its entire system, including local transmission, and act to ensure that it remains reliable."[268] The Commission expressly found: "Emergency concerns for which utility should plan include the failure of a major component of the delivery or storage system …."[269]

SCGC discusses the Commission's 1-in-35 year cold day and 1-in-10 year cold day design criteria in detail, but goes no further. Sierra Club states: "No. The Commission's established reliability standard for the backbone transmission system is to have sufficient capacity to meet 'one-in-ten year cold and dry conditions.'"[270] TURN asserts: "No, the project is not needed for meet reliability standards unless the Commission determines that Line 1600 should be de-rated prior to 2023," and then refers to "forecast peak demand criteria."[271] POC simply states, without citation, "project is not needed pursuant to Commission's reliability standard for natural gas planning."[272] ORA takes no position. None of these Intervenors addresses the Commission's direction that the Utilities should plan for "the failure of a major component" of the delivery system and act to ensure that the system remain reliable.[273]

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[267] D.06-09-039 at 61.
[268] D.06-09-039 at 180 (Conclusion of Law 9).
[269] D.06-09-039 at 170 (Finding of Fact 1) (emphasis added).
[270] Sierra Club Opening Brief at 15 (quoting D.06-09-039 at 171).
[271] TURN Opening Brief at 9.
[272] POC Opening Brief at 20.
[273] SCGC Opening Brief at 41-45.

SCGC asserts that "augmenting the existing reliability standards established through D.02-11-073 and D.06-09-039 to add a redundancy requirement as proposed by the Applicants could have unintended adverse statewide consequences."[274] SCGC seeks to block reliable gas service for San Diego by claiming doing so could force the Commission to require PG&E and SoCalGas to spend billions elsewhere. SCGC's fears are overblown. First, SCGC actually is arguing that the Commission should change its existing standard (planning to maintain reliable service in an emergency) to require less reliability. The existing standard has not resulted in the catastrophe SCGC predicts. Second, the Commission will determine the reasonableness of proposed projects. Providing a second transmission pipeline to San Diego, home to 3.2 million people, does not pre-determine the Commission's response to any other proposed project.

The Utilities believe that the Commission's direction in D.06-09-039 is plain—the Utilities should plan their gas system to provide reliable gas service even under emergency conditions, such as the failure of a major component like Line 3010 or the Moreno Compressor Station. The Commission, of course, may conclude that the public convenience and necessity does not require protecting the Utilities' customers against this risk. But the Proposed Project does not require any change in the Commission's current reliability standard.

B. The Proposed Project Will Allow the Utilities to Provide Safe and Reliable Gas Service

As set forth in Utilities Opening Brief at 59-70, the Proposed Project will allow the Utilities to comply with the Commission's directive to provide safe and reliable service. The Utilities submit that the Proposed Project's level of safety and reliability is reasonable, cost-effective, and consistent with the Commission's direction.

[274] SCGC Opening Brief at 50.

Consistent with the Utilities' testimony, TURN, SCGC, Sierra Club, and POC all point out that SDG&E's gas transmission system meets the Commission's 1-in-35 year cold day and 1-in-10 year cold day design criteria with Line 1600 in transmission service at current pressure, and will meet those design criteria without Line 1600 in transmission service (based upon current forecasts) after 2023.[275] This is undisputed, but does not address the Commission's direction that the Utilities must act to ensure reliable service in the event of an emergency.

Various Intervenors argue that (1) Line 1600 could be de-rated before 2023 without violating the Commission's design criteria, and (2) the Proposed Project would provide an "unreasonable" level of reliability and redundancy.

1. Based on Current Forecasts, Line 1600 Cannot be De-Rated Until 2023 Without Violating the Commission's Design Criteria

Various Intervenors quibble with the Utilities' long-term gas demand forecasts, and thus claim that Line 1600 could be de-rated to distribution service before 2023 without violating the Commission's design criteria. The Utilities address such claims in response to Scoping Memo Issue 9 in their Opening Brief at 75-82, and *infra* at Section X.

TURN points out that that "the 'system capacity' numbers do not represent an absolute physical limit for gas flow," as the "annual peak sendout on January 14, 2013 was 674 MMcfd" while the nominal system capacity at that time was 630 MMcfd.[276] As Mr. Bisi explained: "Actual capacities are a function of how large the load is and where it is located on the system. The amount of gas being pushed through SDG&E's two transmission lines can fluctuate on any given day."[277] Additionally, the state of the SoCalGas system supplying the SDG&E system also

[275] TURN Opening Brief at 9-10; SCGC Opening Brief at 43-45; Sierra Club Opening Brief at 15-17; POC Opening Brief at 20-21. ORA takes no position.
[276] TURN Opening Brief at 11.
[277] Exh. SDGE-3-R (Bisi Prepared Testimony at 14 n.27).

impacts SDG&E's capacity. For example, in the case of January 14, 2013, higher pressures were provided to the inlet of SDG&E's Moreno Compressor Station than those assumed in the calculation of the SDG&E nominal capacity, resulting in a higher sendout on the SDG&E system.

SCGC argues that "in determining whether SDG&E has adequate capacity to meet the 1-in-10 year cold day reliability standard, it is necessary to include the additional 400 MMcf/d of backbone capacity available on the SDG&E transmission system from Otay Mesa."[278] SCGC is mistaken. As Mr. Bisi explained: "It is accurate that <u>if</u> supply were delivered at <u>both</u> the Rainbow Metering Station and at the Otay Mesa receipt point, the level of demand that could be supported is greater than the level that could be supported with only one source of supply (although not necessarily the sum of both receipt capacities, as that depends upon the location of the demand on the system)."[279] But that is <u>not</u> the case.

"SDG&E's customers are not routinely delivering gas to the Otay Mesa receipt point."[280] "[T]o increase the capacity of the SDG&E system on the basis that customers *might* delivery gas supply at Otay Mesa is not prudent. … [I]f the capacity of the SDG&E system is increased in the hopes of receiving supplies at Otay Mesa, and customers plan to use that capacity, then the Utilities would have no alternative but to curtail customer demand if those supplies do not show up – that increased level of capacity that customers would be using could not be transported south from the Rainbow Metering Station."[281] <u>Unused</u> Otay Mesa receipt capacity cannot simply

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[278] SCGC Opening Brief at 44.
[279] Exh. SDGE-13 (Rebuttal Testimony at 76:10-20).
[280] Exh. SDGE-13 (Rebuttal Testimony at 77:16-17).
[281] Exh. SDGE-13 (Rebuttal Testimony at 77:2-8).

be added to increase SDG&E's system capacity, pretending that 400 MMcf/d of gas is being delivered into SDG&E's system at Otay Mesa and is available for customers, when it is not.[282]

2. The Proposed Project Provides a Reasonable Level of Reliability

SCGC asserts that "the increased reliability that can be provided by excess capacity must be balanced against the concerns of ratepayers who must pay for the excess capacity."[283] Sierra Club similarly contends that proposed Line 3602 will create "excess capacity."[284] The issue here, however, is not "excess capacity," but the ability to ensure reliable gas service following the outage of a major component of SDG&E's gas transmission system, either Line 3010 or the Moreno Compressor Station. Currently, the Utilities cannot, except when gas demand is less than Line 1600's individual capacity (for a Line 3010 outage). If Line 1600 is de-rated or abandoned, the Utilities' ability to assure reliable gas service will be even less.

SCGC refers to this level of reliability as "redundancy," which would make SDG&E's system more resilient to emergency conditions.[285] SCGC notes that one meaning of "redundancy" means: "Duplication or repetition of elements in an electronic or mechanical equipment to provide alternative or functional channels in case of failure."[286] The Utilities testified: "Resilience includes the ability to withstand and recover from deliberate attacks, accidents, or naturally occurring threats or incidents."[287]

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282 For the same reason, SCGC is mistaken in asserting: "Adding Line 3602 capacity to the SDG&E system would result in SDG&E backbone capacity of 1,230 (830 + 400 = 1,230) MMcf/d." SCGC Opening Brief at 45. The unused Otay Mesa receipt point capacity cannot simply be assumed to deliver 400 MMcfd of gas for customer use.

283 SCGC Opening Brief at 45-46.

284 Sierra Club Opening Brief at 17. Sierra Club also makes the same mistake as SCGC by adding the Otay Mesa receipt point capacity to SDG&E's system capacity. *Id.*

285 SCGC Opening Brief at 46.

286 SCGC Opening Brief at 46.

287 Exh. SDGE-1 (Schneider Prepared Testimony at 2 n.3).

The Proposed Project will allow the Utilities to provide reliable gas service (and thus also electric service) following a Line 3010 or Moreno Compressor Station outage. Proposed Line 3602 thus would provide redundancy and resilience every day of its operation. However, proposed Line 3602 would not be useful only in the event of such a failure. It would provide operational benefits every day by: (a) increasing the Utilities' ability to "flow" gas south from Rainbow Metering Station with reduced compression needed at Moreno, thus reducing costs and emissions;[288] and (b) providing the operational flexibility to handle intra-day fluctuations in demand that stress the system.[289]

Stating that the "degree to which a given risk needs to be addressed is typically determined by considering two factors, the likelihood of the risk and the consequence of the risk," SCGC points out that a Line 3010 outage or a Moreno Compressor Station outage is a "low likelihood" event.[290] Sierra Club, TURN, and POC agree.[291] Based upon a low likelihood of occurrence, these Intervenors conclude that SDG&E's customers should not be protected from this risk. POC seems to suggest that the absence of such outages in the past means that the risk of such an outage in the future may be dismissed.[292] The Utilities disagree.

First, even though "outages on Line 3010 or at the Moreno Compressor Station have been infrequent, … this may not hold for the future."[293] Mr. Kikuts testified: "There are an infinite number of scenarios that could cause an outage…."[294] Line 1600 and Line 3010 have

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[288] Exh. SDGE-1 (Schneider Prepared Testimony at 18:6-19:2, 22:1-19); Exh. SDGE-8-R (Kohls Prepared Testimony at 4:10-17 & Atttachment A (Sub-Attachment XII, Moreno Compressor Station—Operation Analysis); Exh. SDGE-12 (Supplemental Testimony at 67:7-10).
[289] Exh. SDGE-1 (Schneider Prepared Testimony at 2:19-27, 18:6-19:2, 19:18-20:7); Exh. SDGE-3-R (Bisi Prepared Testimony at 10:11:615:19).
[290] SCGC Opening Brief at 46-48.
[291] Sierra Club Opening Brief at 18; TURN Opening Brief at 13, 15-16; POC Opening Brief at 23.
[292] POC Opening Brief at 20, 23-24.
[293] Exh. SDGE-13 (Rebuttal Testimony at 98:27-28).
[294] Exh. SDGE-5 (Kikuts Prepared Testimony at 2:8-12).

experienced both planned and unplanned outages in the past.[295] "Line 3010 and the Moreno Compressor Station are aged facilities and will experience increased maintenance and integrity issues in the future."[296]

The emergency conditions giving rise to SoCalGas Advice Letter 5213-A demonstrate that unlikely events, such as pipeline outages, in fact occur. The emergency is "pipeline outages on SoCalGas's Lines 235, 4000, and 3000 and a pressure reduction on Line 2000 [that] have reduced the receipt a firm capacity on the SoCalGas system to 2.770 Bcf/d."[297] SoCalGas has three pipelines out of service simultaneously, and they will be or have been out for months.[298]

As UCAN's Ms. Felts testified:

> Past performance cannot be used to predict future performance. There may be a tendency to assume that since a pipeline has not leaked or failed in the past, it will not do so in the future. This logic is faulty, like assuming your shoes will last forever because they have served you well for the past 3 years, or the roof on your house will last forever because it has not leaked for the past 15 years, or Line 132 would not explode because it had operated for 54 years without incident.[299]

In short, while the likelihood of outages is low, and the Utilities work hard to prevent them, the risk clearly exists and such outages happen. Intervenors assert that such outages are not likely—they do not deny that such outages can occur.[300]

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[295] Exh. SDGE-18 (Utilities' Amended Response to Sierra Club DR 4, Q2 & Attachments); Exh. SDGE-30 (Utilities Response to ORA DR 80, Q1 & Q2); *see also* Tr. at 484:21-25 (Utilities-Rosenfeld); Tr. at 907:25-908:12 (Utilities-Bisi).

[296] Exh. SDGE-13 (Rebuttal Testimony at 175:117-18).

[297] SCGC Opening Brief at 24. SoCalGas Advice Letter 5213-A (November 7, 2017), https://www.socalgas.com/regulatory/tariffs/tm2/pdf/5213-A.pdf.

[298] Resolution G-3535, Attachment A (Letter from Executive Director at 1).

[299] Exh. UCAN-1 (Felts Prepared Testimony at 7:16-21).

[300] TURN contends "Applicants also agree that short term outages at Moreno would not threaten customer service due to the relatively low speed of gas flow through a pipe." TURN Opening Brief at 16 (citing "6 RT 1002, Bisi/SU"); *see also* Sierra Club Opening Brief at 18 (same point). TURN overstates the point—the testimony does not define "short term." Mr. Bisi agreed that no customers were lost during an 11-hour Moreno outage, but noted: "So there's time for gas control to react. There's time for gas control to get in there and try to fix things and for the transmission -- too. But also, part of it is because possibly the temperature condition at the time, whether the electric generators were on heavy load in San

These Intervenors also ignore the "consequence of the risk" should an outage event occur. As set forth in Utilities Opening Brief at 65-69, the consequences could be severe, with a lengthy loss of gas and electric service to SDG&E's customers. The time to repair a pipeline outage depends upon the nature of the damage and concerns about the remaining pipeline. In the SoCalGas situation, the three pipelines have been or will be out of service for months: SoCalGas Line 4000 has been out of service since September 18, 2017 and will be out of service until December 30, 2017; Line 3000 will be out of service until May 1, 2018; and Line 235-2 has been out of service since October 1, 2017 with no estimate for when it will return to service.[301] Moreover, once core residential customers lose gas service, restoring service to them is painstakingly slow to ensure safety, taking weeks in the Line 3010 outage scenario described by Mr. Kikuts, even after the outage is resolved. Further, without natural gas-fired EG in San Diego County, SDG&E's current electric system is unable to serve electricity demand above its import limit—a Line 3010 outage, particularly if Line 1600 is de-rated, would result in electric service interruptions.

Sierra Club also argues: "The risk of an <u>extended</u> unplanned outage of Line 3010, which is the Sempra Utilities' principle justification for Line 3602, is extremely low."[302] Sierra Club misses the point. As Mr. Kikuts testified, depending on the location of a break and gas demand at the time, a Line 3010 outage could lead to widespread core curtailments <u>within six hours</u> (even with Line 1600 in transmission service at 640 psig).[303] Without Line 1600 in transmission

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Diego or whether it was a cold day. So just because there was no customer outage during that 11-hour period with a complete loss at Moreno doesn't mean we can have a complete loss at Moreno at any time and not have a customer impact." Tr. at 1002:8-20 (Utilities-Bisi).

[301] Resolution G-3535, Attachment A (Letter from Executive Director at 1), http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M200/K095/200095284.PDF.

[302] Sierra Club Opening Brief at 18 (emphasis added).

[303] Exh. SDGE-5 (Kikuts Prepared Testimony at 5:11-8:19).

service, core curtailments will occur <u>more rapidly</u>.[304] A curtailment effort would be executed through the closure of valves in strategic areas of the service territory. Curtailment of large geographic areas is likely to result in gas outages for multiple customer types including residential, commercial, industrial, schools, hospitals, military installations, as well as local county and city government facilities.[305] Because of the risk of explosion, restoring gas service is a lengthy process. When adequate transmission supply returns, and in order to restore these customers, these outage areas would need to be identified, isolated, purged of any air that may have entered the system. This would require a methodical effort of great complexity and resource needs, and could take weeks to complete.[306] Mr. Kikuts testified that, following the core curtailments he described, it would take 200 technicians approximately 53 days to restore service to all core customers and would take 1,000 field employees nearly two weeks.[307] Thus, even a short unplanned Line 3010 outage can cause a multi-week loss of gas service to a wide variety of core and non-core customers who must wait for their zone of the gas system to be methodically and systematically purged of air and the process of reestablishing service to each customer, one by one, completed.

Sierra Club also argues: "Given the remote risk of prolonged unplanned outage of Line 3602, there is a high likelihood that Line 3602, with its associated $2 billion revenue requirement, would constitute a massive ratebased expenditure that provides no actual benefit."[308] Sierra Club's reasoning is flawed. As noted above, proposed Line 3602 will provide operational benefits every day. But more importantly, it will provide reliability every day even if

[304] Exh. SDGE-13 (Rebuttal Testimony at 99:16-19).
[305] Exh. SDGE-5 (Kikuts Prepared Testimony at 8:13-19).
[306] Exh. SDGE-5 (Kikuts Prepared Testimony at 7:12-15).
[307] Exh. SDGE-5 (Kikuts Prepared Testimony at 10:2-18).
[308] Sierra Club Opening Brief at 18.

a Line 3010 or Moreno Compressor Station outage never occurs. In that regard, reliability is like safety. As the Commission recognized: "In the context of an unending obligation to ensure safety, we must also realize that in practical terms safety is exacting, detailed, and repetitive. ... And, in the end, if the goal of safe operations is met, the <u>reward is that absolutely nothing bad happens</u>. In short, safety is difficult, expensive and seemingly without reward."[309] So is reliability.

TURN and Sierra Club also complain that the Proposed Project does not mitigate <u>every</u> risk to reliable gas service for SDG&E's customers, noting that proposed Line 3602 will not mitigate a lack of gas supply from upstream pipelines.[310] That is true, but it is no reason not to mitigate the risk that available gas will not be able to get to San Diego residents, businesses, military installations, and public buildings due to a Line 3010 or Moreno Compressor Station outage.

Sierra Club also argues that proposed Line 3602 is a poor choice to mitigate the risk of a Line 3010 or Moreno Compressor Station outage, arguing that electric projects to increase SDG&E's electricity import limit are the superior choice.[311] Oddly, Sierra Club asserts: "Reasonable resiliency investments are those that are <u>able to mitigate</u> for the more severe consequences of <u>a range of contingencies</u>."[312] Yet, as discussed in Utilities Opening Brief at 64-70 and *supra* at Section IV.C, Sierra Club's electrical proposals, if they were feasible, would still leave San Diego's 3.2 million residents, 30,000 businesses, military installations, and public buildings at risk of losing <u>gas</u> service for weeks or months in the event of a Line 3010 or Moreno

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309 D.12-12-030 at 43 (emphasis added).
310 TURN Opening Brief at 14-15; Sierra Club Opening Brief at 19-20.
311 Sierra Club Opening Brief at 16-17, 20-22.
312 Sierra Club Opening Brief at 20 (emphasis added).

Compressor Station outage.[313] Further, none of the Sierra Club's electric projects, for which Sierra Club relies upon SCGC's testimony, have been shown to be feasible.[314]

Sierra Club also mistakenly claims "the number of hours where demand exceeds the combined maximum import limit of 3,300 MW and 290 MW of in-basin generation (3,590 MW total) is minimal."[315] Sierra Club cites to Mr. Caldwell's testimony, which refers to 3,500 MW.[316] As Mr. Yari explained: "SDG&E's maximum power import capability is 3,500 MW. However, this maximum level is established under operating conditions with in-basin natural gas-fired generation available."[317] "Given realistic operating scenarios where Imperial Valley (IV) area generation at 8:00 PM is about 1,000 MW, SDG&E's system is thermally limited by the S Line. … With the 1,000 MW IV generation operating condition, the SDG&E Import Limit will be 2,500 MW, resulting in a significant number of customers that will need to be shed in the event of a Line 3010 outage."[318]

This is because the S Line thermal limitation "is currently mitigated pre-contingency by limiting the SDG&E import and increasing gas fired generation in the SDG&E basin. Absent gas fired generation, the condition will have to be mitigated by dropping load pre-contingency. SDG&E customer load will need to be dropped immediately after the loss of Line 3010 when the system load is higher than the import capability plus the internal non-gas fired resources. This will be the case almost daily after the sun sets and decreases renewable solar generation in the

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313 *See, e.g.*, Exh. SDGE-13 (Rebuttal Testimony at 122:7-18).
314 Exh. SDGE-13 (Rebuttal Testimony at 122:19-131:2); *supra* at Section IV.C.
315 Sierra Club Opening Brief at 20-21.
316 Sierra Club Opening Brief at 20 & n.99 (citing "Exh. Sierra Club-01, p. 24:2-11 (Caldwell Testimony)").
317 Exh. SDGE-4-R (Yari Prepared Testimony at 14:19-21).
318 Exh. SDGE-13 (Rebuttal Testimony at 105:14-21).

Imperial Valley area."[319] Even assuming Sierra Club's count of "preferred resources" (290 MW vs. 127 MW) can respond during a potential Line 3010 outage, it is a minor difference that will not avoid electric service interruptions on most days of the year.[320] Nor would "further deployment" of "stand-alone voltage support devices"[321] change this result because it is caused by the thermal limitation, not the voltage stability limitation.

"The Utilities do not consider it prudent to rely upon a single pipeline to serve 100% of the demand in San Diego with the deration of Line 1600 to distribution pressure. As previously discussed above, Line 3010 and the Moreno Compressor Station are aged facilities and will experience increased maintenance and integrity issues in the future. With Line 1600 de-rated, core reliability is at risk absent sufficient supply delivered at Otay Mesa with either an outage on Line 3010 or at Moreno Compressor Station. Since supply at Otay Mesa is not always available, the Proposed Project provides the level of reliability that customers need."[322]

In the end, these Intervenors do not deny that a Line 3010 outage could occur and that the consequences of such an outage would be severe. Recognizing that doing nothing is not an appealing option, these Intervenors suggest Otay Mesa Alternatives are a better choice.[323] For the reasons set forth above, the Utilities believe the Otay Mesa Alternatives are not viable. However, the Utilities agree that the focus should be on solutions to the known reliability concerns regarding the SDG&E gas system.

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319 Exh. SDGE-13 (Rebuttal Testimony at 112:4-9); *see generally id.* (Rebuttal Testimony at 111:9-112:20).

320 *See* Exh. SDGE-13 (Rebuttal Testimony at 108, Figure 3). Regarding Sierra Club's count of preferred resources, *see supra* at 21 and Exh. SDGE-13 (Rebuttal Testimony at 107:1-18); Tr. at 247:6-24 (Utilities-Yari).

321 Sierra Club Opening Brief at 21; *Supra* at 46-49.

322 Exh. SDGE-13 (Rebuttal Testimony at 175:15-21).

323 TURN Opening Brief at 16; SCGC Opening Brief at 48-49; Sierra Club Opening Brief at 22; POC Opening Brief at 25.

VIII. SCOPING MEMO ISSUE 7: NEED FOR THE PROPOSED PROJECT AND ENVIRONMENTAL IMPACT

Scoping Memo Issue 7: "Hypothetically, if feasible alternatives have no significant environmental impact, is there a need for the project?"

As set forth in Utilities Opening Brief at 71-73, the Commission's need determination and the Commission's CEQA review are separate and independent processes and analyses. As the Commission recently stated: "The EIR [Environmental Impact Report] does not reach a conclusion as to project need and, indeed, 'project need' is not a CEQA consideration."[324]

SCGC notes that an upgrade of the S Line "might have some environmental impact."[325] As noted above, upgrading the S Line is not a feasible solution because (a) IID, which owns the S Line, is opposed, and (b) an electrical solution to the loss of natural gas-fired EG in the event of a Line 3010 or Moreno Compressor Station outage does not solve the loss of gas service for over 849,000 residential customer meters, 30,000 business customer meters, military installations, and public buildings. However, the Utilities agree that upgrading the S Line would have environmental impacts.

Although not responsive to Scoping Memo Issue 7, POC claims that this Phase 1 proceeding violates CEQA on the grounds that it allegedly will lead to "artificially constrained CEQA project objectives, need determination, and alternatives analysis."[326] POC is mistaken.

A. The Commission's Phase 1 Decision on Safety and Feasibility Will Support, Not Hinder, CEQA Compliance for the Proposed Project

Quoting *Save Tara v. City of West Hollywood* 45 Cal.4th 116, 138 (2008), POC argues that CEQA prohibits the Commission from taking any action that furthers a project "in a manner

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[324] D.16-08-017 at 13-14, n.15.
[325] SCGC Opening Brief at 51.
[326] POC Opening Brief at 27.

that forecloses alternatives of mitigation measures *that would ordinarily be part of CEQA review of that public project*."[327] As described herein, the Commission's Phase 1 Decision will not foreclose consideration of alternatives or mitigation that would normally be part of the CEQA analysis for the Proposed Project. Instead, the Phase 1 Decision will help the Commission comply with CEQA because it will further define the potentially feasible alternatives in light of the Proposed Project's objectives to enhance system safety, reliability, and resilience in the San Diego region.

1. The Commission's EIR Should Only Consider Alternatives that Meet the Proposed Project's Basic Safety and Reliability Objectives

CEQA requires project proponents to formulate project objectives, including the "underlying purpose of the project."[328] These objectives are the foundation for the lead agency's formulation of a reasonable range of project alternatives.[329] Alternatives that are inconsistent or incompatible with a project's central purpose or goals should be excluded from the CEQA analysis.[330] Courts regularly uphold the exclusion of alternatives that do not meet basic project objectives.[331] Similarly, alternatives that would change the fundamental nature of the proposed

[327] POC Opening Brief at 26 (emphasis added).
[328] Cal. Code Regs. tit. 14, § 15124(b).
[329] Cal. Code Regs. tit. 14, § 15124(b).
[330] *In re Delta-Bay*, 43 Cal. 4th 1143, 1165-66 (2008) ("an EIR need not study in detail an alternative that . . . the lead agency has reasonably determined cannot achieve the project's underlying fundamental purpose."); *Mount Shasta Bioregional Ecology Center v. County of Siskiyou*, 210 Cal. App. 4th 184, 197 (2012) (an examination of the alternatives to be considered under CEQA "must begin with the project's objectives, for it is these objectives that a proposed alternative must be designed to meet.").
[331] *See Saltonstall v. City of Sacramento*, 234 Cal. App. 4th 549, 576 (2015) (alternatives that "do not meet project objectives need not be studied even when such alternatives might be imagined to be environmentally superior. Tasked with the study of a proposal to build a new shopping center, a public agency need not study a fruit stand as an alternative."); *Jones v. Regents of Univ. of Cal.*, 183 Cal. App. 4th 818, 826-27 (2010) (Here, if a partial offsite alternative would not meet the project objectives of creating a more campus-like setting and fostering a collaborative work environment, we fail to see how the EIR was deficient in failing to consider a complete offsite alternative.").

project need not be part of the CEQA review for a project.[332]

A central objective for the Proposed Project is to "implement pipeline safety requirements for existing Line 1600 and modernize the system with state-of-the-art-materials." Phase 1 included extensive evidence on the safety of hydrotesting, de-rating, or abandoning Line 1600. These options are potential alternatives to the Proposed Project that could be considered in the Commission's EIR. However, consistent with established California law, if the Commission makes a finding in the Phase 1 Decision that any of these alternatives fail to meet a central project objective of providing San Diego with a safe natural gas system, then such alternatives would not typically be part of the CEQA analysis for the Proposed Project. Accordingly, any such finding will inform the Energy Division and the public about the appropriate alternatives to be analyzed through the Commission's CEQA process.

2. The Commission's EIR Should Only Consider Feasible Alternatives

Furthermore, in preparing a list of potential alternatives, CEQA only requires lead agencies to consider potential alternatives that could "feasibly attain most of the basic project objectives."[333] A CEQA analysis should not include a review of alternatives that are infeasible, unreasonable, or unrealistic.[334] An alternative is considered infeasible if it cannot be accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, legal and technological factors.[335]

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[332] *Al Larson Boat Shop, Inc. v. Bd. of Harbor Comm'rs*, 18 Cal. App. 4th 729, 745 (1993) (the proper scope of alternatives must be "decided in light of the nature of the project . . . ."); *Marin Mun. Water Dist. v. Kg Land Cal. Corp.*, 235 Cal. App. 3d 1652, 1666 (1991) (only alternatives that can satisfy the goals for the project must be analyzed.)
[333] Cal. Code Regs. tit. 14, § 15126.6(a).
[334] Cal. Code Regs. tit. 14, § 15126.6(a), (f)(3); *In re Bay-Delta*, 43 Cal. 4th 1143, 1163 (2008) ("In determining the nature and scope of alternatives to be examined in an EIR, the Legislature has decreed that local agencies shall be guided by the doctrine of 'feasibility.'").
[335] Cal. Code Regs. tit. 14, § 15364.

The Phase 1 Decision also will help Energy Division dismiss infeasible alternatives. Phase 1 included extensive evidence about the feasibility of various options for supplying natural gas to the San Diego region in a safe and reliable manner using Line 1600 and the Otay Mesa receipt point. If any of the proposed alternatives, such as the Otay Mesa alternatives, are not reasonably capable of accomplishment and that can be identified in Phase 1, the Commission should properly exclude such alternatives from the CEQA analysis.

B. The Proposed Project Objectives Are Not Artificially Constrained or Narrowed

The Utilities' project objectives comply with CEQA, as they describe clear project objectives broad enough to allow analysis of a large range of project alternatives. An applicant's project objectives must be sufficiently broad to enable a reasonable range of alternatives as required by CEQA.[336] Additionally, while an applicant may not give a project's purpose an artificially narrow definition, an applicant has discretion in formulating reasonable project objectives.[337] Specifically, the California Supreme Court has explained that deference is given to an applicant's formulation of project objectives.[338]

CEQA requires the Utilities to craft objectives for a proposed project, and they have properly done so here. The safety, reliability, and resiliency objectives are sufficiently broad to allow for a range of potential project alternatives, yet sufficiently tailored to make the Utilities' project objectives clear. Indeed, the Utilities' Proponent's Environmental Assessment (PEA) analyzes nine diverse alternatives to the Proposed Project. The Utilities did not artificially or unreasonably narrow their objectives—the objectives are grounded in important needs of the San

[336] *Bay Area Citizens v. Ass'n of Bay Area Governments*, 248 Cal. App. 4th 966, 1014 (2016).
[337] *In re Delta-Bay*, 43 Cal. 4th 1143, 1166 (2008).
[338] *See, e.g.*, *Cal. Oak Found. v. Regents of the Univ. of Cal.*, 188 Cal. App. 4th 227, 276-77 (2010).

Diego natural gas transmission system: safety and reliability. Thus, these objectives comply fully with CEQA.

C. The Commission's Phase 1 Decision Will Not Constitute "Approval" of a Project

Although POC is correct that a public agency may not "approve" a project prior to conducting CEQA review, POC incorrectly asserts that the Commission's Phase 1 Decision is an "approval" under CEQA. "Approval" is defined as "the decision by a public agency which commits [it] to a definite course of action in regard to a project ...."[339] In *Save Tara v. City of West Hollywood* 45 Cal. 4th 116, 140 (2008), the Court explained that City Council "approved" a project when it committed the City to a definite course of action by: 1) made public announcements that it would proceed with a development; 2) prepared to relocate tenants to facilitate the development; and 3) approved an agreement (not conditioned on CEQA compliance) to make a financial contribution to the project.

Here, unlike in *Save Tara*, a Phase 1 need determination would not commit the Commission to a definite course of action with respect to the Proposed Project. A Phase 1 need determination would not "approve" any specific development. Such a determination would not be a *de facto* approval of any specific project. Instead, it would merely be a determination that there is a need for some project in the San Diego region that meets all or some of the Proposed Project's objectives: enhancing safety, reliability and resiliency, and the operational flexibility of the San Diego natural gas transmission system.

But a Phase 1 Decision would not specify how such objectives and need would be met. It would merely provide important guidance to the Commission as it moves forward evaluating the feasibility of various alternatives and whether those alternatives meet central project objectives.

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[339] Cal. Code Regs. tit. 14, § 15352(a).

Even if the Commission determines that Line 1600 should be de-rated to distribution service for safety reasons, there are other no-build, no project alternatives that could be considered by the Commission. The Commission also could consider other ways to meet the project objectives (such as LNG storage) or pipelines with a completely different route. Because the Commission will retain full ability and willingness to reject or modify the Proposed Project, the Commission's Phase 1 Decision does not constitute "approval" under CEQA.

IX. SCOPING MEMO ISSUE 8: ADDITIONAL CAPACITY FROM PSRP

Scoping Memo Issue 8: "How much additional capacity would be provided by the new 36-inch pipeline under various pressures and system configurations, and what volumes would be transported and from where? (Rule 3.1(k))"

The Utilities' expert, David Bisi, testified that "the additional system capacity that would be provided by the proposed Line 3602 is 200 MMcfd,"[340] and that the nominal system capacity of proposed Line 3602 operating in conjunction with existing Line 3010 would be 830 MMcfd.[341] Mr. Bisi also testified that "the Utilities do not forecast throughput for individual pipelines on its gas transmission system."[342]

A. POC Confuses System Capacity with Pipeline Capacity

In response to this Scoping Memo Issue and Scoping Memo Issue 9, POC asserts:

> As discussed above, the Applicant has not provided sufficient information regarding pipeline capacity or use of gas for the ECA LNG export facility but, in comparison to the North-South Pipeline, the potential capacity of Line 3602 will be at least 800 mmcfd, four times the Applicant's stated capacity of 200 mmcfd to be used in service territory. As discussed elsewhere, Applicant's capacity needs estimates are overinflated, so the excess capacity will ultimately be even greater than 600 mmcfd.[343]

[340] Exh. SDGE-12 (Supplemental Testimony at 80:5-6).
[341] Tr. at 966:8-21 (Utilities-Bisi).
[342] Exh. SDGE-12 (Supplemental Testimony at 80 n.134).
[343] POC Opening Brief at 28.

POC appears to refer back to its earlier assertion: "According to Applicant in the proceeding for the North-South Pipeline, that 36-inch, 63-mile pipeline would have permitted the delivery of 800 mmcfd. The proposed 36-inch Line 3602 pipeline capacity can thus be assumed to be not the 200-300 mmcfd asserted by the Applicant, but at least equivalent to the North-South Pipeline."[344]

POC's assertions are incorrect for a number of reasons.

- First, POC appears to confuse system capacity with pipeline capacity. As Mr. Bisi testified, proposed Line 3602 would add 200 MMcfd to SDG&E's system capacity when operated in conjunction with Line 3010. If Line 3010 were out of service, and Line 1600 de-rated, proposed Line 3602 would support a system capacity of 650 MMcfd.[345]
- Second, the Utilities never stated that the "Line 3602 pipeline capacity" is "200-300 mmcfd," as POC asserts. Rather, Mr. Bisi testified that "the additional system capacity that would be provided by the proposed Line 3602 is 200 MMcfd" and that, if it were extended to Line 3600, which it is not proposed to be, it "would add an additional 100 MMcfd of capacity to the SDG&E system."[346]
- Third, the effort to compare the proposed North-South Pipeline to proposed Line 3602 mistakenly assumes that capacity is determined by pipeline diameter alone. POC cites no evidence for such a claim, which is incorrect as capacity also depends on pressure differential.[347]
- Fourth, POC's suggestion that proposed Line 3602 somehow creates greater capacity for exports to Mexico is wrong. As Mr. Bisi explained, "the calculation of the capacity of the SDG&E system with the Proposed Project was made with the SDG&E system operating between its extremes: maximum operating pressures in the north and minimum operating pressures in the south. If more gas supply is transported to Otay Mesa for delivery to TGN, the pressures on the SDG&E system would fall below the minimum operating pressure requirement, putting service to the SDG&E distribution systems at risk.[348]

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[344] POC Opening Brief at 14 (citing to D.16-07-015 at 10).
[345] Exh. SDGE-3-R (Bisi Prepared Testimony at 8:3-7).
[346] Exh. SDGE-12 (Supplemental Testimony at 80:5-6, 81:6-8) (emphasis added).
[347] D.16-07-015 at 10, cited by POC, simply states: "The proposed North-South Project would be sized to permit the delivery of 800 MMcf/d from the Northern System to the Southern System."
[348] Exh. SDGE-13 (Rebuttal Testimony at 177:10-15).

In sum, POC's assertion, without any citation to evidence, that the "potential capacity of Line 3602 will be at least 800 mmcfd" is mistaken.[349]

B. SCGC Confuses the Utilities' Evidence on Changes in System Capacity

SCGC misunderstands the Utilities' evidence and, as a result, misstates it. SCGC asserts that the Utilities' evidence showed "the capacity to transport gas from Rainbow by installing Line 3602 is not sensitive to Line 1600 operating pressure, staying at 830 MMcf/d when both Line 3010 and 3602 are assumed to be in operation regardless of changes in the MAOP of Line 1600."[350] In fact, as Mr. Bisi testified when asked to explain it by SCGC's counsel: "Because in our proposal for Line 3602 it involved the de-rating of Line 1600. So whatever pressure Line 1600 is currently operating at doesn't matter once you build Line 3602. We're looking at just the capacity of Line 3010 and 3602."[351] Once de-rated, Line 1600 adds no capacity, and the system capacity with Lines 3010 and 3602 is 830 MMcfd.

For that reason, SCGC errs in asserting that, "with Line 1600 assumed to operate at an MAOP of 512 psig, the increase in SDG&E capacity to deliver gas from Rainbow with both Line 3010 and Line 3602 in operation would be 235 (830-595=235) MMcf/d."[352] The Utilities did not testify to the system capacity with Lines 3010, 3602 and 1600 in transmission service.

SCGC also asserts: "Extending Line 3602 to Santee would add an additional 100 MMcf/d capacity from Rainbow for a total gain of 300 MMcf/d, <u>assuming</u> Line 1600 was operating at 640 psig."[353] Mr. Bisi's testimony, however was "a total gain of 300 MMcfd, <u>relative</u> to Line

349 POC Opening Brief at 28.
350 SCGC Opening Brief at 53.
351 Tr. at 966:16-21 (Utilities-Bisi).
352 SCGC Opening Brief at 53.
353 SCGC Opening Brief at 54 (emphasis added) (citing to Exh. SDGE-12 (Supplemental Testimony at 81).

1600 operating at 640 psig."[354] In other words, the comparison was SDG&E's system capacity with Line 3010 and Line 1600 at 640 psig, to SDG&E's system capacity with Lines 3010 and 3602.

C. Sierra Club's Claims Are Mistaken

As SCGC argues above, Sierra Club asserts that the Utilities' "estimates of capacity do not account for the 400 MMcf/d that can be transported north from the Otay Mesa receipt point to the San Diego city gate."[355] Sierra Club's arguments are mistaken for the same reasons. *See supra* at 67-68. The 400 MMcfd receipt point capacity cannot simply be added to system capacity. More importantly, unused Otay Mesa receipt capacity cannot be added to increase SDG&E's system capacity, pretending that 400 MMcf/d of gas is being delivered into SDG&E's system at Otay Mesa and is available for customers, when it is not.[356]

Sierra Club also raises a new issue, contending that, "[d]espite the clear requirement under Commission Rule 3.1(k)(1)(A) that a gas utility seeking authority to construct a new pipeline provide "[a] statement of the volumes to be transported via the proposed pipeline," the Sempra Utilities have failed to provide a forecast of the volume of gas that would be transported by proposed Line 3602."[357] The Sierra Club's claim is out of scope and mistaken.

Citing Rule 3.1(k)(1)(A), the January 22, 2016 Joint Assigned Commissioner and Administrative Law Judge's Ruling Requiring An Amended Application and Seeking Protests, Responses, and Replies (January 2016 Ruling) at 16-17 asked the Utilities to provide: "Ten-Year forecasted (maximum daily and annual average daily volumes in the area to be served by proposed Line 3602, including information on the quality of gas and broken down by customer

[354] Exh. SDGE-12 (Supplemental Testimony at 81:6-8) (emphasis added).
[355] Sierra Club Opening Brief at 27.
[356] Exh. SDGE-13 (Rebuttal Testimony at 77:2-18).
[357] Sierra Club Opening Brief at 28.

type (e.g., core, non-core commercial and industrial, and noncore electric generation).” (Emphasis added). The Utilities did so in their Amended Application at 39-40. In response to the December 22, 2016 Assigned Commissioner And Administrative Law Judge’s Ruling Modifying Schedule And Adding Scoping Memo Questions (December 2016 Ruling), the Utilities did so again in their Supplemental Testimony.[358] No party submitted any testimony contending such information was not responsive.

Sierra Club ignores the January 2016 Ruling and its application of Rule 3.1(k)(1)(A) to the Proposed Project, instead claiming that the Utilities should have submitted “[a] statement of the volumes to be transported via the proposed pipeline.” First, the requested information is not within the scope of this proceeding as identified in the Scoping Memo as modified by the December 2016 Ruling. Second, the January 2016 Ruling modified the Rule 3.1(k)(1)(A) requirement to focus on the forecasted “volumes in the area to be served by proposed Line 3602.” This properly reflects that proposed Line 3602 will be part of SDG&E’s gas transmission system, with interconnections to other pipelines, and thus gas flowing through proposed Line 3602 will vary depending on where demand is located. Third, Sierra Club has the relevant information. With Line 1600 de-rated and Line 3010 out of service, proposed Line 3602 could carry up to 650 MMcfd, depending on pressure and demand. With Line 1600 de-rated and Line 3010 in service, proposed Line 3602 will be part of a system with 830 MMcfd capacity, and flows at any particular time will depend on pressure and demand.

[358] Exh. SDGE-12 (Supplemental Testimony at 158:3-160:3).

X. SCOPING MEMO ISSUE 9: FORECAST DEMAND AND INCREASED CAPACITY

Scoping Memo Issue 9: "How do historical and forecast demand data for the Applicants' systems correspond to the increase in capacity that would be made available by the proposed project? (Rule 3.1(k))"

As set forth in Utilities Opening Brief at 76-78, the Proposed Project is intended to enhance the safety, reliability, and operational flexibility of the Utilities' integrated natural gas transmission system in San Diego, and not "a need for more capacity to serve a growing peak daily demand with all system facilities in service."[359] With Line 1600 de-rated to distribution service, a Line 3010 outage could reduce system capacity to essentially zero, leaving SDG&E unable to meet any reasonable expectation of gas demand for the foreseeable future.

Nonetheless, the Utilities provided the historical and forecast demand data, and responded to certain Intervenors' criticisms of SDG&E's Cold Day Gas Demand Forecast.[360]

SCGC complains that, with proposed Line 3602, SDG&E's system capacity of 830 MMcfd will exceed forecast gas demand and even SDG&E's much higher historical send out of 674 MMcf/d sendout on January 14, 2013.[361] True, but the Proposed Project is not driven by "a need for more capacity to serve a growing peak daily demand with all system facilities in service."[362] With Line 1600 de-rated to distribution service for safety reasons, and Line 3010 out of service, SDG&E's system capacity with Line 3602 would be 650 MMcfd.[363]

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359 Exh. SDGE-12 (Supplemental Testimony at 82:6-12) (emphasis added).
360 Utilities Opening Brief at 78-82.
361 SCGC Opening Brief at 56.
362 Exh. SDGE-12 (Supplemental Testimony at 82:6-12) (emphasis added).
363 Exh. SDGE-3-R (Bisi Prepared Testimony at 8:3-7).

SCGC suggests that SDG&E's system capacity also must include "400 MMcf/d away from Otay Mesa for a total on-system transmission capacity of 1,230 MMcf/d,"[364] and then points out that such a capacity is far greater than forecast demand.[365] As explained *supra* at 67-68 and 84, (a) the two capacities cannot simply be added together and (b) unused Otay Mesa receipt point capacity is not a basis to pretend that an additional 400 MMcfd is available to serve SDG&E's customers when it is not.[366]

Sierra Club states: "Average demand in the San Diego area is expected to be around 309 MMcf/d in 2023, the first year Line 3602 could enter service."[367] The reference to "average demand," however, is not relevant. The Commission's design criteria require the Utilities be able to serve customers on a 1-in-35 year cold day for the core and 1-in-10 year cold day for all customers. The "average demand," meaning demand is higher half the time, is nowhere close. While the Utilities agree with Sierra Club's point that SDG&E's system capacity with the Proposed Project, with all facilities in service, exceeds the current forecast gas demand, it would not with Line 3010 or the Moreno Compressor Station out of service. Addressing that reliability risk, consistent with the Commission direction to plan for such an outage, is one purpose of the Proposed Project.

POC's argument on Scoping Memo Issue 9 was combined with its argument on Scoping Memo Issue 8, and was addressed above under Scoping Memo Issue 8.

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[364] SCGC Opening Brief at 56.
[365] SCGC Opening Brief at 56-57.
[366] *See also* Exh. SDGE-13 (Rebuttal Testimony at 76:5-77:18).
[367] Sierra Club Opening Brief at 28.

XI. SCOPING MEMO ISSUE 10: NEW GAS DEMANDS OUTSIDE APPLICANTS' SERVICE TERRITORIES AND RELATION TO NEED FOR THE PROPOSED PROJECT

Scoping Memo Issue 10: "What new incremental gas demands are proposed, planned, or under consideration in the Applicants' affiliates' service territories (including those owned or proposed by its parent company, Sempra Energy), in Mexico, in other proximate utility service territories, and in the southwest, and how are these incremental demands related to the need for the proposed Line 3602?"

As set forth in Utilities Opening Brief at 82-83, any incremental gas demands <u>outside</u> the Utilities' service territories are not related to the need for proposed Line 3602. "[T]he Proposed Project is needed to: (1) comply with P.U. Code § 958 and D.11-06-017 and enhance the safety of existing Line 1600; (2) improve the Utilities' system reliability and resiliency by minimizing dependence on a single pipeline; and (3) enhance operational flexibility to manage stress conditions by increasing system capacity."[368] The Commission will determine whether these needs warrant authorization of the Proposed Project—not any gas demands that may or may not exist outside of the Utilities' service areas.

Although the Utilities do not forecast gas demand outside of their service territories and are restricted from seeking non-public information about future gas demand from their affiliates, the Utilities also provided the public information they were aware of regarding potential "incremental gas demands" elsewhere.[369] As POC points out, Mr. Borkovich did not testify regarding the potential construction of liquefaction facilities at ECA because he considered

[368] Exh. SDGE-12 (Supplemental Testimony at 90:7-12).
[369] Exh. SDGE-12 (Supplemental Testimony at 90:13-92:8).

"those plans at this point as borderline speculative just based on how LNG is – LNG liquefaction projects are generally getting developed and so forth."[370]

Both SCGC and Sierra Club note the possibility of gas demand from a proposed ECA LNG export terminal in Mexico. Both refer back to their discussion under Scoping Memo Issue 4,[371] and the Utilities have responded there.

POC assails the Utilities' witnesses, claiming they "demonstrated a lack of expertise in this matter or a lack of candor with the Commission in failing to report plans for the Sempra subsidiary-owned ECA LNG export facility in Mexico."[372] POC asserts the Utilities engaged in "omissions, misrepresentations, dodging, hedging, and outright dishonesty in regards to plans for ECA LNG export."[373] POC's hyperbole is not supported by any evidence. POC and the Utilities simply disagree over the likelihood of an ECA liquefaction facility at all and, even assuming such a facility exists in the future, whether shippers would seek to ship gas through SDG&E's gas system to Otay Mesa given the Commission's requirements for OSD service. Further, POC's claim that the Utilities' "true motivation" is OSD export to Mexico is belied by Mr. Bisi's testimony discussed in response to Scoping Memo Issue 4 above: "<u>If more gas supply is transported to Otay Mesa for delivery to TGN, the pressures on the SDG&E system would fall below the minimum operating pressure requirement</u>, putting service to the SDG&E distribution systems at risk."[374]

Nonetheless, POC claims that, until July 14, 2017 oral testimony, "Applicant had provided no information in any of its written testimony, or responses to data requests, or on the

[370] Tr. at 811:13-22 (Utilities-Borkovich).
[371] SCGC Opening Brief at 57; Sierra Club Opening Brief at 29.
[372] POC Opening Brief at 28.
[373] POC Opening Brief at 19.
[374] Exh. SDGE-13 (Rebuttal Testimony at 177:10-15) (emphasis added).

stand about the website or its content."[375] POC apparently refers specifically to the ECA website because POC (and other Intervenors) had <u>long known</u> of the possibility of an ECA export facility. POC's witness, Mr. Powers, discussed the possibility in his stricken testimony.[376] It is not evident why POC believes Mr. Borkovich had an obligation to testify about one particular source of information. Mr. Borkovich certainly was not hiding it—he informed the parties about the website in his oral testimony, at a time when they seemed unaware of it.[377]

POC contends "Borkovich claimed complete ignorance of all aspects of the project including those clearly laid out on the website and those described in the EInova [sic] and SDG&E 10-Ks."[378] To the contrary, Mr. Borkovich's Rebuttal Testimony discusses the possibility, stating: "IEnova recently stated in their 2016 Annual Report that it is continuing to assess the possibility of adding liquefaction to the ECA LNG Terminal, but that its efforts to develop this possibility may prove to be unsuccessful. IEnova identifies several possible reasons not to proceed with the project …."[379] He also explained why shippers to any such facility were unlikely to ship gas across the SDG&E system.[380]

But when it came to the specifics of a potential ECA project, Mr. Borkovich explained the limits of his knowledge. When POC's counsel questioned Mr. Borkovich about an

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375 POC Opening Brief at 15.

376 May 23, 2017 Motion Of San Diego Gas & Electric Company (U 902 G) And Southern California Gas Company (U 904 G) To Strike Portions Of The Reply Testimony Of Bill Powers, P.E. On Behalf Of Protect Our Communities Foundation at 4 (referencing Powers Q&A 5 through 14 and 18); *see also* Exh. Sierra Club-2 at 12, 39 (Utilities' April 7, 2016 response to Sierra Club's DR-1, Q15 confirming a Sempra Energy 2014 presentation that discussed a possible ECA export facility); SCGC-1 (Yap Prepared Testimony. Attachment B at 4, 11).

377 Tr. at 777:7-24 (Utilities-Borkovich).

378 POC Opening Brief at 15.

379 Exh. SDGE-13 (Rebuttal Testimony at 162:19-163:2).

380 Exh. SDGE-13 (Rebuttal Testimony at 163:3-165:4).

agreement between Sempra LNG and various parties regarding an ECA liquefaction facility, Mr. Borkovich stated: "I don't know. I'm not Sempra LNG."[381] He elaborated:

> I provided significant testimony on the limited practicality of using the SoCalGas and SDG&E transportation network to serve any kind of liquefaction project or large incremental load development in Mexico. But no, I'm not privy to the developments at IEnova LNG or Sempra LNG. That's strictly -- by affiliate rules, I'm not allowed to know what their plans are to any great degree. I know as much as almost anybody else in this room in terms of that, in terms of what kind of information I rely upon for that.[382]

POC complains that Mr. Borkovich did not know much about the permit application reported on the ECA website as of July 14, 2017, and accuses him of trying to hide it. To the contrary, as noted, Mr. Borkovich informed the parties about the website in his oral testimony.[383] Mr. Borkovich testified that he had gone "to the ECA website, and alls [sic] I've seen so far is just a project description. I did not see any information presented on permit applications. If I had, I would have tried to follow through on it, but it's news to me."[384] POC has presented no evidence as to when the information about the permit application was posted on the ECA website—it may have been posted after Mr. Borkovich reviewed it or he may have missed it. Either way, Mr. Borkovich testified that it did not alter his opinion that, if an ECA liquefaction facility is built, shippers are not likely to ship across SDG&E's system due to the Commission's OSD rules.[385]

Finally, POC asserts: "One would have to suspend disbelief to accept that Sempra subsidiaries would prefer to pay OSD fees to third parties for import of natural gas from the United States to Mexico for the ECA LNG export terminal, on systems that would need to be

[381] Tr. at 808:12-20 (Utilities-Borkovich).
[382] Tr. at 813:18-814:2 (Utilities-Borkovich).
[383] Tr. at 777:7-24 (Utilities-Borkovich).
[384] Tr. at 814:6-11 (Utilities-Borkovich).
[385] Tr. at 820:5-12 (Utilities-Borkovich).

expanded to provide sufficient capacity, instead of paying those same fees to Applicant, Sempra subsidiaries, on a line that Sempra subsidiaries gain profit by building."[386] To the contrary: (1) whether an ECA export terminal will be built is speculation. (2) The Commission has imposed OSD fees for use of the Utilities' gas system; they do not apply elsewhere. (3) The Commission's OSD rules make OSD service second in priority, *i.e.* less reliable, and any shipper contracting with ECA for liquefaction is unlikely to accept unreliable service when it will have to pay ECA for the reserved liquefaction capacity whether or not the gas arrives.[387] (4) The entities shipping gas to any ECA liquefaction facility may include, but will not be limited to "Sempra subsidiaries" and they will look for the most economic alternative. (5) Any entity seeking to sell LNG for export will be in competition with other LNG suppliers, and will not pay above-market rates to ship gas to any ECA liquefaction facility. In other words, Mr. Borkovich's testimony is credible.

XII. ORA's ATTACKS ON THE UTILITIES' DISCOVERY RESPONSES AND RECORDS ARE UNWARRANTED

Much of ORA's Opening Brief is an attack on the Utilities' integrity and record-keeping, with ORA claiming to identify and document "the multiple instances where SoCalGas/SDG&E rendered evidence unavailable or evaded discovery, regarding their unreliable safety data, as well as the additional examples in the record of their unreliable safety data."[388] The Utilities are disappointed by ORA's allegations and tone, and concerned that ORA's unsupported (and repeated) use of the term "unreliable safety data" risks misleading the public.

It is important to note that the Utilities are regulated by the Commission's Safety and Enforcement Division (SED), which has conducted Transmission Integrity Audits of the

[386] POC Opening Brief at 18-19.
[387] Exh. SDGE-13 (Rebuttal Testimony at 163:3-165:4).
[388] ORA Opening Brief at 10.

Utilities' gas system in 2007, 2013, 2015, and 2016.[389] Further, SED specifically reviewed Line 1600 records at SDG&E's Miramar facility from August 9-11, 2017, including the records used to validate its MAOP. The comprehensive review included segment level analysis of the underlying records that support the pipeline attributes (including joint factor and SMYS), pressure test records, material purchase records, bill of materials and invoices, design data sheets, material test reports, direct examination records, construction drawings, and various other documents. Based on verbal communications during and after the review, it is the Utilities' understanding that SED was satisfied with the Line 1600 records. SED raised no immediate safety concerns as part of the records review.

By contrast, ORA only asked for historical documents supporting the data for six Line 1600 segments and it did not question those documents.[390] Indeed, ORA stated: "ORA does not dispute the assertion that SoCalGas/SDG&E located additional documentation that support the identified [wall thickness and] specified minimum yield strengths for these 6 segments."[391]

The Utilities further note that many of ORA's claims appear to be outside the scope of this proceeding as set forth in the Scoping Memo, as amended. ORA attempts to shoehorn many of its assertions within the scope of Scoping Memo Issue 11, which asks: "At the presently effective 512 psig transmission operating pressure, is Line 1600 in compliance with [various laws and regulations]."[392] Scoping Memo Issue 11, however, asks about compliance at 512 psig. ORA claims that the Utilities lack records to invoke the grandfathering provision of 49 CFR § 192.619(c), lack records to support application of a longitudinal joint factor of 1.0, lack "class

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[389] Exh. SDGE-13 (Rebuttal Testimony at 21:12-14).
[390] Exh. SDGE-13 (Rebuttal Testimony at 13:1-6, 40:1-4, Attachment B-5 at 42-115 (Utilities' Response to ORA DR-84, Q1-Q6 and attached documentation)).
[391] Exh. SDGE-14-C (ORA Response to Utilities DR-12, Q1-Q6).
[392] Scoping Memo at 17.

location studies" that it claims were required, and so forth. ORA did not timely submit qualified testimony on these issues, raising several for the first time in its Opening Brief. The Utilities did not understand the Scoping Memo to contemplate consideration of the Utilities' record-keeping generally, or these issues specifically, and thus did not present testimony directly on such issues. Nonetheless, the Utilities believe sufficient evidence exists to dispose of these issues.

If the Commission wishes SED to again examine the Utilities' Line 1600 records, the Utilities welcome such a review. The Utilities now turn to ORA's allegations.

A. ORA's Request that the Commission Ignore Evidence, and Instead "Assume the Worst Possible Facts Against" the Utilities, Is Contrary to Law and Fact

What ORA is asking is extraordinary. This is <u>not</u> a case where there is no evidence regarding certain facts and a party asks for an adverse inference against a party blamed for the absence of evidence. Instead, this is a case where <u>there is evidence on each point</u>—and ORA asks the Commission to <u>ignore that evidence</u> and infer the "worst possible facts" against the Utilities, even when <u>the factual evidence expressly disproves the inference</u>.

Most of ORA's ire appears to stem from its conscious decision to rely on May 2016 data regarding six segments of Line 1600, rather than the later updated data provided in July and August 2016, in its April 17, 2017 prepared testimony. Although ORA knew that the Line 1600 data for those six segments had changed in the Utilities' later data request responses, ORA elected to rely on the May 2016 responses because it had "lower yield strengths and thinner wall values" for those six segments than the <u>later, updated</u> responses.[393] ORA did not ask the Utilities why the values for those six segments changed until after serving its April 17, 2017 testimony.

[393] *See, e.g.*, Exh. ORA-2 (Skinner Amended Prepared Testimony at 39:18-40:3); *see also* ORA-2 served on April 17, 2017 (Skinner Prepared Testimony at 29:7-13); Tr. at 1178:10-13 (ORA-Skinner) ("As I stated earlier, we chose to use the more conservative safety values in assessing the strength or weakness of Line 1600."); Tr. at 1175:1-22 (ORA-Skinner).

When it did, the Utilities provided the historical records proving the later updated values were correct, as ORA admits.[394] ORA then moved to amend its testimony, to which the Utilities did not object, as at the time it appeared that ORA simply had made a mistake. Now, however, ORA seeks to suppress factual evidence in favor of "adverse inferences" on tenuous claims that its conscious decisions were caused by the Utilities' "misrepresentation." This claim has no merit.

ORA's effort is not supported by law or fact. ORA provides lengthy quotes from *Cedars-Sinai Medical Center v. Superior Court*, 18 Cal. 4th 1 (1998), but overstates its conclusions. ORA states: "The California Supreme Court has found that when a party has rendered evidence unavailable, tribunals should remedy this problem by making the worst possible adverse inferences against that party, meaning assuming the worst possible set of facts against them."[395] The Court, however, as shown even by ORA's quotation, was addressing "intentional spoliation—that is, intentional destruction or suppression—of evidence." *Id*. at 4 (emphasis added). In rejecting a tort remedy for intentional spoliation of evidence, the Court pointed out: "A separate tort remedy would be subject to abuse, for in many cases potentially relevant evidence will no longer exist at the time of trial, not because it was intentionally destroyed but simply because it has been discarded or misplaced in the ordinary course of events." *Id.* at 15.[396]

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[394] Exh. SDGE-14-C (ORA Response to Utilities DR-12, Q1-Q6).
[395] ORA Opening Brief at 11.
[396] The Court noted: "Many corporations and other entities, for example, have document retention policies under which they destroy at stated intervals documents for which they anticipate having no further need. … The mere fact of destruction, however, would permit a disappointed litigant to sue the prevailing party for spoliation, and in many cases the issue of the defendant's purpose in destroying the evidence, like many other issues turning on intent and state of mind, could only be resolved at trial. In this case, for example, plaintiff contends that 'a trier of fact could easily find intentional spoliation of evidence' from the mere fact that defendant hospital no longer possesses the records in question." 18 Cal. 4th at 15-16.

In D.15-04-024, the Commission "applied an adverse inference to the lack of evidence that PG&E was under a duty to maintain."[397] The Commission noted: "[A]s stated in *Reeves v. MV Transportation* (2010) 186 Cal. App. 4th 666, 681: 'In order for an adverse inference to arise from the destruction of evidence, the party having control over the evidence must have had an obligation to preserve it at the time it was destroyed.' Thus, the real question is whether PG&E had a duty or obligation to preserve the documents in question, not whether PG&E reasonably foresaw or anticipated litigation."[398] ORA has not shown that the Utilities destroyed documents that they had a duty to keep, recognizing that federal safety regulations do not retroactively apply to documents discarded before their adoption.

As ORA notes, the *Cedars-Sinai* Court also held: "Destroying evidence in response to a discovery request after litigation has commenced would surely be a misuse of discovery within the meaning of section 2023, as would such destruction in anticipation of a discovery request."[399] ORA presents no evidence of such destruction here.

The Utilities also note that Commission Rule of Practice and Procedure 1.1 provides: "Any person who signs a pleading or brief … by such act … agrees … never to mislead the Commission or its staff by an artifice or false statement of fact or law."

B. The Utilities Have Not Evaded ORA's Data Requests

To support its request for adverse inferences, ORA presents seven examples of what it calls "Rendering of Evidence Unavailable/Evasion." None of which have any merit.

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[397] D.15-04-024 at 212 (emphasis added).
[398] D.15-04-024 at 210.
[399] ORA Opening Brief at 12 (quoting *Cedars-Sinai,* 18 Cal. 4th at 12).

1. ORA Alleged "Evasion" Example 1

ORA asserts: "SoCalGas/SDG&E evaded discovery by stating they used one source of safety information to answer data requests, and not disclosing during discovery that their application was based on a different source of safety information."[400]

ORA's claim that the Utilities "evaded discovery" has no merit. It is true both that the Utilities responded to ORA's data requests using data in their High Pressure Database (HPPD) and documents referenced therein, and that the Utilities reviewed paper documents stored at SDG&E's Miramar facility before filing the Application to establish that Line 1600 operating at an MAOP of 320 psig would reduce its hoop stress to less than 20% SMYS.

As Mr. Schneider explained: "What we did is had records at the Miramar base that were used to identify what MAOP we would have to have, and did the system modeling. So that was the basis that we filed the application. What we used the high pressure database for was for calculating MAOP for the purposes of validation. And that's why when the question came in [from ORA's data request], that HP[P]D was used."[401] ORA's data request did not ask for the documents supporting the Utilities' determination that reducing the MAOP of Line 1600 to 320 psig would reduce its hoop stress to less than 20% SMYS, or where they were located. If ORA had asked, such documents and the information would have been provided. There was no evasion.

ORA then contends: "They then explained for the first time in hearings a continuous and ongoing process by which Miramar data is processed and placed into the High Pressure

[400] ORA Opening Brief at 14.
[401] Tr. at 56:12-27 (Utilities-Schneider).

Database, and this process is being done to update the data on Line 1600."[402] Again, ORA does not identify any ORA data request to which this information was responsive, but not provided.

Moreover, ORA has known, since at least 2011, that the Utilities update conservative values used for insufficiently documented pipeline attributes when additional documentation is found. Mr. Schneider's testimony in the Pipeline Safety Enhancement Plan (PSEP) proceeding, responding to ORA (formerly DRA) claims, said:

> As part of our transmission integrity management program, SoCalGas and SDG&E take into account, as the regulations allow, the records that exist for a pipeline when assessing the integrity of that pipeline. <u>In cases where background information is unavailable, or cannot be supplemented with reliable sources or institutional knowledge, more conservative default values are used</u>.
>
> …
>
> <u>Continuous improvements are made to assigned default values. These updates are accomplished through careful review and verification of existing information, newly discovered documentation</u>, institutional knowledge, and knowledge of the system gained through physical inspection of pipe properties. Specific guidelines to determine, document and incorporate these new values based on vintage, manufacturing type, manufacturer, etc. are part of the program.[403]

The Commission's PSEP Decision expressly recognizes "Compliant miles may change once Phase 2 records review is completed."[404] Since at least 2014, ORA knew that the Utilities maintain transmission line data in the HPPD and that it is updated.[405]

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402 ORA Opening Brief at 14.

403 A.11-11-002, Exh. SCG-18 (Prepared Rebuttal Testimony Of Douglas Schneider at 21:5-17). For the ALJ's convenience, a copy of relevant pages is attached as Attachment A hereto.

404 D.14-06-007, Attachment II at n.4.

405 Exh. ORA-18-R (M. Martinez November 2014 Testimony at MTM-12) ("The HPPD is at the core of all TIMP activities and houses and maintains the data collected for transmission pipelines … Maintenance of the HPPD is required to continuously reflect changes in the pipeline system …"); *see also* Exh. SDGE-13 (Rebuttal Testimony, Attachment B-2 (Utilities Response to ORA DR-19, Q6, providing Utilities Response to SED DR 3, Q3, which states "As mentioned in SED DR 2, there are still some projects being entered into the database").

ORA also attended a May 2015 workshop at which the Utilities explained: "Engineering based values are used to populate the attributes yet to be verified" and "Where the pipe attribute information is yet to be verified, the information is populated using Decision Tree values."[406] Obviously, when pipe attribute information is verified, the "engineering based values" are updated.

ORA also was reminded of the Utilities' practice in this proceeding before serving its prepared testimony in April 2017. SED DR-3, Q2, served on ORA on July 15, 2016, asks for "any unknown pipeline characteristics identified and any assumed values detailed" and the response identifies a "DT" value.[407] The Utilities' November 18, 2016 response to ORA DR-46, Q4, explained the use of "DT" conservative values for a Line 1600 segment.[408]

In short, ongoing records review and updating the Utilities' HPPD was no secret. The Utilities' use of paper records from its Miramar facility, and updating the HPPD with such records when appropriate, is not destruction or suppression of evidence. It is simply evidence that is <u>contrary</u> to ORA's untrue claim that, "[a]t the time SoCalGas/SDG&E filed their application to derate Line 1600 and build Line 3602, at least approximately 0.5 miles of Line 1600 did not have certain safety information that was traceable, verifiable, and complete."[409] At hearings, ORA's witness admitted that what he really meant is "that the utilities had not entered

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406 The Utilities do not consider how and when the Utilities update the HPPD, rather than actual pipeline attributes, to be within the scope identified in the Scoping Memo, as amended. Given that ORA raised this issue in its Opening Brief, the Utilities attach as Attachment B a copy of the Utilities' May 2015 powerpoint presentation, and the quotations are on slides 6 & 7.

407 Exh. SDGE-13 (Rebuttal Testimony, Attachment B-2 at 17-20).

408 Exh. SDGE-13 (Rebuttal Testimony, Attachment B-8 at 121); *see also id.* (Rebuttal Testimony, Attachment B-9 at 123 (Utilities December 14, 2016 Response to ORA DR-54, Q4) (responding about updates to HPPD).

409 Exh. ORA -2 (Skinner Amended Prepared Testimony at 3:3-5). ORA switched to this argument in its June 6, 2017 Amended Testimony, <u>after</u> the Utilities already provided the historical documents proving the wall thickness and SMYS of the six challenged segments. Exh. SDGE-13 (Rebuttal Testimony, Attachment B-5 at 43-115 (Utilities May 22, 2017 Response to ORA DR 84).

those particular values for those segments into their high pressure database at the time that they had filed the application."[410] ORA may have been unaware that some documents are stored at "Miramar" or that updates "through careful review and verification of existing information" were made to Line 1600 information. But ORA did not ask for that information. There is nothing improper about updating information in the HPPD to reflect verified documentation, and the process has been known to the Commission since 2011.

ORA also asserts: "SoCalGas/SDG&E also disclosed during hearings that the Utilities were aware that the MAOP information provided to the Commission did not fully reflect the records available to them."[411] This is a peculiar claim. ORA's counsel was asking about a June 13, 2016 response to SED DR-3, Q2, which provided a table of Line 1600 pipeline attributes.[412] The alleged information not provided in that response was the correct MAOP calculations, which were provided to SED in an August 2, 2016 update.[413] The August 4, 2016 email to ORA explained: "SDG&E and SoCalGas discovered an error in the MAOP calculator it utilized to produce the report in SED DR 3 Q2 and resubmitted the attachment to SED this week. The error was limited to the design pressure 192.619(A1) calculation and has been corrected. The pipe segment records highlighted in light green have been updated."[414]

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410 Tr. at 1189:21-26 (ORA-Skinner).
411 ORA Opening Brief at 14 (citing "EH Tr. 071317 at p. 648:21-24 (Sera)").
412 Tr. at 647:23-648:17 (Utilities-Sera); *see* Exh. SDGE-19-C (Utilities Response to ORA DR-19, Q6, providing Utilities Response to SED DR 3, Q3). The same response is referred to by ORA's counsel, Tr. at 620:21-621:2, as part of Exh. ORA-19-C (it is toward the back of the packet).
413 *See* Exh. SDGE-21-C (Utilities August 4, 2016 email providing an updated August 2, 2016 Utilities Response to SED DR-3).
414 Exh. SDGE-21-C (Utilities August 4, 2016 email providing an updated August 2, 2016 Utilities Response to SED DR-3).

In his oral testimony, Mr. Sera explained the cause of the error, how it was discovered, and how it was fixed.[415] This information also was provided to ORA in the Utilities Response to ORA DR-92, Q1.[416] For purposes of ORA's claim here, the relevant part is:

> In responding to SED DR-3, Q2, Applicants exported Line 1600 attributes to the preestablished report template, which then assigned an LJF and calculated MAOPs under Section 192.619(a). The resulting table was provided to SED on <u>June 13, 2016</u>. <u>On July 29, 2016, ORA asked Applicants to amend this table</u> and add longitudinal joint factor as well as additional detail about class information as part of ORA DR 25 Q1.
>
> The SED table was amended, but <u>during the process of validating the data it was noted that in some instances the MAOP calculator was utilizing overly conservative joint factors that did not reflect available records containing reliable data</u> that should be applied in place of assigned conservative values. As a result, updates to the HPPD were made to include these additional records. Simultaneously, it was discovered that there were <u>database limitations affecting the result</u>. Specifically, there were instances where purchase records documented the pipe had a joint factor of 1.0, but the long seam type was not indicated (either ERW or seamless). The lack of specificity prevented the assignment of a long seam value in the HPPD because the long seam domain was limited to only accept specific entries resulting in a null HPPD entry for the long seam attribute. The null entry then prompted the MAOP calculator to utilize a conservative default value of 0.8.
>
> As a result, Applicants used the HPPD data (the longitudinal long seam attribute) and its <u>subsequent research to manually add</u> the longitudinal joint factor to the table produced for ORA and SED, and <u>provided an amended response to SED DR-3, Q2 on August 2, 2016 (and to ORA on August 4, 2016)</u>.[417]

ORA's counsel then asked:

> Q Yes, clarifying we're talking about at the SoCalGas, SDG&E proposed maximum allowable operating pressure of 320 psig. With that in mind, <u>were you aware in June 2016</u> the response to SED showed that multiple segments operated above 20 percent SMYS?
>
> MR. RAUSHENBUSH: Based solely on the data contained in the response, is that what you're asking?

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415 Tr. at 635:27-638:7 (Utilities-Sera).

416 Exh. ORA 24 (Utilities Response to ORA DR-92, Q1).

417 Exh. ORA 24 (Utilities Response to ORA DR-92, Q1), quoted by Mr. Sera at Tr. at 635:27-638:7.

> MR. GRUEN: Q Based solely on the data contained in the response --
>
> A No, it was through providing the response and subsequently working on additional data request responses between -- after June that we became aware of sections of Line 1600 calculating at above 20 percent SMYS and using 320 pounds.[418]

In sum, ORA is complaining that the Utilities learned that their June 13, 2016 response to SED DR-3 was incorrect due to "how the MAOP calculator was producing a result" sometime after July 29, 2016, when the Utilities were researching a response to ORA's July 29, 2016 DR-25, and did not provide a correction to SED until August 2, 2016, less than four days later.

2. ORA Alleged "Evasion" Example 2

ORA asserts: "SoCalGas/SDG&E rendered evidence unavailable by representing that the grandfather clause applied to establish the MAOP along certain parts of Line1600, but did not keep the actual records needed to show this."[419] ORA is referring to "49 CFR Section 192.619(c), also known as the 'grandfather clause', which allows establishing MAOP based upon highest actual operating pressure from 1965-1970."[420] ORA claims "Applicants lack the substantiating records to show their highest actual operating pressure during that time was 800 psig,"[421] To support this claim, ORA cites to the Utilities Response to ORA DR-14, Q2.

In that Data Request, ORA asked: "Please provide a copy of the pressure log used to establish the Maximum Allowable Operating Pressure of Line 1600" and for the "maximum in service pressure experienced by Line 1600 between 1965 and 1970." The Utilities' response, in part, states: "The review completed during the time period was transcribed into summary sheets and pressure logs were not preserved. Attached is a filing made at the CPUC in 1968 that

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418 Tr. at 648:1-17 (Utilities-Sera) (emphasis added).
419 ORA Opening Brief at 15.
420 ORA Opening Brief at 15.
421 ORA Opening Brief at 15.

summarizes the review completed and documents the highest operating pressure to be 812 psig each winter."[422] The 1968 CPUC filing is attached to the response.

ORA's attack is without merit. First, the Utilities did not "render[] evidence unavailable"[423] in this proceeding—ORA is simply complaining that pressure logs for the time period before 1970 were not preserved. Second, the Utilities provided a 1968 Commission filing substantiating the maximum pressure experienced by Line 1600 in the 1965 to 1970 time period. Nothing in 49 CFR § 192.619(c) requires a specific type of record, or even a record, but rather refers directly to the segment's "highest actual operating pressure" between July 1, 1965 and July 1, 1970.[424]

ORA implies that <u>only</u> pressure logs suffice as records supporting "grandfathering," but the <u>Commission has found otherwise</u>. In D.16-08-020, the Commission expressly rejected the same argument by SED, finding that pressure logs are not required to establish the MAOP under the grandfather clause. In that Decision, the Commission discussed the regulation, PHMSA's interpretation of the necessary substantiation, and PG&E's practice since 1978 of "using pressure logs or other records, where available, and <u>accepting sworn statements</u> from its personnel or successful leak test records … to establish highest actual operating pressure as required by 49 CFR § 192.619(c)."[425] The Commission found:

> We conclude that SED has failed to meet its burden of proving by a preponderance of the evidence that PG&E violated 49 CFR § 192.619(c) by failing to have paper records of highest actual operating pressure for 243 distribution lines after 1970. The <u>plain words of 49 CFR § 192.619(c) do not require paper records</u>, although PG&E concedes that paper records

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422 Exh. ORA-02-SA at 50 (Utilities Response to ORA-DR-14, Q2a).
423 ORA Opening Brief at 15.
424 49 CFR § 192.619(c) ("An operator may operate a segment of pipeline found to be in satisfactory condition, considering its operating and maintenance history, at the highest actual operating pressure to which the segment was subjected during the 5 years preceding the applicable date in the second column of the table in paragraph (a)(3) of this section").
425 D.16-08-020 at 33 (emphasis added).

> of pressure logs or similar documents are the type of evidence they preferred to use to demonstrate highest actual operating pressure between 1965 and 1970. Nevertheless, <u>49 CFR § 192.619(c) does not specify actual copies of written pressure records</u>.[426]

In short, ORA's claim rests upon the assertion that the 1968 Commission filing is not a "substantiating" record, even though it was contemporaneously prepared and filed as required by Commission Decision No. 73223.[427] The Utilities disagree and note that the sufficiency of the 1968 Commission filing has not been challenged for nearly 50 years. Further, if it were in scope or ORA had challenged its adequacy earlier, the Utilities would have put additional documents in evidence.[428] The Utilities have not "rendered evidence unavailable" to prove application of the grandfather clause—rather, the Utilities provided such evidence.

3. ORA Alleged "Evasion" Example 3

ORA asserts: "SoCalGas/SDG&E revealed that they rendered evidence unavailable and evaded discovery when they first admitted that they altered their assumed safety information in their High Pressure Database when they were asked by Commission staff to provide it during the course of this proceeding. They further admitted that they concealed making such alterations and did not reveal making them until a time after intervenors' testimony was due.[429] In footnote 39 of its Opening Brief, ORA refers to the Utilities' Rebuttal Testimony about updating the HPPD from conservative, engineering-based wall thickness, and SMYS values to actual documented values. In footnote 38 of its Opening Brief, ORA refers to the Utilities updating the

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[426] D.16-08-020 at 33 (emphasis added).
[427] Exh. ORA-02-SA at 50 (Utilities Response to ORA-DR-14, Q2a, Attachment).
[428] The Utilities do not consider the adequacy of the substantiating records for Line 1600's grandfather pressure to be within the scope identified in the Scoping Memo, as amended. Given that ORA has first raised this issue in its Opening Brief, the Utilities attach as Attachment F hereto several additional documents found in a quick review. These 1971 inspection reports for mains off of Line 1600 refer to the "last inspection date" in April and May 1970, and the "upstream pressure" as being 800 psig during those inspections.
[429] ORA Opening Brief at 15-16.

long seam attribute field in the HPPD to reflect available records. In neither case did the Utilities make "evidence unavailable," "evade[] discovery," or "alter" safety data.[430]

First, as discussed in response to ORA Example 1 above, the Utilities updated conservative values in their HPPD for wall thickness and SMYS with actual documented values. As explained in the Utilities Response to ORA DR-84: "As discussed above, the High Pressure Database was updated from conservative default values for certain segments to actual values for those segments between the May 12, 2016 response to ORA DR-06, Q12 and the June 13, 2016 response to SED DR 3, Q2, a copy of which was provided to ORA in Applicants' July 15, 2016 response to ORA DR 19 and subsequently resubmitted to ORA on August 4, 2016 following an August 2, 2016 amended response to SED DR 3 Q2."[431]

The Utilities Rebuttal Testimony notes: "The Utilities have an established procedure for updating the database and a tracking system for work to be completed. Database updates can be in the queue for an extended period before the database is updated. Normally, because <u>conservative default values add a margin of safety</u>, updating the HP Database with documented values is not given priority over other tasks. When the Utilities received the ORA and SED data requests, the Utilities made updating the database for Line 1600 a higher priority. Once it was updated, the Utilities provided that data to both SED and ORA."[432]

As discussed in detail in response to ORA's Example 1 above, ORA has known since Mr. Schneider's 2011 PSEP testimony: "Continuous improvements are made to assigned default values. These updates are accomplished through careful review and verification of existing information, newly discovered documentation, institutional knowledge, and knowledge of the

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[430] ORA Opening Brief at 15.
[431] Exh. SDGE-13 (Rebuttal Testimony, Attachment B-5 at 63 (Utilities Response to ORA DR 84, Q11).
[432] Exh. SDGE-13 (Rebuttal Testimony at 16:9-15) (emphasis added).

system gained through physical inspection of pipe properties."[433] ORA also knows this through the May 2015 workshop at which the Utilities explained: "Engineering based values are used to populate the attributes yet to be verified" and "Where the pipe attribute information is yet to be verified, the information is populated using Decision Tree values."[434] 2016 data requests and responses in this proceeding reminded ORA of this practice.[435] It was not a secret.

ORA claims that the Utilities "rendered evidence unavailable," "evaded discovery," and "altered their assumed safety information."[436] As ORA admits, the <u>updated data was provided</u> to both SED and ORA.[437] There is no dispute that the updated data is accurate and supported by historical documentation, as ORA admits.[438] The Utilities do not agree that updating conservative values with actual documented values, just as the Utilities have told the Commission they would do, is "altering" safety data. Finally, the Utilities did not evade discovery. The Utilities provided the updated data to ORA on July 15, August 2, and August 12, 2016.[439] ORA did not serve discovery asking about the updates until ORA DR 84, served nine months later on May 5, 2017, and the Utilities responded in full.

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[433] A.11-11-002, Exh. SCG-18 (Prepared Rebuttal Testimony of Douglas Schneider at 21:5-17). For the ALJ's convenience, a copy of relevant pages is attached as Attachment A hereto.

[434] The Utilities do not consider how and when the Utilities update the HPPD, rather than actual pipeline attributes, to be within the scope identified in the Scoping Memo, as amended. Given that ORA raised this issue in its Opening Brief, the Utilities attach as Attachment B hereto a copy of the Utilities' May 2015 PowerPoint presentation, and the quotations are on slides 6 & 7.

[435] Exh. SDGE-13 (Rebuttal Testimony, Attachment B-2 at 17-20, Attachment B-8 at 121, Attachment B-9 at 123.

[436] ORA Opening Brief at 15-16.

[437] If ORA is complaining that it does not have the "assumed safety information," rather than the actual values, it does. As explained in Utilities Response to ORA DR 84, the Utilities May 12, 2016 response to ORA DR-6, Q12, had the assumed values. Exh. SDGE-13 (Rebuttal Testimony, Attachment B-5 at 63 (Utilities Response to ORA DR 84, Q11). The Utilities consider the actual values more important.

[438] ORA asked for and was given the historical documents for the six updated segments, and stated: "ORA does not dispute the assertion that SoCalGas/SDG&E located additional documentation that support the identified [wall thickness and] specified minimum yield strengths for these 6 segments." Exh. SDGE-14-C (ORA Response to Utilities DR-12, Q1-Q6).

[439] Exh. SDGE-13 (Rebuttal Testimony at 9:4-12:11, 15:316:1).

Second, also as discussed in more detail in response to ORA Example 1 above, the Utilities' July 12, 2017 Amended Response to ORA's June 22, 2017 DR-94, Q1, explained that a limitation in the HPPD's long seam attribute field resulted "in some instances [where] the MAOP calculator was utilizing overly conservative joint factors that did not reflect available records containing reliable data that should be applied in place of assigned conservative values."[440] The Utilities learned their June 13, 2016 response to SED DR-3 was incorrect due to "how the MAOP calculator was producing a result" sometime after July 29, 2016, when the Utilities were researching a response to ORA's July 29, 2016 DR-25, and provided a correction to SED on August 2, 2016 and to ORA on August 4, 2016.

Again, ORA claims that the Utilities "rendered evidence unavailable," "evaded discovery," and "altered their assumed safety information."[441] To the contrary, the Utilities provided the corrected information within days of learning of the error, responded fully to discovery when asked, and did not "alter" safety information by fixing an error.

4. ORA Alleged "Evasion" Example 4

ORA asserts: "SoCalGas/SDG&E rendered evidence unavailable because they stated they performed class location studies on Line 1600. When ORA requested SoCalGas/SDG&E to provide the required class location safety studies, Applicants stated they did not keep them."[442] ORA's complaint rests on its assertion: "SoCalGas/SDG&E were required to keep these class location studies, including information showing the physical condition of the studied Line 1600 segments, and the operating and maintenance history of the studied Line 1600 segments."[443]

[440] Exh. ORA 24 (Utilities Response to ORA DR-92, Q1), quoted by Mr. Sera at Tr. at 635:27-638:7.
[441] ORA Opening Brief at 15-16.
[442] ORA Opening Brief at 16.
[443] ORA Opening Brief at 16 (footnotes omitted).

ORA is mistaken. ORA cites to 49 CFR § 192.611. Section 192.611(a) provides: "If the hoop stress corresponding to the established maximum allowable operating pressure of a segment of pipeline is not commensurate with the present class location, and the segment is in satisfactory physical condition, the maximum allowable operating pressure of that segment of pipeline must be confirmed or revised according to one of the following requirements." (Emphasis added). If hoop stress corresponding to the established MAOP is commensurate with the present class location, then the "following requirements" do not apply.

As the Utilities explained to ORA, the "hoop stress corresponding to the established [MAOP]" of the Line 1600 segments in fact are "commensurate with the present class location." The determination whether the hoop stress under the existing MAOP is "commensurate with the present class location" is governed by the determination of hoop stress under the established MAOP pursuant to Barlow's Equation,[444] and 49 CFR § 192.111, which provides the design factor for Class 1 (0.72 or 72%), Class 2 (0.60 or 60%), Class 3 (0.50 or 50%) and Class 4 (0.40 or 40%). The calculated hoop stress at the established MAOP is compared to the hoop stress at the design pressure for the relevant class location calculated under 49 CFR § 192.105. If the former is less than the latter, then the hoop stress under the existing MAOP is "commensurate with the present class location."

ORA first asked about class location changes in ORA DR-6, Q18 and were informed: "Yes, the pipeline has undergone class location changes since installation. The entire pipeline operates at a stress level that is less than 50% of SMYS and would be commensurate for class 1, 2 and 3 areas. As such, there would be no need for a change in the percentage of SMYS from a

[444] PHMSA has confirmed that the determination of hoop stress in Section 192.611 is "the actual stress produced by a given internal gas or liquid pressure in a pipeline and would be calculated using 'Barlows' formula. This calculation would not involve the use of the de-rating factors specified in §192.105 Design Formula for steel pipe." Exh. SDGE-39 (PHMSA PI-79-035).

change in class location between class 1, 2 and 3 for Line 1600."[445] In ORA DR-25, Q1, ORA asked that class location changes be added to the table of Line 1600 data provided to SED in June 2016. The Utilities did so, also updating the table with the correction made on August 2 and sent to ORA on August 4. The Line 1600 data table shows all segments at or below 39% SMYS at 640 psig.[446]

In ORA DR-25, Q7(e), ORA asked: "Did any segment of Line 1600 ever experience a hoop stress corresponding to the established [MAOP] that was not commensurate with the present class location?" The Utilities responded: "No, as previously stated, segments operating at or below 50% SMYS are commensurate with Class 1, Class 2 and Class 3."[447] In ORA DR-25, Q7(g), ORA asked: "Please provide all of the class location studies, including the study results, and the action SoCalGas/SDG&E took to confirm or revise the [MAOP]." The Utilities explained: "as previously stated segments operating at or below 50% SMYS are commensurate with Class 1, Class 2 and Class 3 and require no action to confirm or revise the MAOP."[448]

The Utilities previously discussed 49 CFR § 192.611 and what it means to be "commensurate with the present class location" with both ORA and SED. Because "the hoop stress corresponding to the established [MAOP] of a segment of pipeline" is "commensurate with the present class location," the Utilities do not proceed further under Section 192.611 and do not prepare a study to "confirm[] or revise[]" the established MAOP. As the MAOP is unaffected by a determination that a pipe segment is "commensurate" with a new class location under the established MAOP, and Section 192.611 is inapplicable, the Utilities do not understand the federal safety regulations to require keeping a record of such a determination.

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445 Exh. SDGE-32 (Utilities Response to ORA DR-25, ORA "Background Information" for Q1).
446 Exh. SDGE-32 (Utilities Response to ORA DR-25, Q1 and Table).
447 Exh. ORA-02-SA at 56 (Utilities Response to ORA DR-25, Q7(e)).
448 Exh. ORA-02-SA at 56 (Utilities Response to ORA DR-25, Q7(g)).

49 CFR §192.609 provides: "Whenever an increase in population density indicates a change in class location for a segment of an existing steel pipeline operating at a hoop stress that is more than 40 percent of SMYS, or indicates that the hoop stress corresponding to the established maximum allowable operating pressure for a segment of existing pipeline is not commensurate with the present class location, the operator shall immediately make a study to determine" various things.

Nothing in 49 CFR § 192.609 requires retention of such studies. ORA cites PHMSA Interpretation #PI-14-0005, issued on January 23, 2015, which asserts: "Sections 192.517 and 192.603 require that all records regarding the pipeline MAOP determination be kept for the life of the pipeline segment, including … class location studies."[449] If a class location study had resulted in a determination under 49 CFR § 192.611 that a segment was not "commensurate" with a new class location under the established MAOP, then confirmation or revision of the MAOP would have been required, and a record kept. But that did not happen since Line 1600 has operated at a stress level below 50% SMYS (0.5 Design Factor) since it was originally constructed. 49 CFR § 192.517 is inapplicable to class location studies on its face since it is specific to pressure test records. 49 CFR § 192.603(b) provides: "Each operator shall keep records necessary to administer the procedures established under §192.605." But the procedures listed under § 192.605 do not include class location studies under § 192.609 and retaining studies that determine that a segment is "commensurate" with a new class location is not necessary to operate or maintain the system.

[449] Exh. ORA-2-SA at 187.

5. ORA Alleged "Evasion" Example 5

ORA asserts: "SoCalGas/SDG&E rendered evidence unavailable and evaded discovery by representing they had all Line 1600 safety information, such as joint types, wall thicknesses, and yield strengths, when they did not, and they did not disclose this fact until hearings, then acknowledging that they altered their assumed safety information in order to answer discovery."[450]

ORA's claims have no merit. First, ORA misconstrues D.11-06-017, claiming: "Pursuant to D.11-06-017, once the MAOP validation effort was completed, SoCalGas/SDG&E would have 'traceable, verifiable and complete records readily available.'"[451] ORA pulls a few words from D.11-06-017, but neglects the rest of the paragraph:

> We order all California natural gas transmission pipeline operators to prepare Implementation Plans to either pressure test or replace all segments of natural gas pipelines which were not pressure tested or lack sufficient details related to performance of any such test. These plans should provide for testing or replacing all such pipeline as soon as practicable. At the completion of the implementation period, all California natural gas transmission pipeline segments must be (1) pressure tested, (2) have traceable, verifiable, and complete records readily available, and (3) where warranted, be capable of accommodating in-line inspection devices.[452]

In short, the Utilities must have traceable, verifiable, and complete records of pressure testing available at the end of the "implementation period," not the "MAOP validation effort."

With respect to the MAOP validation process, the Commission recognized that historical records may not be available for every component of every pipeline. Even though federal safety regulations did not require pipelines placed in service before 1970 to be pressure tested, the Commission concluded: "Natural gas transmission pipeline operators should be required to

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450 ORA Opening Brief at 16-17.
451 ORA Opening Brief at 17 (footnotes omitted).
452 D.11-06-017 at 19-20 (emphasis added).

replace or pressure test all transmission pipeline that has not been so tested."[453] With respect to validating MAOPs, the Commission specifically found:

> PG&E should be required to complete its MAOP determination based on pipeline features and <u>should be allowed to use engineering-based assumptions</u> for pipeline components where complete records are not available. Such assumptions must be clearly identified, based on sound engineering principles, and, where ambiguities arise, the assumption allowing the greatest safety margin must be adopted. The calculated values should be used to prioritize segments for interim pressure reductions and subsequent pressure testing.[454]

The Utilities informed ORA:

> Applicants completed the MAOP validation process as outlined by the Pipeline and Hazardous Materials Safety Administration (PHMSA) in June 2013. The segments involved in the ORA DR-84 data request did not impact the validated MAOP determination of Line 1600. The segments from ORA DR-84 Questions 1-3 using conservative wall thickness and grade values validated the MAOP of 640 psig and the segments from ORA DR-84 Questions 4-6 are qualified to be grandfathered.

In sum, ORA misconstrues D.11-06-017 to suggest that the Utilities were to have reliable records of pressure testing upon completion of the MAOP validation process and before the end of the PSEP implementation period.

Repeating its complaints from ORA Alleged "Evasion" Examples 1 and 3 about the Utilities' use of conservative, engineering-based assumptions until updated with documented values, ORA contends: "To ORA's knowledge, on May 22, 2017, SoCalGas and SDG&E disclosed for the first time that they used 'default values' on multiple portions of Line 1600 and for the first time, admitted to using 'conservative' safety values for wall thickness and yield strength on Line 1600 on June 2, 2017 and that they 'intended to confirm this assumption before de-rating Line 1600.'"

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[453] D. 11-06-017 at 27-28.
[454] D.11-06-017 at 28 (Conclusion of Law 1) (emphasis added).

As set forth in more detail in response to ORA Example 1 above, ORA has known since at least Mr. Schneider's 2011 PSEP testimony that the Utilities use conservative, engineering-based values where "where background information is unavailable, or cannot be supplemented with reliable sources or institutional knowledge. Continuous improvements are made to assigned default values. These updates are accomplished through careful review and verification of existing information, newly discovered documentation, institutional knowledge, and knowledge of the system gained through physical inspection of pipe properties."[455] The Commission approved a similar approach for PG&E in D.11-06-017.[456] ORA also attended a 2015 workshop where the Utilities' approach was explained."[457]

ORA also knew that the Utilities used "default values" on Line 1600. SED DR-3, Q2, served on ORA on July 15, 2016, asks for "any unknown pipeline characteristics identified and any assumed values detailed" and the response identifies a "DT" value.[458] The Utilities' November 18, 2016 response to ORA DR-46, Q4, explained the use of conservative "DT" values for a Line 1600 segment in detail.[459] What ORA may not have known until May 22, 2017

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455 A.11-11-002, Exh. SCG-18 (Prepared Rebuttal Testimony Of Douglas Schneider at 21:5-17). For the ALJ's convenience, a copy of relevant pages is attached as Attachment A hereto.

456 D.11-06-017 at 30 ("Pacific Gas and Electric Company must complete its Maximum Allowable Operating Pressure determination based on pipeline features and may use engineering-based assumptions for pipeline components where complete records are not available. Such assumptions must be clearly identified, based on sound engineering principles, and, where ambiguities arise, the assumption allowing the greatest safety margin must be adopted.").

457 The Utilities do not consider how and when the Utilities update the HPPD, rather than actual pipeline attributes, to be within the scope identified in the Scoping Memo, as amended. Given that ORA raised this issue in its Opening Brief, the Utilities attach as Attachment B hereto a copy of the Utilities' May 2015 powerpoint presentation, and the quotations are on slides 6 & 7.

458 Exh. SDGE-13 (Rebuttal Testimony, Attachment B-2 at 17-20).

459 Exh. SDGE-13 (Rebuttal Testimony, Attachment B-8 at 121) ("During this process Applicants identified that the segment that was ordered to be replaced under Resolution SED-01 had limited information regarding the wall thickness and grade as part of the installation work order. However, using this limited information combined with Applicants' engineering design standards, materials and standards catalogs, material requisitions and purchase orders, Applicants were able to establish conservative minimum values for wall thickness and grade and prefixed them "DT" to indicate additional data research or nondestructive testing should be completed.").

is which Line 1600 segments, at the time of the Utilities' May 12, 2016 response to ORA DR-6, Q12, used conservative DT values—but, as set forth in response to ORA Example 6 below, it knew shortly after receiving the updated data in July 2016 that the values for the six segments it challenged had changed and consciously avoided asking why until its May 5, 2017 ORA DR-84.

Further, ORA takes the Utilities' statement about an intent "to confirm this assumption before de-rating Line 1600" out of context. The Utilities were responding to ORA DR-89, Q1, which sought detailed information about what values were in the HPPD and when for each attribute of every Line 1600 segment. The Utilities objected, pointing out that the Utilities' response to ORA DR-84 provided the historical documents supporting the updated values for the six (then seven) segments ORA challenged. The Utilities then explained:

> ORA appears to seek information regarding why Applicants concluded that de-rating Line 1600 to a 320 psig MAOP would result in all segments being under 20% SMYS, thus rendering Line 1600 a distribution line under 49 CFR § 192.3, at a time when the High Pressure Database still contained conservative default values for certain segments of Line 1600. <u>Based upon what was known about Line 1600's construction, maintenance and operation, Applicants were confident that the weakest segments were constructed in 1949 using the original A.O. Smith pipe (wall thickness 0.250 and yield strength of 52,000) and that later installed segments were built to withstand equal or greater pressures (with equivalent or greater wall thickness and/or yield strength).</u> Applicants <u>intended to confirm this assumption</u> before de-rating Line 1600, if approved by the Commission, either through records review and/or field data collection, nondestructive testing or destructive testing; if the assumption was not correct, then Applicants would have replaced the pipe segments before de-rating Line 1600.
>
> Applicants note that following the removal of the pipe segment for engineering stations 17-131, and the subsequent testing of the pipe segment, it was determined that it had the attributes of the original A.O. Smith pipe (wall thickness 0.250 and yield strength of 52,000), as anticipated, also confirming the conservatism of the interim values.[460]

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[460] Exh.ORA-04-SA at 16 (Utilities Response to ORA-DR-89, Q1) (emphasis added).

In sum, the Utilities "were confident that the weakest segments were constructed in 1949 using the original A.O. Smith pipe (wall thickness 0.250 and yield strength of 52,000)." As ORA knew from the Line 1600 segment data provided on July 15, August 4, and August 12, there was only one segment that had a "DT" value. While confident, and despite having confirmed the wall thickness through measurement,[461] the Utilities intended to confirm its SMYS and would have done so if the Commission had not ordered it replaced under Resolution SED-1. When a portion of pipe was tested after removal, it also had a SMYS of 52,000 psi,[462] validating the Utilities' confidence.

Again repeating its complaints from ORA Examples 1 and 3, ORA next complains that "SoCalGas/SDG&E did not disclose until hearings on July 12, 2017 that they had manually changed certain of Line 1600's long seam attribute information in their High Pressure Database."[463] As discussed in response to ORA Examples 1 and 3 above, the Utilities realized that the June 2016 Line 1600 segment data provided to SED contained an error when the Utilities were responding to ORA DR-25, Q1, which asked for information to be added to the SED table: "The SED table was amended, but during the process of validating the data it was noted that in some instances the MAOP calculator was utilizing overly conservative joint factors that did not reflect available records containing reliable data that should be applied in place of assigned conservative values." Therefore, the Line 1600 data was corrected to reflect the correct values. Correcting erroneous data to reflect correct values is not "render[ing] evidence unavailable [or] evad[ing] discovery."[464]

[461] Exh. SDGE-13 (Rebuttal Testimony, Attachment B-8 at 121 (Utilities Response to ORA DR-46, Q4).
[462] Exh. SDGE-13 (Rebuttal Testimony at 9:15-10:3).
[463] ORA Opening Brief at 18.
[464] ORA Opening Brief at 16-17.

6. ORA Alleged "Evasion" Example 6

ORA asserts: "SoCalGas/SDG&E evaded ORA's discovery questions by providing incorrect safety data, later misrepresenting that same incorrect safety data they provided was 'current', and then mischaracterizing that their 'current' misrepresentation was a valid update to their own incorrect safety data."[465] This claim has three parts.

First, ORA claims that the Utilities provided "incorrect safety data." This complains that the Utilities had conservative, engineering-based values for certain Line 1600 segments in the HPPD, and used them in their May 12, 2016 response to ORA DR-6, Q12.[466] The history of the Utilities updating those HPPD values to the actual documented values, and providing the updated data to ORA on July 15, August 2, and August 12, 2016, is set forth in the Rebuttal Testimony.[467]

Again, there is <u>no dispute that the Utilities' updated information is accurate</u> and supported by historical documentation. ORA asked for and was given the historical documents for the six updated segments, and stated: "ORA does not dispute the assertion that SoCalGas/SDG&E located additional documentation that support the identified [wall thickness and] specified minimum yield strengths for these 6 segments."[468] ORA's witness testified that ORA no longer contends "those six segments … are weaker than other segments on the line."[469]

As far as using conservative, engineering-based values, that process has been known to the Commission and ORA since at least 2011. As Mr. Schneider explained in his 2011 PSEP

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465 ORA Opening Brief at 18.
466 ORA also states: "None of these six segments were identified as using assumed values." ORA Opening Brief at 18. However, unlike SED DR-3, Q2, Exh. SDGE-13 (Rebuttal Testimony, Attachment B-2 at 17-20), ORA did not ask for Utilities to identify conservative "assumed" values. Exh. ORA-5-C.
467 Exh. SDGE-13 (Rebuttal Testimony at 9:4-12:11, 15:3-16:1).
468 Exh. SDGE-14-C (ORA Response to Utilities DR-12, Q1-Q6).
469 Tr. at 1183:26-1184:3 (ORA-Skinner).

testimony: "In cases where background information is unavailable, or cannot be supplemented with reliable sources or institutional knowledge, more conservative default values are used."[470] It was not a secret. In fact, SED's Data Request 3, Q2 asked for a "segment by segment engineering analysis for the entire Line 1600 with any unknown pipeline characteristics identified and any assumed values detailed."[471] The Commission and ORA know that the Utilities update such conservative values when reliable information is found to do so.[472]

ORA may be complaining that the Utilities relied upon the data in the HPPD as of May 12, 2016, rather than utilizing paper records to respond to ORA DR-12, Q6, which asked: "For Line 1600, provide records for the specific items (i.e. wall thickness) needed to complete the design pressure equation under 49 Code of Federal Regulations § 192.105."[473] As Mr. Schneider testified, the Utilities used their HPPD to respond to this Data Request "[b]ecause it was asking the question about MAOP as it -- as it stood at that time. Which we -- we use conservative default values or decision tree values to make that calculation."[474] In other words, the Utilities provided ORA with the information that they used to perform that calculation.[475] "Normally,

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[470] Attachment A (A.11-11-002, Exh. SCG-18 (Prepared Rebuttal Testimony Of Douglas Schneider at 21:7-9).
[471] Exh. SDGE-19-C (Utilities Response to ORA DR-19, Q6, providing Utilities Response to SED DR 3, Q3) (emphasis added).
[472] *See, e.g.,* Attachment A (A.11-11-002, Exh. SCG-18 (Prepared Rebuttal Testimony Of Douglas Schneider at 21:13-23:8).
[473] Exh. ORA-5-C (emphasis added).
[474] Tr. at 52:20-24 (Utilities-Schneider); *accord, e.g.*, Tr. at 56 (Utilities-Schneider) ("What we used the high pressure database for was for calculating MAOP for the purposes of validation. And that's why when the question came in, that HPVD was used.").
[475] "'The High Pressure Database works as intended. The Applicants' use of conservative values should not be characterized as 'incorrect information' as the process for establishing conservative values was developed to align with guidance provided by ASME B31.8S Section 4, Gathering, Reviewing and Integrating Data when the data available is not completely substantiated.'" Exh. SDGE-13 (Rebuttal Testimony at 14:6-17 (quoting Utilities Response to ORA DR-87, Q2.b).

because conservative default values add a margin of safety, updating the [HPPD] with documented values is not given priority over other tasks."[476]

Second, ORA claims that the Utilities "misrepresented" that the May 12, 2016 Line 1600 segment data was "current" in the Utilities' July 15, 2016 Response to ORA DR-19, Q7 and presumably that ORA's decision to ignore the updated Line 1600 segment data provided to ORA on July 15, August 4 and August 12, 2016 was caused by such "misrepresentation." The alleged "misrepresentation" is as follows:

> **QUESTION 7:** Please explain the discrepancies in pipeline records between SDG&E's 1968 report on Line 1600 (provided in response to ORA DR-14 Q2) and the L1600 pipe segment data (provided in response to ORA DR-06 Q12).
>
> **RESPONSE 7:** The pipeline record provided in ORA DR-14 Q2 was developed in 1968, and the pipeline record provided in ORA DR-06 Q12 is the current status of Line 1600, which accounts for changes to the pipelines due to various reasons, such as replacement or relocations. The primary segment is still the 16" Diameter, 0.250" Wall Thickness and 52,000 SMYS in the current report (see DR 14).[477]

Question 7 plainly asks for a comparison of the 1968 Commission filing, which provided Line 1600 information in three segments,[478] to Utilities' May 12, 2016 response to ORA DR-6, Q12, which provided Line 1600 information in 62 segments. Comparing the 1968 Commission filing to the May 12, 2016 Line 1600 segment data, the Utilities said the latter is the "current status of Line 1600," noting it accounts for changes such as replacements or relocations. ORA admits "<u>Question 7 does not ask for an explanation of the discrepancies</u> between the table provided in response to ORA DR-6 Question 12 and the table provided to SED in response to SED-3 Question 2."[479] Nor did Utilities understand it to do so.

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[476] Exh. SDGE-13 (Rebuttal Testimony at 16:11-13).
[477] Exh. SDGE-19-C (Utilities' July 15, 2016 Response to ORA DR-19, Q7).
[478] Exh. ORA-02-SA at p. 50 (Utilities Response to ORA-DR-14, Q2a).
[479] Tr. at 1169:4-10 (ORA-Skinner).

In its Amended Prepared Testimony, ORA asserted that that the Utilities' response to ORA DR-19, Q7 "confirmed that the response to ORA's discovery was based on 'the best information available.'"[480] When confronted with the fact that the Utilities' response makes no such statement,[481] Mr. Skinner testified that the quotation marks were "in error."[482] The Utilities' response compared a 1968 report to a May 2016 report, nothing more.

ORA accuses the Utilities of "misrepresentation" by using the word "current" in their response to ORA DR-19, Q7. Under California law, as summarized in the standard jury instruction, negligent misrepresentation includes the following factors:

> 2. That [name of defendant]'s representation was not true;
> 3. That [although [name of defendant] may have honestly believed that the representation was true,] [[name of defendant]/he/she] had no reasonable grounds for believing the representation was true when [he/she] made it;
> 4. That [name of defendant] intended that [name of plaintiff] rely on this representation;
> 5. That [name of plaintiff] reasonably relied on [name of defendant]'s representation;
> 6. That [name of plaintiff] was harmed; and
> 7. That [name of plaintiff]'s reliance on [name of defendant]'s representation was a substantial factor in causing [his/her/its] harm.[483]

Here, in responding to ORA's request to compare the 1968 Commission filing to the 2016 data request response, the Utilities believe that their response was true and had reasonable grounds to believe it was true. While the Utilities intended ORA to rely upon that representation, the

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[480] ORA-2 (Skinner Amended Prepared Testimony at 14:14-15).

[481] Exh. ORA-2 at 14 cites to "SoCalGas/SDG&E Amended Response to ORA DR-19, Question 7. *See ORA-04, Additional Supporting Attachments to ORA-02.*" Neither the Amended Response nor the original Response, see Exh. SDGE-19-C, makes any such statement.

[482] Tr. at 1171:26-1172:17, 1173:10-24 (ORA-Skinner).

[483] California Civil Jury Instructions (CACI) (2017) § 1903. Negligent Misrepresentation. For Intentional Misrepresentation, Factor 3 is changed to "That [name of defendant] knew that the representation was false when [he/she] made it, or that [he/she] made the representation recklessly and without regard for its truth." *Id.* § 1900.

Utilities did not intend for ORA to interpret the response to mean that the specific attribute information in the May 2016 response would not be and had not been updated—and in fact provided the updated information at the same time in response to the preceding question (ORA DR-19, Q6).[484]

"While the Utilities regret not having amended their response to DR-06, Q12" before ORA served its April 17, 2017 prepared testimony,[485] it is fair to ask whether ORA reasonably relied upon the Utilities' use of the word "current" in the July 15, 2016 response to that specific question to ignore the updated Line 1600 segment information provided on July 15, August 4 and August 12, 2016. The facts suggest not.

- ORA relies on the word "current" in the Utilities' July 15, 2016 Response to ORA DR-19, Q7[486] but the response to Q6 provided ORA a copy of the Utilities' Response to SED DR-03, with the updated Line 1600 segment data, at the same time.[487] Thus, ORA immediately knew that the Utilities had provided a later-in-time (June 13, 2016) table of Line 1600 segment information to SED. ORA, however, testified that it believed the Utilities had provided outdated data to SED in June 2016 and provided the current data to ORA in May 2016:

  > Q And yet, you took the response to Question 7 referring to the current status of Line 1600 in comparison to a 1968 report to mean that the data provided to SED was outdated but the data provided before the response to SED was the current version?
  >
  > A Given the statement in the response to this data request that DR-6 Question 12 was current, yes, I did.[488]

- A comparison of the later-in-time June 2016 data to the May 2016 data showed that the data was not the same, and ORA knew it long before its April 17, 2017 prepared testimony.

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484 Exh. SDGE-13 (Rebuttal Testimony, Attachment B-2 at 17-22.
485 Exh. SDGE-13 (Rebuttal Testimony at 12:3).
486 Exh. SDGE-19-C (Utilities' Response to ORA DR-19, Q7).
487 Exh. SDGE-19-C (Utilities' Response to ORA DR-19, Q6 & attached response to SED DR-03, Q2).
488 Tr. at 1171:10-18 (ORA-Skinner); *see generally* Tr. at 1169:23-1171:18) (ORA-Skinner).

- First, the stationing data was not the same, and ORA knew it in July 2016.[489] The May 2016 data used "cumulative stationing" while the later data used "engineering stationing."[490] The stationing numbers were different from the very first segment. Despite knowing this, ORA did not ask about it until May 5, 2017,[491] after serving its April 17, 2017 testimony that led the surprised Utilities to update their May 12, 2016 response to ORA DR-6, Q12.[492]

- Second, there were obvious differences between the May and June data, each of which provided Line 1600 segment data from end to end. The May 2016 data had three segments with a wall thickness of 0.219,[493] but the June 2016 data had none.[494] Four other segments had a 42,000 SMYS in the May 2016 data, but the June 2016 data had none.[495] These were the six segments (formerly seven) that ORA claimed were "weak" in its April 17, 2017 testimony.[496] Despite knowing this, ORA did not ask the Utilities to explain the differences for these segments until May 5, 2017.

- Not only were these differences obvious, ORA admitted it knew of them upon receiving the July 15, 2016 response with the June 2016 Line 1600 data given to SED. Mr. Skinner testified: "On the face of it, ORA Data Request 6 Question 12 has different segments and different information than contained in the response to SED Data Request 3. It was the differences in the pipeline specifications that ORA was concerned about and first [c]ame to our attention, not necessarily that the stationing was different because there were more segments provided in the response to SED Data Request 3."[497]

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489 Tr. at 1142:17-17 (ORA-Skinner).
490 *See* Exh. SDGE-13 (Rebuttal Testimony, Attachment B-5 at 45-47)
491 Tr. at 1150:27-1151:24 (ORA-Skinner); Exh. SDGE-13 (Rebuttal Testimony, Attachment B-5 at 43-62 (Utilities Response to ORA DR-84, Q1-Q10). Although Mr. Skinner was uncertain here, he earlier testified that he noted the discrepancy in July 2016. Tr. at 1142:17-17 (ORA-Skinner).
492 Exh. SDGE-13 (Rebuttal Testimony at 10:12-11:4).
493 The Utilities' information regarding wall thickness and SMYS of particular pipelines is confidential. However, as these were assumed values, and not the actual values, the Utilities do not consider the specific numbers cited here to be confidential."
494 *Compare* Exh. ORA-5-C (Line 1600 Pipe Segment Data, Beginning Stations: 179, 819; 211,961; and 212,070) to Exh. SDGE-19-C (Line 1600 Segments, none with that wall thickness).
495 *Compare* Exh. ORA-5-C (Line 1600 Pipe Segment Data, Beginning Stations: 237,420; 239,069; and 243,754) to Exh. SDGE-19-C (Line 1600 Segments, none with that SMYS). The fourth segment was removed pursuant to Resolution SED-1.
496 Exh. ORA-02-C Errata at p.4. ORA's April 17, 2017 testimony claimed that seven segments were weak. The seventh segment was removed and replaced per Resolution SED-1. Although ORA knew this before serving its April 17 testimony, Exh. SDGE-13 (Rebuttal Testimony at 9:15-18), its inclusion presumably was a mistake.
497 Tr. at 1152:4-22 (ORA-Skinner); *accord* Tr. at 1153:7-10. Mr. Skinner sent ORA DR-25 to the Utilities on July 29, 2016, and did so due to the "discrepancies." Tr. at 1151:26-1152:22 (ORA-Skinner).

- ORA specifically admits that, before serving its April 17, 2017 testimony, it knew that the values for the six segments it challenged were different between the May 2016 segment data provided to ORA and the later June 2016 data (corrected in August 2016) provided to SED and ORA. ORA's April 17, 2017 testimony, as well as its amended June 7, 2017 testimony, asserts: "Regarding the same part of Line 1600, SoCalGas/SDG&E have provided one set of values about yield strengths and wall thickness to the Commission's Safety and Enforcement Division (SED); and another inconsistent set of values about yield strengths and wall thickness to ORA. Specifically, SoCalGas/SDG&E's engineering analyses provided in a data response to SED omitted the lower yield strengths and thinner wall values."[498]

- On August 4, 2016, the Utilities sent ORA an update to the June 13, 2016 response to SED DR-3. This later-in-time response again provided updated Line 1600 segment data with the differences noted above, and came after the Utilities used the word "current" in response to a different and earlier question. ORA again noted the differences between this August 2016 Line 1600 data and the May 2016 data.[499] ORA again did not ask for an explanation about those differences until May 5, 2017, after serving its April 17, 2017 testimony.

- On July 29, 2016, ORA served ORA DR-25, Q5, the only question before May 5, 2017 asking the Utilities how any of the June 2016 Line 1600 data provided in response to SED DR-3 compared to the May 2016 Line 1600 data provided in response to ORA DR-6, Q12. In response to ORA's question, the Utilities said "Please see response to Question 1 above." The response to Question 1 provided the corrected Line 1600 segment table sent to SED on August 2 and ORA on August 4.[500] The Utilities' response did not refer ORA to the May 2016 Line 1600 segment table.

- Further, ORA DR-25, Q1 asked for additional information to be added to the June 2016 Line 1600 segment table provided to SED (in doing so, the Utilities added the August corrections).[501] ORA did not ask for such data to be added to the May 2016 table provided to ORA earlier. From the Utilities' standpoint, the parties now were all using the updated information reflecting the actual values for the six segments ORA later challenged.

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498 ORA-2 (Skinner Amended Prepared Testimony at 39:18-40:2) (emphasis added; footnotes omitted); *see also* ORA-2 (Skinner Prepared Testimony at 29:7-13) served on April 17, 2017. ORA's testimony neglects to note that the Utilities provided the same information to ORA as to SED.
499 Tr. at 1156:21-1158:24 (ORA-Skinner).
500 Exh. SDGE-32-C (Utilities August 12, 2016 Response to ORA DR-25, Q1 & Q5).
501 Exh. SDGE-32-C (Utilities August 12, 2016 Response to ORA DR-25, Q1).

- Asked when ORA decided to rely on the May 2016 Line 1600 data rather than the Line 1600 segment data provided in July and August of 2016, Mr. Skinner testified it was in February to April 2017. Mr. Skinner then testified:

  > And we chose to rely upon that data based on applicants' statement in ORA-19 Question 7 that it was the current status. Additionally, ORA also chose to use the more conservative safety values in its analysis. And the information contained in ORA Data Request 6, Question 12 was generally more conservative than the information provided in response to ORA -- to SED Data Request 3. And for clarity, by conservative, I mean the values that were lower, so if there was a lower wall thickness or a lower yield strength of the parent – of the material of the pipe."[502]

  In so testifying, Mr. Skinner admitted that, before serving its April 17, 2017 prepared testimony, ORA made a conscious decision to rely on the May 2016 data because it was "more conservative" as to the six Line 1600 segments ORA challenged. ORA also consciously chose not to serve any discovery to ask the Utilities to explain why the earlier May 2016 data had "a lower wall thickness or a lower yield strength" than the later June/August data for the six segments ORA challenged.

In sum, it is not apparent that ORA relied at all on the Utilities' statement that the May 2016 Line 1600 segment data reflected the "current status" of the line compared to the 1968 Commission filing. If it did, its reliance was not reasonable. Knowing that the June and August 2016 data was different precisely for the six segments it challenged, ORA made a conscious decision not to ask the Utilities for an explanation before serving its April 17, 2017 prepared testimony, and to rely on the May 2016 data, because it had "a lower wall thickness or a lower yield strength."

Finally, the "harm" that ORA experienced by its conscious decision to rely on the May 2016 data was that the allegations made in its April 17, 2017 prepared testimony were wrong. The Utilities first learned that ORA was not using the updated Line 1600 segment data on April 17, and immediately updated the May 12, 2016 data response on May 3, 2017. The Utilities

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[502] Tr. at 1175:1-22 (ORA-Skinner) (emphasis added). Mr. Skinner repeated this point: "As I stated earlier, we chose to use the more conservative safety values in assessing the strength or weakness of Line 1600." Tr. at 1178:10-13 (ORA-Skinner).

offered ORA the opportunity to amend its testimony, and did not oppose ORA's motion to serve amended testimony.[503] ORA then served Amended Testimony. Any such "harm" does not warrant imposing ignoring factual evidence in favor of "adverse inferences" contrary to fact.

Third, ORA claims the Utilities should be punished for "mischaracterizing that their 'current' misrepresentation was a valid update to their own incorrect safety data."[504] To the contrary, the Utilities have never asserted that their response to ORA DR-19, Q7, which used the word "current," was an update to the Utilities' response to ORA DR-6, Q2. Rather, the Utilities contend that the later-in-time Line 1600 segment data provided on July 15, 2016 and August 4, 2016, in response to ORA DR-19, Q6, and on August 12, 2016, in response to ORA DR-25, Q1, provided ORA with updated Line 1600 segment data.

7. ORA Alleged "Evasion" Example 7

ORA asserts: "SoCalGas/SDG&E evaded discovery by sending data responses with discrepant safety values to SED and ORA, and exacerbated the evasion because they did not explain they were doing so."[505]

For the most part, this renews ORA's complaint that the Utilities corrected the error in the MAOP calculator that resulted in use of a default longitudinal joint factor (LJF) of 0.8 rather than accurate values based on reliable information. As discussed in more detail in response to ORA Examples 1, 3 and 5 above: "In responding to SED DR-3, Q2, Applicants exported Line 1600 attributes to the preestablished report template, which then assigned an LJF and calculated MAOPs under Section 192.619(a)." ORA DR-25, Q1 asked for LJF information to be added to

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[503] *See* June 7, 2017 Response Of San Diego Gas & Electric Company (U 902 G) And Southern California Gas Company (U 904 G) To Office Of Ratepayer Advocates' Motion For Leave To Amend Testimony And For Shortened Time To Respond.
[504] ORA Opening Brief at 18.
[505] ORA Opening Brief at 19.

the SED table and "during the process of validating the data it was noted that in some instances the MAOP calculator was utilizing overly conservative joint factors that did not reflect available records containing reliable data that should be applied in place of assigned conservative values. … Simultaneously, it was discovered that there were database limitations affecting the result. … As a result, Applicants used the HPPD data (the longitudinal long seam attribute) and its subsequent research to manually add the longitudinal joint factor to the table produced for ORA and SED."[506] It is not "evading discovery" to correct an error promptly upon discovery,[507] and the same information was provided to both SED and ORA.

In addition to complaining that the Utilities corrected this error, ORA seems to argue that the Utilities were required to utilize "federally required LJF safety values of 0.8 for determining MAOP on multiple segments Line 1600."[508] ORA is mistaken. As an initial matter, ORA veers into the topics addressed in its September 14, 2017 Motion To Amend and Supplement Testimony, which ALJ Kersten denied on September 28, 2017.[509] Although ALJ Kersten did not decide the issue, she noted: "For example, to make the argument that applicant must use long seam joint efficiency factor of 0.8 for a pipeline that has been in existence since 1948 may not be relevant. The applicant is seeking to de-rate the pressure of the line and not establish a new MAOP or up-rate the previous MAOP to a higher MAOP."[510]

As explained in the Utilities' response to ORA's Motion, LJF is irrelevant in determining whether Line 1600 de-rated to a 320 psig MAOP would be below 20% of SMYS, and thus not a

[506] Exh. ORA 24 (Utilities Response to ORA DR-92, Q1), quoted by Mr. Sera at Tr. at 635:27-638:7.
[507] The Utilities' May 12, 2016 response to ORA DR-6, Q12 had informed ORA that the correct LJF for Line 1600 was 1.0, further indicating that the June 13, 2016 table generated by the MAOP calculator to respond to SED DR-3, Q2 contained an error. Exh. ORA-5-C.
[508] ORA Opening Brief at 19.
[509] Tr. at 887:18-892:27 (ALJ Kersten).
[510] Tr. at 890:13-21 (ALJ Kersten).

"transmission line" under Section 192.3. The relevant definition of "transmission line" under Section 192.3 is whether it "operates at a hoop stress of 20 percent or more of SMYS." PHMSA makes plain that LJF is <u>not</u> used to calculate hoop stress.[511] Thus, ORA's claim that the Line 1600 LJF should be 0.8 rather than 1.0 is irrelevant to the determination whether a de-rated Line 1600 would be a transmission line under Section 192.3.

By raising the issue as purported "discovery evasion," ORA seeks to force the Utilities to address its meritless claim. Contrary to ORA's claim, the Utilities properly apply an LJF of 1.0, based on Line 1600 records, to calculate design pressure under Section 192.105. In responding to ORA DR-92, Q1, the Utilities: informed ORA that the updated spreadsheet provided in response to ORA DR-25, Q1 (the SED table as updated on August 2, 2016 and to reflect the segment replacement required by Resolution SED-1) "provides correct engineering values for the calculation required in 49 CFR § 192.105," including an LJF of 1.0; explained the error in how the MAOP calculator generated reports that did not reflect reliable data and what was done to correct it; and told ORA that the "updates culminated in every segment of Line 1600 containing a known entry in the HPPD for wall thickness, diameter, SMYS, and long seam."[512]

ORA claims: "On July 12, 2017, for the first time, SoCalGas/SDG&E revealed that their records indicated segments where the long seam type was not indicated (either ERW or seamless). However, 49 CFR §192.113 requires an undetermined seam type to have a 0.8 value."[513] The Utilities' July 12, 2017 response to ORA DR-92, Q1 noted: "Specifically, there were instances where purchase records documented the pipe had a joint factor of 1.0, but the

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[511] Exh. SDGE-39 (PHMSA PI-79-035).

[512] Exh. ORA 24 (Utilities Response to ORA DR 92, Q1). The Utilities informed ORA: "Applicants do not use a 0.8 longitudinal joint factor for Line 1600." *Id*. (Utilities Response to ORA DR 92, Q2). *See infra* at 151 & n.603 regarding updates to the HPPD not included in the June 2016 table.

[513] ORA Opening Brief at 20.

long seam type was not indicated (either ERW or seamless). The lack of specificity prevented the assignment of a long seam value in the HPPD because the long seam domain was limited to only accept specific entries resulting in a null HPPD entry for the long seam attribute."[514]

What ORA fails to note is that, under 49 CFR § 192.113, for the applicable pipe specification, the LJF for both "seamless" and "electric resistance welded" (ERW) is 1.0. ORA points to § 192.113's statement that "[i]f the type of longitudinal joint cannot be determined, the joint factor to be used must not exceed" 0.8 for pipe over 4 inches. But here the type of joint can be determined. It is either seamless or ERW, and in either case the LJF is 1.0.[515]

In sum, the Utilities did not "evade discovery" by providing accurate information nor did they "exacerbate[] the evasion" given that (a) there was no evasion and (b) the Utilities' August 4, 2016 email conveying the corrected information to ORA expressly stated that the Utilities had "discovered an error in the MAOP calculator it utilized to produce the report in SED DR 3 Q2."[516] The Utilities simply corrected an error to ensure that SED and ORA had the correct information and did so in less than four days after learning of it.

C. The Utilities' Records Are Not "Unreliable"

After asserting its various claims as attacks on the Utilities' integrity, claiming discovery evasion, ORA then repeats many of them as attacks on the reliability of the Utilities' records. While SED has reviewed the Utilities' Line 1600 records in detail, ORA has not.

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[514] Exh. ORA 24 (Utilities Response to ORA DR 92, Q1).

[515] The Utilities note that the August 2, 2017 Second Amended Response to ORA DR 92, Q1 amended the phrase "(either ERW or seamless)" to "(either ERW or Double Submerged Arc Weld)." This does not affect ORA's point or the Utilities' rebuttal as Double Submerged Arc Weld also has an LJF of 1.0 per 49 CFR § 192.113.

[516] Exh. SDGE-21-C.

1. ORA Alleged "Unreliable Records" Example 1

ORA asserts: "SoCalGas/SDG&E belatedly admitted it does not have the safety data required to confirm Line 1600 would operate at below 20% SMYS at their proposed MAOP of 320 psig."[517] There was no such admission and ORA is mistaken.

The Utilities testified: "The Utilities' pipeline data demonstrates that all segments of Line 1600 would operate below 20% of SMYS at 320 psig. Attachment A provides the pipeline segment attributes of Line 1600 that show all segments would be below 20% SMYS at 320 psig using Barlow's Equation from 49 CFR § 192.105."[518] There is no evidence to the contrary.

ORA is repeating an argument made under ORA Alleged "Evasion" Example 5, and the Utilities responded above. As reflected in ORA's quotation of the Utilities' Response to ORA-DR-89, Q1, the Utilities "were confident that the weakest segments were constructed in 1949 using the original A.O. Smith pipe (wall thickness 0.250 and yield strength of 52,000)."[519] As ORA knew from the Line 1600 segment data provided on July 15, August 4, and August 12, there was only one segment that had a "DT" value. While confident, and despite having confirmed the wall thickness through measurement,[520] the Utilities intended to confirm its SMYS and would have done so if the Commission had not ordered it replaced under Resolution SED-1. When a portion of pipe was tested after removal, it also had a SMYS of 52,000 psi,[521] validating the Utilities' confidence. In all events, that single segment was replaced.

The Utilities also reject ORA's assertion that a de-rated Line 1600 must be "defined as a transmission line" because the Utilities planned to confirm their "confidence" based upon "what

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[517] ORA Opening Brief at 20.
[518] Exh. SDGE-13 (Rebuttal Testimony at 7:19-22).
[519] Exh.ORA-04-SA at 16 (Utilities Response to ORA-DR-89, Q1).
[520] Exh. SDGE-13 (Rebuttal Testimony, Attachment B-8 at 121 (Utilities Response to ORA DR-46, Q4).
[521] Exh. SDGE-13 (Rebuttal Testimony at 9:15-10:3).

was known about Line 1600's construction, maintenance and operation" that one segment met the "below 20% SMYS) test.[522] As Mr. Sera testified: "the Utilities' proposal to de-rate Line 1600 to distribution service did not and does not violate state or federal safety regulations. First, it is a proposal to implement a project, not implementation itself. Second, actual documented and validated values for the seven Line 1600 segments challenged by ORA show that those segments would have been below 20% SMYS at a 320 psig MAOP at the time of the Utilities' Application through the present. Third, the Utilities never suggested that they would fail to comply with 49 CFR § 192.3's definition of "distribution line," rather than ensure that a Line 1600 de-rated to 320 psig had all segments at less than 20% SMYS."[523]

ORA also asserts: "SoCalGas/SDG&E's assumptions about Line 1600's safety data violates Pipeline Hazardous Materials and Safety Administration (PHMSA) requirements to retain all records needed to determine MAOP for the life of the facility."[524] ORA does not specify precisely what records it believes the Utilities are missing. As an initial matter, the federal safety regulations were adopted in 1970 and discarding records before then is not a violation of them. Regardless, with respect to the segment of pipe replaced under Resolution SED-1, the Utilities Response to ORA DR-46, Q4 noted that "the MAOP of the segment replaced under Resolution SED-01 is established per 49 CFR 192.619(c) and therefore the segment had demonstrated it could operate safely 800 psig."[525]

2. ORA Alleged "Unreliable Records" Example 2

ORA asserts "SoCalGas/SDG&E only altered many of Line 1600 values in their High Pressure Database once ORA and SED performed discovery and only explained their safety data

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522 Exh.ORA-04-SA at 16 (Utilities Response to ORA-DR-89, Q1).
523 Exh. SDGE-13 (Rebuttal Testimony at 14:18-25)
524 ORA Opening Brief at 21.
525 Exh. SDGE-13 (Rebuttal Testimony, Attachment B-8 at 121).

had errors once ORA served testimony."[526]

Here, ORA repeats its arguments primarily made under ORA Alleged "Evasion" Example 6, though it also complains about the Utilities' original May 12, 2016 response to ORA DR-6, Q12 using conservative, engineering-based values for six (originally seven) segments and the Utilities' subsequent update to the actual documented values provided to ORA on July 15, August 2 and August 12, which also is addressed under ORA Alleged "Evasion" Examples 1, 3, 5 and 7.

Again, ORA challenged six (originally seven) Line 1600 segments.[527] On May 5, 2017, ORA asked for and received the historical documents supporting the updated data for those six segments.[528] ORA stated: "ORA does not dispute the assertion that SoCalGas/SDG&E located additional documentation that support the identified [wall thickness and] specified minimum yield strengths for these 6 segments."[529] This is not a dispute about whether records exist.

Instead, ORA has created a dispute about whether it reasonably relied on a table of Line 1600 segment data provided by the Utilities' May 12, 2016 response to ORA DR-6, Q12 in its April 17, 2017 prepared testimony, and ignored updated Line 1600 segment data it was provided on July 15, August 4 and August 12, 2016. Although the Utilities were surprised that ORA's April 17, 2017 testimony relied on the May 2016 data, the Utilities promptly updated their response to ORA DR-6, Q12 and offered ORA the opportunity to amend its testimony. When ORA moved to amend its testimony, the Utilities did not oppose it. Having amended their testimony, ORA has suffered no harm in addressing the substantive issues.

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[526] ORA Opening Brief at 22.
[527] ORA originally challenged the Line 1600 segment ordered replaced by Resolution SED-1, even though it already had been replaced. Exh. ORA-02-C Errata removed that segment.
[528] Exh. SDGE-13 (Rebuttal Testimony at 13:1-6, 40:1-4, Attachment B-5 at 42-115 (Utilities' Response to ORA DR-84, Q1-Q6 and attached documentation)).
[529] Exh. SDGE-14-C (ORA Response to Utilities DR-12, Q1-Q6).

ORA, however, seeks to convert the "chronology" of the Utilities' updates of data for six (originally seven) Line 1600 segments with actual, undisputed documented values into a claim that the Utilities' records are "unreliable." That is not so. The history of the relevant data request responses is laid out in the Utilities' Rebuttal Testimony.[530] Further, as set forth in detail in response to ORA Alleged "Evasion" Example 6, ORA made a conscious decision to rely upon the May 2016 data despite knowing the updated data was different for the six challenged segments—and chose not to ask the Utilities to explain why it changed. ORA elected to rely on the May 2016 responses because it had "lower yield strengths and thinner wall values" for those six segments than the later, updated responses.[531] ORA did not ask the Utilities why the values for those six segments changed until after serving its April 17, 2017 testimony. When it did, the Utilities provided the historical records proving the later updated values were correct, as ORA admits. [532]

Nothing in ORA's "chronology" suggests that the Utilities' records are "unreliable."

3. ORA Alleged "Unreliable Records" Example 3

ORA asserts: "On multiple parts of Line 1600, SoCalGas/SDG&E overstated certain of Line 1600's Longitudinal Joint Factors."[533] For this claim, ORA notes that when the "type of longitudinal joint cannot be determined," 49 CFR 192.113 would require an LJF of 0.8 for a 16-inch pipeline. ORA then asserts that the Utilities lack records to determine the type of

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[530] Exh. SDGE-13 (Rebuttal Testimony at 8:6-12:11, 15:317:12).
[531] *See, e.g.*, Exh. ORA-2 (Skinner Amended Prepared Testimony at 39:18-40:3); *see also* ORA-2 served on April 17, 2017 (Skinner Prepared Testimony at 29:7-13); Tr. at 1178:10-13 (ORA-Skinner) ("As I stated earlier, we chose to use the more conservative safety values in assessing the strength or weakness of Line 1600."); Tr. at 1175:1-22 (ORA-Skinner).
[532] Exh. SDGE-14-C (ORA Response to Utilities DR-12, Q1-Q6).
[533] ORA Opening Brief at 27.

longitudinal joint for 16 segments installed after 1970, and therefore must use an LJF of 0.8 or the Commission should assume 0.8 is applicable.

Contrary to ORA's claim, the Utilities properly apply an LJF of 1.0, based on Line 1600 records, to calculate design pressure under Section 192.105. The Utilities have consistently identified the correct LJF for all Line 1600 segments as 1.0.[534] In responding to ORA DR-92, Q1, the Utilities: informed ORA that the updated spreadsheet provided in response to ORA DR-25, Q1 (the SED table as updated on August 2, 2016 and to reflect the segment replacement required by Resolution SED-1) "provides correct engineering values for the calculation required in 49 CFR § 192.105," including an LJF of 1.0; explained the error in how the MAOP calculator generated reports that did not reflect reliable data and what was done to correct it; and told ORA that the "updates culminated in every segment of Line 1600 containing a known entry in the HPPD for wall thickness, diameter, SMYS, and long seam."[535]

To support its claim that the Commission should ignore this evidence in favor of a presumption that the LJF is 0.8, ORA repeats arguments primarily made under ORA Alleged "Evasion" Example 7. The fatal flaw is that ORA has no evidence that the Utilities lack records from which to determine the joint type for these 16 segments.

ORA states: "The record shows 16 of SoCalGas/SDG&E's entries on Line 1600 installed after 1970, when 49 CFR §192.113 became effective."[536] ORA appears to identify these segments by pointing to the Utilities' updated August 2, 2016 response to SED, and focusing on the entries shaded green under the "192619(A1)" column that also have an "InstallDate" after

[534] The Utilities' May 12, 2016 response to ORA DR-6, Q12 had informed ORA that the correct LJF for Line 1600 was 1.0, further indicating that the June 13, 2016 table generated by the MAOP calculator to respond to SED DR-3, Q2 contained an error. Exh. ORA-5-C.
[535] Exh. ORA 24 (Utilities Response to ORA DR 92, Q1). The Utilities informed ORA: "Applicants do not use a 0.8 longitudinal joint factor for Line 1600." Id. (Utilities Response to ORA DR 92, Q2).
[536] ORA Opening Brief at 28.

1970.[537] ORA then compares these entries to the uncorrected values in the June 2016 SED table to note that, in the uncorrected version, they had a 0.8 LJF.[538] From there, ORA leaps to assert: "Since SoCalGas/SDG&E do not have the information in their High Pressure Pipeline Database and have not otherwise provided the information, the Commission must find that the records are missing and that SoCalGas/SDG&E has falsely overstated Line 1600's MAOP since 1979."[539]

In making this claim, ORA simply ignores the Utilities' explanation of the error in the original June 2016 Line 1600 data provided to SED. As discussed in more detail in response to ORA Alleged "Evasion" Examples 1, 3, 5 and 7: "In responding to SED DR-3, Q2, Applicants exported Line 1600 attributes to the pre-established report template, which then assigned an LJF and calculated MAOPs under Section 192.619(a)." ORA DR-25, Q1 asked for LJF information to be added to the SED table and "during the process of validating the data it was noted that <u>in some instances the MAOP calculator was utilizing overly conservative joint factors that did not reflect available records containing reliable data</u> that should be applied in place of assigned conservative values. … Simultaneously, it was discovered that there were <u>database limitations affecting the result</u>. … As a result, Applicants used the HPPD data (the longitudinal long seam attribute) and its <u>subsequent research to manually add</u> the longitudinal joint factor to the table produced for ORA and SED."[540]

Comparing the uncorrected to the corrected versions of the Line 1600 segment table does not prove a lack of records. In the Utilities' Response to ORA DR-92, Q1, the Utilities specifically noted that the uncorrected version failed to reflect "available records containing

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537 ORA Opening Brief at 28 n.95 (citing Exh. ORA-9-C (Utilities August 4, 2016 email to ORA with updated SED Line 1600 segment table). Exh. ORA-9-C omits the actual updated response to SED DR-3, Q2. Exh. SDGE-21-C.
538 ORA Opening Brief at 28-29 & footnotes 95-97).
539 ORA Opening Brief at 29 (emphasis added).
540 Exh. ORA-24 (Utilities Response to ORA DR-92, Q1).

reliable data." ORA asks the Commission to assume a 0.8 LJF despite such records, asserting the Utilities "do not have the information in their High Pressure Pipeline Database and have not otherwise provided the information." As stated in the Utilities' Response to ORA DR-92, Q1, the Utilities' HPPD longitudinal seam attribute field has been updated so that the MAOP calculator will provide the correct result.[541] Moreover, the information need not be in the HPPD for such records to exist. ORA points to no evidence that the Utilities failed to respond to a data request for the underlying records supporting the LJF for these 16 segments.

ORA also points to the Utilities' statement, in explaining the error in the original response to SED DR-3, that "[T]here were instances where purchase records documented the pipe had a joint factor of 1.0, but the long seam type was not indicated (either ERW or seamless)."[542] As noted above, ORA fails to note that, under 49 CFR § 192.113, for the applicable pipe specification, the LJF for both "seamless" and "electric resistance welded" (ERW) is 1.0. ORA points to § 192.113's statement that "[i]f the type of longitudinal joint cannot be determined, the joint factor to be used must not exceed" 0.8 for pipe over 4 inches. But here the type of joint can be determined. It is either seamless or ERW,[543] and in either case the LJF is 1.0. This does not support adoption of a presumption contrary to fact.

ORA also complains: "SoCalGas/SGD&E were asked about their long seam types in July, 2016, and they did not disclose them until more than one year later, during hearings."[544] Contrary to ORA's claim, ORA DR-25, Q1 states: "QUESTION 1: Please provide an updated version of the table provided in response to SED DR-3, Q2 and Q3, that includes the following

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541 Exh. ORA 24 (Utilities Response to ORA DR-92, Q1).

542 ORA Opening Brief at 30, quoting Exh. ORA 24 (Utilities Response to ORA DR-92, Q1). Note later correction discussed in Footnote 515 *supra*.

543 Note later correction discussed in Footnote 515 *supra*.

544 ORA Opening Brief at 31 & n.104. ORA cites to "Exh. ORA 19-C at p. 18, shows ORA DR 21, Question 1," but means to refer to ORA DR-25, Q1.

columns appended to the end: a. Longitudinal Joint Factor; b. If the Joint is Known (K) or Unknown (U); c. The year of each class location change (blank if no class location change); d. The class location prior to each change; e. The class location after each change."[545]
Nowhere does ORA DR-25, Q1 request "long seam type."[546]

In the end, ORA provides no evidence that the Utilities lack records to establish the LJF for the Line 1600 segments. To the contrary, the evidence is that the Utilities' "updates culminated in every segment of Line 1600 containing a known entry in the HPPD for wall thickness, diameter, SMYS, and long seam."[547]

4. ORA Alleged "Unreliable Records" Example 4

ORA asserts "On multiple parts of Line 1600, SoCalGas/SDG&E overstated SMYS values, another required factor for determining design MAOP."[548] This is an argument that ORA sought to address through its September 14, 2017 Motion To Amend and Supplement Testimony, which ALJ Kersten denied on September 28, 2017.[549] ORA cannot point to any qualified engineering testimony to support its claim that the Utilities overstated their SMYS values. Instead, having no such evidence, it claims that the Utilities lack sufficient documentation to support their SMYS values—even though ORA never asked to see any such documentation other than its May 5, 2017 request regarding the six segments it challenged and ORA does not dispute such records.[550] ORA is mistaken.

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545 Exh. SDGE-13-C (Rebuttal Testimony, Attachment B-4 at 30).
546 Nor does it ask for Utilities "to provide all information on Line 1600's Longitudinal Joint Factor," as asserted in ORA Opening Brief at 31 n. 104.
547 Exh. ORA 24 (Utilities Response to ORA DR 92, Q1).
548 ORA Opening Brief at 33.
549 Tr. at 887:18-892:27 (ALJ Kersten).
550 Exh. SDGE-14-C (ORA Response to Utilities DR-12, Q1-Q6).

Once again, ORA forces the Utilities to address, briefly, the lack of merit in this claim. 49 CFR § 192.107 provides in relevant part:

> (a) For pipe that is manufactured in accordance with a specification listed in section I of Appendix B of this part, the yield strength to be used in the design formula in §192.105 is the SMYS stated in the listed specification, if that value is known.
>
> (b) For pipe that is manufactured in accordance with a specification not listed in section I of Appendix B to this part or whose specification or tensile properties are unknown, the yield strength to be used in the design formula in §192.105 is one of the following:
>
> …
>
> (2) If the pipe is not tensile tested as provided in paragraph (b)(1) of this section, 24,000 psi (165 Mpa).
>
> (Emphasis added).

ORA begins by challenging certain segments installed after 1970. ORA asserts: "The record shows that at the time they filed their application, SoCalGas/SDG&E assumed SMYS values significantly greater than 24,000 pounds per square inch without a basis from records, tensile testing or Appendix B, on 19 segments installed after 1970, totaling approximately two miles of pipe."[551] For this proposition, ORA cites Exh. ORA-6-C (Utilities Response to ORA DR-91, Q1(a)), which asked the Utilities to identify Line 1600 segments for which the Utilities' HPPD contained "assumptions," *i.e.* conservative, engineering-based values, at the time of the Application. The two fundamental flaws in ORA's argument are (1) the Utilities' response states that the Utilities have records to support their SMYS values and (2) the issue is whether the specification is known, not whether the value was in the HPPD in March 2016.

The Utilities' response to ORA DR-91, Q1(a) states:

> The attached excel spreadsheet (*PSRP ORA 91 Q1 confidential.xls*) lists the conservative decision tree values used for wall and yield strength pipe

[551] Opening Brief at 33-34 (emphasis added).

> attributes in SDG&E's and SoCalGas' (Applicants') High Pressure Database (HP Database) for Line 1600 on March 21, 2016 which was the date of the amended application. The listing uses engineering (ENG) stationing. <u>These 25 segments have been progressively updated in the High Pressure Pipeline Data (HPPD)</u>. 18 segments were updated prior to the Applicants' original May 12, 2016 response to ORA DR-6, Q12. Of the remaining 7 segments, 6 were updated prior to the Applicants' original response to SED DR 3, Q2 (provided to ORA in Applicants' July 15, 2016 response to ORA DR-19, Q6) and original August 12, 2016 response to ORA 25, Q1. <u>The supporting documentation for these 6 segments was provided in response to ORA 84, Q1 to Q6</u>. The remaining segment from ENG station 2-131 was replaced in 2012 (ENG 2-16) and 2016 (ENG 17-131). The report provided to ORA in response to ORA DR-86, Q1, demonstrates that the segment removed pursuant to Resolution SED-1 had a yield strength greater than 52,000 psi and a nominal wall thickness of 0.250 inches.[552]

ORA then asked, for all of the updated segments, "please identify the date of when SoCalGas/SDG&E identified the traceable, verifiable, and complete records used to make the updates, and the date on which those updates were entered into the High Pressure Database."[553] The Utilities' response was:

> As a prudent operator SoCalGas/SDG&E has <u>maintained records</u> to maintain and safely operate L1600. These records over the 68-year time span that the pipeline has been in operation have been mainly archived and kept in various formats. An initial review of L1600 completed in 2011 identified a <u>first tier of documentation</u>, which over the years has been used and supplemented with <u>subsequent records searches</u> to update the High Pressure Pipeline Database, please see attachment ORA 91_Q1(e).xls for the dates the updates were processed in the HPPD.[554]

In short, the Utilities have records to support the SMYS values identified in the updated Line 1600 data provided to both SED and ORA.

ORA then turns to "Line 1600's segments installed before November 12, 1970," and makes a similar argument, claiming that the Utilities "asserted that most of Line 1600 had SMYS

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[552] Exh. ORA-6-C (Utilities Response to ORA DR-91, Q1(a)) (emphasis added).
[553] Exh. ORA-6-C (ORA DR-91, Q1(e)).
[554] Exh. ORA-6-C (Utilities Response to ORA DR-91, Q1(e)) (emphasis added).

values of 52,000 psi" without "the requisite supporting records to comply with Appendix B Section I at the time they filed their application."[555] Again, use of conservative, engineering-based values in the Utilities' HPPD until updated with actual documented values (a practice known to ORA since Mr. Schneider's 2011 PSEP testimony) does not mean that the Utilities did not have records before the update—or do not have records now. As noted above, the Utilities have records and the HPPD has been updated.[556] ORA even admits that "SoCalGas/SDG&E Amended Application at p. 10 refers to grade X-52," and the "Grade X52 pipe is 52,000 psi."[557]

ORA also asserts: "the record shows that SoCalGas/SDG&E asserts that the 1949 installations 'consists of flash welded seam pipe meeting API 5LX Grade X52', but they do not meet their burden to show they met the requirement to install pipe with the actual API 5LX specification."[558] To the contrary, Section 192.107(a) provides: "For pipe that is manufactured in accordance with a specification listed in section I of Appendix B of this part." (Emphasis added). Line 1600's 1949 A.O. Smith pipe was manufactured in accordance with API 5L specifications, which is listed in Section I of Appendix B.[559] Mr. Rosenfeld testified that "[a]pproximately 97% of the aggregate length of the line consists of pipe designated as API 5LX Grade X52 having specified minimum yield strength (SMYS) of 52,000."[560]

ORA attempts to undermine this straightforward testimony by claiming: "SoCalGas/SDG&E claim that the pipe segments replaced at SED's instruction, in their view,

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[555] ORA Opening Brief at 34 (emphasis added).
[556] Exh. ORA-6-C (Utilities Response to ORA DR-91, Q1(a) & (e)).
[557] ORA Opening Brief at 34 n. 114; Exh. SDGE-12 (Supplemental Testimony at 145:17-18).
[558] ORA Opening Brief at 34 (citing to Exh. SDGE-12 (Supplemental Testimony, Attachment C at 1).
[559] Appendix B, Section 1 includes: "ANSI/API Specification 5L—Steel pipe, "Specification for Line Pipe" (incorporated by reference, *see* § 192.7)." Line 1600 contains pipe manufactured per API 5LX which was recognized by the original 49 CFR § 192 regulations, but has since been removed as a referenced specification when it was combined with API 5L (amendment 192-51 in April 1986). 51 FR 15335 (April 23, 1986).
[560] Exh. SDGE-12 (Supplemental Testimony, Attachment C at 3, citing American Petroleum Institute, 'Specification for High-Test Line Pipe,' API Standard 5LX, 2nd Edition, May 1949).

are ‘believed to have been installed in 1949.’ However, this ‘belief’ is directly contradicted by the data consistently provided from SoCalGas/SDG&E’s High Pressure Pipeline Database, which provides an installation date of 1953, which is after 1949.”[561] Based upon this alleged contradiction, ORA asserts “the specifications from this document of the original 1949 installed segments should be afforded no weight.”

ORA misstates the evidence in multiple ways. First, for the alleged SoCalGas/SDG&E misstatement, ORA is citing to “Exh. SDGE-29, pdf at p. 5, SoCalGas/SDG&E Data Response ORA 86, Question 1, ‘Re: Testing of Pipe Samples Removed from Line 1600.’” ORA is quoting the <u>contractor’s report</u>, not a document written by Utilities, and the Utilities are not responsible for the contractor’s belief. Second, the removed segment was installed in 1953, as stated in the Utilities’ Response to ORA DR-25, Q1, Line 1600 data table. Third, the contractor’s report about that one removed segment is not evidence about any or all of the remaining 1949 pipe (approximately 97%) of Line 1600.

ORA also states: “49 CFR Section 192.107 references Appendix B Section I as an exception to the requirement that assumed SMYS values are 24,000 psi, and Section III of Appendix B also states that it is an extension of Section I, and that it applies to pipe manufactured before November 12, 1970.”[562]

As explained previously,[563] this misstates the regulations. Appendix B, Section III does not apply to determine yield strength under Section 192.107 at all. Section 192.107(a) refers only to Appendix B, Section I—<u>not</u> Section III. Only Section 192.55 “Steel pipe” refers to

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[561] ORA Opening Brief at 34-35 (footnote omitted).
[562] ORA Opening Brief at 34.
[563] September 19, 2017 Response Of San Diego Gas & Electric Company (U 902 G) And Southern California Gas Company (U 904 G) In Opposition To Office Of Ratepayer Advocates’ Motion To Amend And Supplement Testimony And For Additional Hearings at 22-23.

Appendix B, Section III. Section 192.55 is part of Subpart B, which per Section 192.51 "prescribes minimum requirements for the selection and qualification of pipe and components for use in pipelines," not evaluation of existing pipelines. The yield strength of pipe is determined under Section 192.107, not Appendix B, Section III.

ORA concludes its attack on the Utilities' Line 1600 SMYS values by referencing PG&E's San Bruno pipeline and claiming: "In this case, SoCalGas/SDG&E does not have the records PG&E had; only assumptions."[564]

The contention that the Utilities have "only assumptions" is simply false.

(1) Before serving its April 17, 2017 prepared testimony, ORA never asked for the records underlying the SMYS information repeatedly provided to ORA on July 15, August 4 and August 12, 2016.

(2) On May 5, 2017, ORA asked for the documentation establishing SMYS for six Line 1600 segments. ORA then admitted: "Based on the materials provided in response to ORA data request 84, ORA does not dispute the assertion that SoCalGas/SDG&E located additional documentation that support the identified specified minimum yield strengths for these 6 segments."[565]

(3) Although ORA never asked for any other documentation, and thus has no factual basis whatsoever to claim that the Utilities lack records, SED came to SDG&E's Miramar facility on August 9-11, 2017 and reviewed the supporting documentation for every Line 1600 pipeline segment for each attribute value, including SMYS.

(4) ORA knows that the specifications for the A.O. Smith-manufactured pipe required pipe meeting a 52,000 psi transverse yield strength because the Utilities provided that specification in response to ORA DR-39, Q4.[566]

564 ORA Opening Brief at 35.
565 Exh. SDGE-14-C (ORA Response to Utilities DR-12, Q1-Q6(c)).
566 It is not appropriate for ORA to contend that the Utilities lack records when such records have been provided to ORA. Attachment C hereto is the Utilities Response to ORA DR-39, Q4. Attachment D

(5) Further, if ORA had asked for such documents, which it did not, or if ORA's testimony had challenged SMYS generally, rather than just six segments, the Utilities would have presented such specifications and testing documents, which show that the A.O. Smith-manufactured pipe installed on Line 1600 is known to have a 52,000 psi minimum yield strength per specification and testing.[567]

There is no merit to ORA's claims that the Utilities' SMYS values are unreliable or unsupported by reliable records.

5. ORA Alleged "Unreliable Records" Example 5

ORA asserts: "After determining Line 1600's MAOP based upon 49 CFR Section 192.619(c), SoCalGas/SDG&E operated at least 19 Post-1970 installed segments on the Line without a validly determined MAOP."[568] For this argument, ORA again points to 19 segments, installed post-1970, for which the Utilities' HPPD contained conservative, engineering-based values at the time of the Application.[569]

As has been addressed repeatedly above, the Utilities had and have actual documentation for these 19 segments. The HPPD used conservative values based on specifications and purchasing practices that provided a margin of safety until updated with verified data. The HPPD has been updated with reliable data from documentation for these 19 segments.[570] As the Utilities explained: "When a default value is used in the HP Database, it is a conservative value that provides a margin of safety. Because the conservative default values are set below the anticipated values, and here below the actual documented values, no safety issue was or is

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hereto is Utilities Response to ORA 86, Q2, which provides the agreement between SDG&E and Southern Counties Gas Co. of California for the A.O. Smith pipe.

[567] As ORA did not present any timely testimony challenging the SMYS of the Line 1600, A.O. Smith-manufactured pipe, yet make such allegations in their Opening Brief, the Utilities provide as Attachment E hereto a copy of the Moody Engineering Company's testing report.

[568] ORA Opening Brief at 35.

[569] ORA Opening Brief at 35 n.121.

[570] Exh. ORA-6-C (Utilities Response to ORA DR-91, Q1(a)) (emphasis added).

presented by the use of default values until further documentation or validation confirms the actual values."[571]

In response to ORA DR-87, Q2, the Utilities further explained: "The High Pressure Database works as intended. The Applicants' use of conservative values should not be characterized as "incorrect information" as the process for establishing conservative values was developed to align with guidance provided by ASME B31.8S Section 4, Gathering, Reviewing and Integrating Data when the data available is not completely substantiated."[572] Explaining the MAOP validation process further, the Utilities stated: "Applicants completed the MAOP validation process as outlined by the Pipeline and Hazardous Materials Safety Administration (PHMSA) in June 2013. The segments involved in the ORA DR-84 data request did not impact the validated MAOP determination of Line 1600. The segments from ORA DR-84 Questions 1-3 using conservative wall thickness and grade values validated the MAOP of 640 psig and the segments from ORA DR-84 Questions 4-6 are qualified to be grandfathered."[573]

ORA also incorrectly states that the Utilities "intended to check to see if they were correct about their assumptions if the Commission approved their proposed project," citing the Utilities Response to ORA DR-89, Q1. That response addressed the Utilities' basis for believing that the hoop stress on Line 1600 would be less than 20% of its SMYS at 320 psig. As discussed under "ORA Alleged "Unreliable Records" Example 1," the response provides: "Based upon what was known about Line 1600's construction, maintenance and operation, Applicants were confident that the weakest segments were constructed in 1949 using the original A.O. Smith pipe (wall thickness 0.250 and yield strength of 52,000) and that <u>later installed segments</u> were built to

[571] Exh. SDGE-13 (Rebuttal Testimony at 8:15-9:3); *see also id.* (Rebuttal Testimony at 12:15-18).
[572] Exh. SDGE-36 (Utilities Response to ORA DR 87, Q2(b)).
[573] Exh. SDGE-36 (Utilities Response to ORA DR 87, Q2(c)).

withstand equal or greater pressures (with equivalent or greater wall thickness and/or yield strength)."[574] Mr. Schneider testified that documents were reviewed at SDG&E's Miramar facility for this determination.[575] The only segment for which confirmation would have been required was the segment that was removed pursuant to Resolution SED-1.

ORA has not shown that the Utilities' records are unreliable.

D. ORA's Call for the Commission to Require A $112.9 Million Pressure Test to "Punish" the Utilities Should be Rejected

In its Opening Brief at 36-40, ORA repeats its claims of "discovery evasion" and then states: "In light of this, Line 1600 cannot operate at 512 psig in compliance with Federal and State safety requirements unless it is successfully pressure tested."[576]

Returning to its decision to use the Line 1600 segment data provided by the Utilities' May 2016 response, rather than the updated information provided in response to later data requests, ORA claims that the Utilities attempt "to place blame on ORA" and that the Utilities needed "to explain the corrections."[577] ORA compares the Utilities' failure to update the May 2016 response to the PG&E conduct at issue in D.13-12-053, and asserts: "PG&E's actions in D.13-12-053 were similar to, albeit less egregious than SoCalGas/SDG&E's practices in this proceeding."[578]

The Utilities have responded to ORA's claims in detail in response to ORA Alleged "Evasion" Example 6 above. The facts here are not in dispute. ORA's April 17, 2017 prepared testimony relied upon the Utilities' May 12, 2016 data response providing a table of Line 1600 segment data needed to complete the design pressure equation. When the Utilities learned that

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[574] Exh.ORA-04-SA at 16 (Utilities Response to ORA-DR-89, Q1) (emphasis added).
[575] Tr. at 56:12-27 (Utilities-Schneider).
[576] ORA Opening Brief at 40.
[577] ORA Opening Brief at 37.
[578] ORA Opening Brief at 38.

ORA was relying on the May 2016 segment data, they updated the May 12, 2016 response, explaining that the correct attribute data was that provided to ORA on July 15, August 4 and August 12, 2016. On May 3, 2017, the Utilities asked ORA: "Given that Applicants' failure to correct that response earlier may have contributed to ORA's testimony being inaccurate, would ORA like the opportunity to amend certain affected portions of ORA-2?"[579] The Utilities promptly responded to ORA's discovery about the updates to the Line 1600 segment data reflected in the later data responses, and ORA did not dispute that the Utilities' documents supported the updates. When ORA moved to submit amended testimony, the Utilities did not oppose it and the Commission allowed it. ORA submitted amended testimony knowing the updates were correct, and participated in evidentiary hearings with that knowledge.

Further, there is no dispute regarding the wall thickness or SMYS of the six (previously seven) Line 1600 segments that ORA questioned in its April 17, 2017 prepared testimony, in reliance on the Utilities' May 12, 2016 response. ORA admitted the Utilities' documents support those values. Nor is there any dispute that ORA received data request responses providing those values in July 2016 and August 2016. This is not a case involving "suppressed" evidence.

As stated in the Utilities' Rebuttal Testimony, they "regret not having amended their response to DR-06, Q12 earlier."[580] The Utilities did not know that ORA was relying upon it after being sent on July 15, 2016 a copy of the Utilities' response to SED DR-3, Q2, which included a later-in-time "segment by segment engineering analysis for the entire Line 1600."[581] When ORA asked the Utilities to add data to the Line 1600 segment table sent to SED in ORA's

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[579] June 7, 2017 Response Of San Diego Gas & Electric Company (U 902 G) And Southern California Gas Company (U 904 G) To Office Of Ratepayer Advocates' Motion For Leave To Amend Testimony And For Shortened Time To Respond, Attachment 1.

[580] Exh. SDGE-13 (Rebuttal Testimony at 12:3).

[581] Exh. SDGE-19-C (Utilities Response to ORA DR-19, Q6).

July 29, 2016 DR-25, Q1, it appeared that all parties were now using the later, updated Line 1600 data table. Unbeknownst to the Utilities, ORA quickly noticed that the updates in the later Line 1600 segment data table affected the six Line 1600 segments that had "lower wall thickness or a lower yield strength" in the May 2016 segment data.[582] ORA chose not to ask why the values for those segments had changed until May 2017. Instead, based on the Utilities' response that the May 2016 segment data reflected the "current status" of Line 1600 in comparison to a 1968 description, ORA testified that it believed the Utilities had provided outdated data to SED in June 2016 and provided the current data to ORA in May 2016,[583] even though the Utilities provided the updated data to ORA in July 2016 and August 2016. Ultimately, ORA testified that it consciously chose to use the "more conservative safety values" in its April 17, 2017 prepared testimony.[584]

ORA claims that that the Utilities' failure to earlier amend its May 12, 2016 response to ORA DR-6, Q12 is more "egregious" than the PG&E conduct described in D.13-12-053. The Utilities disagree with the comparison. There, PG&E had relied on erroneous data to seek and obtain Commission authorization to increase operating pressure. Here, the Utilities are seeking authorization to reduce operating pressure and have presented accurate data to the Commission. There, PG&E learned of the error after the Commission decision and took over eight months after learning of the error to inform the Commission via an "Errata" that the Commission held was not the proper vehicle to do so. Here, the Utilities provided un-updated data to ORA in May

[582] Tr. at 1175:1-22 (ORA-Skinner). See generally Response to ORA Alleged "Evasion" Example 6. Mr. Skinner repeated this point: "As I stated earlier, we chose to use the more conservative safety values in assessing the strength or weakness of Line 1600." Tr. at 1178:10-13 (ORA-Skinner).

[583] Tr. at 1171:10-18 (ORA-Skinner); see generally Tr. at 1169:23-1171:18) (ORA-Skinner).

[584] Tr. at 1175:1-22 (ORA-Skinner) (emphasis added). Mr. Skinner repeated this point: "As I stated earlier, we chose to use the more conservative safety values in assessing the strength or weakness of Line 1600." Tr. at 1178:10-13 (ORA-Skinner).

2016, updated data to SED in June 2016, the updated data to ORA in July 2016, and corrected updated data in August 2016.

The Commission found that PG&E's "Errata" did not "did not clearly convey the nature or significance of the facts set forth within."[585] The Utilities' April 17 and May 22, 2017 updates to their original May 12, 2016 response to ORA DR-6, Q12, explain the updates made.[586] ORA's complaint is that, when the Utilities provided the updated Line 1600 segment data in July and August 2016, they did not expressly say such updates superseded the May 2016 segment data nor did they issue an amended response to the original May 12, 2016 data response. That is true and, for that reason, once learning that ORA chose to rely upon the May 2016 segment data in its April 17, 2017 prepared testimony, the Utilities offered ORA the opportunity to amend its testimony and did not oppose ORA's motion to do so.

Given these facts, the Commission should reject ORA's assertion: "In light of this, Line 1600 cannot operate at 512 psig in compliance with Federal and State safety requirements unless it is successfully pressure tested."[587] There is no basis to ignore the actual evidence.

XIII. SCOPING MEMO ISSUE 11: LEGAL COMPLIANCE OF LINE 1600 AT 512 PSIG

Scoping Memo Issue 11: "At the presently effective 512 psig transmission operating pressure, is Line 1600 in compliance with Pub. Util. Code § 958 and other state requirements; the Code of Federal Regulations, and other federal requirements; and Commission General Order 112-F, and other Commission requirements? If not, what steps are necessary to bring Line 1600 into full compliance?"

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585 D.13-12-053 at 27.

586 Exh. ORA-19-C (First and Second Amended Responses to ORA DR-6, Q12).

587 ORA Opening Brief at 40. ORA also asserts in Footnote 137 that: "As discussed above, PHMSA can provide a waiver acknowledging that historic operating pressure on Line 1600 counts as a valid pressure test." *See infra* at 155-157 for the Utilities' response to this claim.

As discussed in the Utilities' Opening Brief, Section XII: "Operating at 512 psig, Line 1600 is in compliance with applicable federal, state and Commission requirements other than compliance with the 'test or replace' mandate set forth in P.U. Code § 958 and D.11-06-017. Such compliance awaits the Commission's decision in this Application on whether the line should be tested or replaced and removed from transmission service."[588]

A. POC's Claim that the Utilities Have Violated Public Utilities Code § 958 and Related Commission Decisions by Not Already Having Pressure Tested Line 1600 is Wrong

POC asserts:

> Pub. Util. Code § 958 and Commission D.11-06-017 and D.14-06-007 require Applicants to pressure test or replace Line 1600. Applicant has and continues to <u>violate the law</u> by failing to pressure test line 1600, and the Commission mandated lowering of the MOAP to 512 psig does not change this fact. <u>Applicant has offered no justification whatsoever</u> for its failure to pressure test Line 1600 over the past years since it was ordered to do so by the Commission. The pendency of this application, which Applicant undertook of its own volition, does not in any way <u>toll the statutory requirement</u> and Commission order that Line 1600 be tested.[589]

POC is mistaken. POC does not identify the "statutory requirement" that it alleges the Utilities have violated. Public Utilities Code § 958 states: "Each gas corporation shall prepare and <u>submit to the commission</u> a proposed comprehensive pressure testing implementation plan for all intrastate transmission lines to either pressure test those lines or to replace all segments of intrastate transmission lines that were not pressure tested or that lack sufficient details related to performance of pressure testing. The comprehensive pressure testing implementation plan shall provide for testing or replacing all intrastate transmission lines <u>as soon as practicable</u>." D.11-06-

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[588] Exh. SDGE-12 (Supplemental Testimony at 93:8-14).
[589] POC Opening Brief at 29 (emphasis added).

017 similarly states: "The Implementation Plan must reflect a timeline for completion that is as soon as practicable."[590]

In accordance with D.11-06-017, the Utilities submitted to the Commission their proposed Pipeline Safety Enhancement Plan (PSEP).[591] The Commission approved the Utilities' "analytical approach" to ensure the safety and reliability of the Utilities' integrated gas transmission system.[592] As discussed in the Utilities' Opening Brief at 93-96, the PSEP Decision Tree originally contemplated constructing a new line (proposed Line 3602) to facilitate pressure testing Line 1600. "[T]he Commission indicated that the Utilities' proposal to construct 'Line 3602' to replace Line 1600 must be addressed in a new application for the project."[593] Thus, in approving PSEP, the Commission was aware that "as soon as practicable" for Line 1600 would follow a Commission determination on an application to construct proposed Line 3602.

The Utilities subsequently determined that de-rating Line 1600 to distribution service following construction of proposed Line 3602 would better enhance safety and reliability. As discussed in the Utilities' Opening Brief, Section XVI, such a determination is entirely consistent with PSEP's analytical approach approved by the Commission. Further, in D.14-06-007, the Commission expressly stated that its PSEP "decision does not preclude SoCalGas or SDG&E from submitting additional applications for specific projects for further guidance or approval."[594] This Application seeks the Commission's guidance on de-rating Line 1600 to distribution service as well as approval of proposed Line 3602.

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[590] D.11-06-017 at 31 (Ordering Paragraph 5).
[591] Exh. SDGE-1 (Schneider Prepared Testimony at 5:15-8:11).
[592] D.14-06-007 at 23-25, 56 (Conclusion of Law 8), 59 (Ordering Paragraph 1).
[593] Exh. SDGE-12 (Supplemental Testimony at 21:5-9) (citing to D.14-06-007 at 16-17).
[594] D.14-06-007 at 24 (emphasis added).

Thus, the Utilities complied with Section 958 and D.11-06-017 by submitting a comprehensive testing plan to the Commission, which proposed a timetable to test or replace all subject intrastate transmission lines as soon as practicable. The Commission approved the Utilities' plan, which rested on the analytical approach set forth in the Decision Tree. The Commission recognized that, in some situations, including Line 1600, "as soon as practicable" would mean following the Commission's decision on "applications for specific projects."

The Utilities have not violated "the law" and have explained their "justification" for not proceeding to pressure test Line 1600 at an estimated direct cost of $112.9 million. If the Commission agrees that Line 1600 should be de-rated to distribution service, that cost need not be imposed on the Utilities' customers. POC's claim has no merit.

B. ORA's Claims Regarding Line 1600's MAOP Are Incorrect

ORA asserts that operating Line 1600 at a MAOP of 512 psig alleged "Does Not and Would Not Comply with 49 CFR §192.619(c) at Any Pressure."[595] For this proposition, ORA makes the same claim to which the Utilities responded under ORA Alleged "Evasion" Example 2, *i.e.*, that the 1968 Commission filing showing that Line 1600 operated to its MAOP of 812 psig each winter is not adequate to invoke the § 192.619(c) grandfathering clause, that "actual pressure logs" are required, and the Utilities do not have them.[596]

As set forth in more detail in response to ORA Alleged "Evasion" Example 2, the 1968 Commission filing, contemporaneously prepared and filed as required by Commission Decision No. 73223,[597] substantiates the maximum pressure experienced by Line 1600 in the 1965 to 1970 time period. In D.16-08-020 at 33, the Commission expressly rejected the SED's argument that

[595] ORA Opening Brief at 40.
[596] ORA Opening Brief at 40-42.
[597] Exh. ORA-02-SA at p. 50 (Utilities Response to ORA-DR-14, Q2a, Attachment).

pressure logs are required to establish the MAOP under the grandfather clause, accepting PG&E's use of sworn statements where paper records were not available. The sufficiency of the 1968 Commission filing has not been challenged for nearly 50 years. Further, if it was in scope or ORA had challenged its adequacy earlier, the Utilities would have put additional documents in evidence.[598]

ORA also asserts "SoCalGas/SDG&E operated 25 different pieces of pipe on Line 1600 that they installed after 1970 without a validly determined MAOP from 49 CFR Section 192.619(c)."[599] The Utilities agree that § 192.619(c) does not apply to pipe segments installed after 1970, and the Utilities do not establish the MAOP for those segments under that subsection.[600] Instead, as shown in the Line 1600 segment data tables provided to SED and ORA, the MAOP for those segments is established under other subsections of § 192.619.[601] For evidence supporting its claim, ORA refers to ORA Alleged "Unreliable Records" Example 5, and the Utilities have responded to this claim there.

ORA also points out a discrepancy in the reported values for the segments of Line 1600 under Lake Hodges (Lake Hodges segments) between the 1968 Commission filing and the Utilities' Amended Application and Line 1600 segment data provided in various data request

598 The Utilities do not consider the adequacy of the substantiating records for Line 1600's grandfather pressure to be within the scope identified in the Scoping Memo, as amended. Given that ORA has first raised this issue in its Opening Brief, the Utilities attach as Attachment F hereto several additional documents found in a quick review. These 1971 inspection reports for mains off of Line 1600 refer to the "last inspection date" in April and May 1970, and the "upstream pressure" as being 800 psig during those inspections.

599 ORA Opening Brief at 42.

600 *See, e.g.*, Exh. SDGE-36 (Utilities Response to ORA DR-87, Q2(c)) ("The segments involved in the ORA DR-84 data request did not impact the validated MAOP determination of Line 1600. The segments from ORA DR-84 Questions 1-3 using conservative wall thickness and grade values validated the MAOP of 640 psig and the segments from ORA DR-84 Questions 4-6 are qualified to be grandfathered.").

601 *See, e.g.*, Exh. SDGE-32-C (Utilities Response to ORA DR-25, Q1, Table, Column "MAOP_192619 GovCase"); Exh. SDGE-40-C (Utilities Amended Response to ORA DR-25, Q1, Table, Column "MAOP_192619 GovCase").

responses.[602] The Utilities appreciate ORA pointing out this discrepancy. As set forth in the Utilities' December 14, 2017 Supplemental Response to ORA DR-25, Q1, served on all active parties and the SED, the 1968 Commission filing is correct based upon the contemporaneous records and confirmed by a 2015 inspection. In 2014, erroneous information was entered in the HPPD. Due to mis-alignment with stationing values, a 2006 inspection report mistakenly was applied to the 14-inch pipe segments under Lake Hodges and the Lake Hodges segments were incorrectly updated. The HPPD data was updated with 0.375 in wall thickness and 35,000 SMYS as the correct data on July 29, 2016. Unfortunately, the data to respond to SED DR-3, Q2 had been obtained from the HPPD in June 2016, and the Utilities' later responses responded to questions regarding the June 2016 data. In August 2017, the Utilities and SED reviewed the records for each Line 1600 segment, including wall thickness, SMYS and LJF, as reflected in a table generated from the HPPD in August 2017 to confirm the data is accurate. The discrepancy between the Utilities' actual records and the HPPD in June 2016 for the Lake Hodges segments had no impact upon their MAOP, established under the grandfather clause, or the Utilities' testimony that such segments would have a hoop stress of less than 20% of SMYS at a 320 psig MAOP.[603]

ORA also asserts: "The record also shows that PHMSA requires that 49 CFR §192.619(c) cannot be used on a segment that experiences a class location change," citing PHMSA Interpretation, PI 14-0005 at p. 3.[604] That is not quite correct. As stated in PHMSA

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602 ORA Opening Brief at 42.
603 *See* the Supplemental Response to ORA DR-25, Q1, served on December 14, 2017. The Lake Hodges segment, with 14.0" diameter, 0.375" all thickness, and 35,000 psi SMYS is 17.1% SMYS at 320 psig. With the erroneous 0.250" wall thickness and 52,000 psi SMYS, it calculated to 17.2% SMYS at 320 psig.
604 ORA Opening Brief at 42-43 & n.152 (citing Exh. ORA-02-SA at p. 187, PHMSA Interpretation, PI 14-0005 at p. 3).

Interpretation PI 14-0005, "§ 192.611 details the requirements for confirming or revising the MAOP according to the new class location."[605] As discussed above in response to ORA Alleged "Evasion" Example 5 and ORA Alleged "Unreliable Records" Example 5, the Utilities reviewed each segment that experienced a class location change and determined that "segments operating at or below 50% SMYS are commensurate with Class 1, Class 2 and Class 3 and <u>require no action to confirm or revise the MAOP</u>."[606]

ORA concludes by stating, "[g]iven SoCalGas/SDG&E's rendering the requisite records unavailable to establish Line 1600's MAOP under 49 CFR §192.619(c)," the Commission should make numerous adverse inferences against the Utilities (contrary to known facts), require pressure testing at the Utilities' shareholders' expense (despite the Commission's determination in D.14-06-007),[607] blame the Utilities for the "hook cracks" caused by the A.O. Smith manufacturing process,[608] and eliminate grandfathering to establish the MAOP as allowed by the federal safety regulations, despite safe operation of Line 1600 since 1949. ORA justifies these requests by making the same inaccurate claims based upon alleged "discovery evasion" or "unreliable records" to which the Utilities have responded above. These claims have no merit.

C. ORA's Claim That the Utilities Lack Records to Safely Operate Line 1600 is Wrong

ORA claims that the Utilities lack the necessary records to safely operate Line 1600 at or below 512 psig.[609] To support this assertion, in its Opening Brief at 46-51, ORA "draws from many of the examples in the list of SoCalGas/SDG&E's rendering evidence unavailable and/or

[605] Exh. ORA-02-SA at p. 187, PHMSA Interpretation, PI 14-0005 at p. 2).
[606] Exh. ORA-02-SA at 56 (Utilities Response to ORA DR-25, Q7(g)).
[607] D.14-06-007 at 57 ("Where Phase 1 pipelines are replaced without testing SDG&E and SoCalGas should absorb an amount equal to the average cost of pressure testing where the company cannot produce pressure test records after the adoption of General Order 112, effective July 1, 1961."); *id*. at 33-34.
[608] Exh. SDGE-12 (Supplemental Testimony, Attachment C at 10-13).
[609] ORA Opening Brief at 46.

evasion of discovery regarding Line 1600's pipeline safety information, as well as the examples from the list showing SoCalGas/SDG&E's unreliable safety data."[610] ORA again asserts that "the Commission should find SoCalGas/SDG&E have mismanaged Line 1600 by using their unreliable safety data, and that shareholders be required to pay to remedy problems with Line 1600."[611]

The Utilities have responded to ORA's Alleged "Evasion" Examples 1 to 7 and ORA's Alleged "Unreliable Records" Examples 1 to 5 above, and will not discuss the flaws in those claims again here. The Utilities simply note that they have (and have had throughout this proceeding) reliable records for Line 1600. Most of ORA's complaints stem from the continuous process of updating the Utilities' HPPD. Such updates include updating conservative, engineering-based values with actual documented values. This process has been known to the Commission and ORA since Mr. Schneider's 2011 PSEP testimony. While it is unfortunate that the Utilities' original May 2016 response to ORA included seven conservative, engineering-based values, six of which were updated by the time the Utilities responded to SED in June 2016 (and to ORA in July and August 2016),[612] the process is not unsafe.[613] The Utilities have operated Line 1600 safely since 1949, and seek Commission authorization to enhance its safety be de-rating it to distribution pressure and replacing its transmission function.

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[610] ORA Opening Brief at 46.

[611] ORA Opening Brief at 47.

[612] The Utilities were confident that the single Line 1600 segment that still had a "DT" value in June 2016 was the original 1949 A.O. Smith pipe, but were ordered by SED to replace it before it was confirmed through testing.

[613] Exh. SDGE-13 (Rebuttal Testimony at 8:15-9:3) ("When a default value is used in the HP Database, it is a conservative value that provides a margin of safety. Because the conservative default values are set below the anticipated values, and here below the actual documented values, no safety issue was or is presented by the use of default values until further documentation or validation confirms the actual values.").

D. ORA's Proposed 11 Steps for Line 1600 Are Unnecessary

"ORA recommends 11 steps to ensure Line 1600 operates in compliance with Federal and State safety requirements."[614] Most lack any evidentiary support and/or are based upon erroneous interpretations of legal requirements. ORA bases its recommendations on its claims of "discovery evasion" and "unreliable records." The Utilities have responded to ORA's Alleged "Evasion" Examples 1 to 7 and ORA's Alleged "Unreliable Records" Examples 1 to 5 above, and will not discuss the flaws in those claims in detail again here.

The Utilities address a few points. First, ORA states the "Commission should investigate the recordkeeping practices of SoCalGas/SDG&E on the entirety of Line 1600."[615] SED specifically reviewed Line 1600 records at SDG&E's Miramar facility from August 9-11, 2017, including the records used to validate its MAOP. The comprehensive review included segment level analysis of the underlying records that support the pipeline attributes (including joint factor and SMYS), pressure test records, material purchase records, bill of materials and invoices, design data sheets, material test reports, direct examination records, construction drawings, and various other documents. Based on verbal communications during and after the review, it is the Utilities' understanding that SED was satisfied with the Line 1600 records. If SED wishes to review the Utilities' Line 1600 records again, the Utilities welcome it.

ORA recommends "at each line connecting with Line 1600 which has a higher pressure than Line 1600's proposed de-rated MAOP of 320 psig, add a pressure regulator, two monitoring valves, and a pressure relief valve."[616] "The Utilities believe ORA's proposal is inconsistent with industry practice, adds a layer of unnecessary complexity that may potentially increase

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[614] ORA Opening Brief at 52.
[615] ORA Opening Brief at 52.
[616] ORA Opening Brief at 53.

safety risks for employees responsible for operations and maintenance on the equipment, presents unwarranted operational and maintenance challenges, as well as increases costs."[617] ORA's proposal is not required by regulation, ORA could not identify any utility that uses four overpressurization devices, and this is not a place to incur added expense.[618]

ORA again suggests that the Utilities seek "a waiver from the [PHMSA] to allow the actual operating pressure on Line 1600 of up to historic operating pressure to serve as a valid test."[619] As an initial matter, unless Line 1600 is de-rated to distribution service, P.U. Code § 958 requires a pressure test for Line 1600. PHMSA has no authority to determine what constitutes a pressure test under § 958. Second, the Commission's Consumer Protection and Safety Division (predecessor to SED) expressly rejected this proposal for satisfying the pressure testing requirement in D.11-06-017, stating:

> The Companies request the Commission approve the use of an "in-service" test for grandfathered pipelines as an alternative to pressure testing.
>
> …
>
> <u>GO 112-E, and 49 CFR, Part 192, Subpart J only recognize and accept a static pressure test (no fluid flowing) as validation of the strength of a pipeline.</u> A static pressure test ensures that every point exposed to the test pressure actually experienced the pressure applied. An in-service operation cannot provide a static test pressure as required by GO 112-E and is, therefore, inherently not equivalent to the regulatory requirements. Whether the Companies apply their functional equivalency of 1.25xMAOP or 1.39xMAOP, neither would be capable of finding existing damage that pressure testing would reveal, such as the mechanical damage found during hydro-testing on PG&E's Line 132 during 2011, but which any level of functional equivalency like an in-service test would allow to remain in place.[620]

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617 Exh. SDGE-13 (Rebuttal Testimony at 41:10-13).
618 Exh. SDGE-13 (Rebuttal Testimony at 41:20-43:13)
619 ORA Opening Brief at 54.
620 January 17, 2012 Technical Report of The Consumer Protection and Safety Division Regarding The Southern California Gas Company and San Diego Gas and Electric Company Pipeline Safety

In approving the Utilities' PSEP, the Commission noted that, under 1956 industry standards, the "required test pressure had to be maintained for a period of no less than 1 hour after the pressure stabilized in all portions of the test sections (i.e., a static pressure test) prior to it entering service."[621] The PSEP Decision does not authorize past pressures to serve as a pressure test.

ORA could not identify "any instance when PHMSA agreed that previous operating pressures and records of valid leak surveys performed at those pressures was sufficient to serve as evidence of a valid pressure test under 49 CFR part 192."[622] ORA also could not identify any "Commission decision stating that previous operating pressures and records of valid leak surveys performed at those pressures would satisfy the pressure testing requirement of Public Utilities Code Section 958."[623] ORA admitted that it was unaware of any "Commission decision stating that flowing gas supplies at a particular pressure without isolation would satisfy the pressure testing requirement of Public Utilities Code Section 958."[624]

ORA asserts that "the record shows that SoCalGas/SDG&E's proposal to de-rate Line 1600 to a distribution line is unsupported. SoCalGas/SDG&E did not comply with 49 CFR §192.621, which sets the MAOP calculation requirements for distribution lines."[625] To the contrary, the Utilities explained exactly how de-rating Line 1600 to distribution service at a 320 psig MAOP would comply with 49 CFR § 192.621.[626] ORA's claim is unsupported.

The Utilities request that the Commission reject ORA's recommendations other than Step 4, "Reduce the MAOP of Line 1600 to 20% of the Specified Minimum Yield Strength (SMYS)

Enhancement Plan at 19-20, filed in Rulemaking 11-02-019. http://docs.cpuc.ca.gov/PublishedDocs/EFILE/REPORT/157530.PDF

621 D.14-06-007 at 33.

622 Tr. at 1224:16-1225:7 (ORA-Skinner).

623 Tr. at 1227:23-1228:4 (ORA-Skinner).

624 Tr. at 1233:14-18 (ORA-Skinner).

625 ORA Opening Brief at 55.

626 Exh. SDGE-13 (Rebuttal Testimony at 24:8-28-6).

of Line 1600," so long as the Commission correctly finds that doing so renders Line 1600 a distribution line and it is coupled with replacing Line 1600's transmission function.

XIV. SCOPING MEMO ISSUE 12: SAFETY OF DE-RATED LINE 1600

Scoping Memo Issue 12: "Is the Applicants' proposed derating of Line 1600 to 320 psig low enough to ensure the safety operations of Line 1600? And if not, what is a sufficiently low pressure on Line 1600 to ensure safe operation?"

A. POC Wrongly Claims That De-Rating Line 1600 to 320 PSIG Would "Present Greater Risk to Public Safety

Based upon its claim that Line 1600 can be safety operated at 512 psig or 640 psig,[627] one might suspect that POC would agree that operating Line 1600 at 320 psig would be "low enough" to ensure safe operation. That is not the case. POC argues: "Because Applicant does not plan to conduct any further ILI [in-line inspection] or DE [direct examination] of Line 1600 once it is derated, Line 1600 will actually present a greater risk to public safety."[628] POC contends that the Utilities are "fearmongering" in pointing out the long-term safety concerns about Line 1600. Incredibly, POC states: "There is no evidence that derating Line 1600 to 320 psig would make the line more safe."[629]

To the contrary, as discussed in Utilities Opening Brief at 60-64 and 101-02, reducing the pressure in Line 1600 to 320 psig, less than 20% SMYS, would make Line 1600 significantly more safe. Three experts, Mr. Sera, Mr. Rosenfeld and Mr. Sawaya, all testified that a modern gas pipeline would be more safe than existing Line 1600 at transmission pressure, and that reducing pressure on Line 1600 would enhance its safety.[630] Mr. Sera testified that de-rating

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[627] POC Opening Brief at 4, 29.
[628] POC Opening Brief at 31.
[629] POC Opening Brief at 29-30.
[630] *See, e.g.,* Exh. SDGE-12 (Supplemental Testimony at 73:14-77:11, Attachment C, 117:12-118:2, 126:4-128:13, 141:3-12, 154:11-155:14), as corrected by Exh. SDGE-12-Errata; Exh. SDGE-2 (Sera

Line 1600 to distribution service: (a) significantly reduces the potential impact radius in the event of rupture; (b) reduces the risk of failure because flaws must be larger or deeper to fail at a lower pressure; and (c) reduces the risk of rupture by lowering the percentage of SMYS at which a pipeline operates.[631] Mr. Rosenfeld (a mechanical engineer and pipeline expert) testified that Line 1600's "propagating fracture control properties do not meet modern criteria for gas transmission pipelines. … The implication of these inherent properties of Line 1600 is that in the event of a failure, particularly in the seam but potentially even in the pipe body, a failure would result in a rupture and propagating brittle fracture, rather than a leak."[632]

No expert testified that de-rating Line 1600 would increase the risk from Line 1600.

POC's claim has two parts: (a) Line 1600 is safe at transmission pressure and (b) it is less safe at distribution pressure. First, POC asserts: "Applicant has concluded, based upon its own ILI and DE inspections, that Line 1600 is safe to operate at transmission pressures of 512 psig or 640 psig."[633] Mr. Sera testified: "Assessment data from both ILI technologies demonstrate that for the remaining anomalies in Line 1600, adequate safety margins exist for operation at its maximum allowable operating pressure (MAOP) of 640 psig, which equates to a stress level of 39% of the specified minimum yield strength (SMYS)."[634]

But Mr. Sera was clear that Line 1600's current fitness for service did not address long-term concerns and that reducing pressure would reduce risk:

> Even if Line 1600 is pressure tested, it is prudent to assume that it will need to be replaced eventually. While the Utilities are confident in the ability of ILI technologies to detect seam flaws that can potentially result in failures, if Line 1600 is pressure tested instead of replaced under PSEP,

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Prepared Testimony at 16:1-23:12); Tr. at 335:15-337:24, 343:11-344:9 (Utilities-Sawaya); Tr. at 445:16-456:13, 458:19-460:17 (Utilities-Rosenfeld).

631 Exh. SDGE-2 (Sera Prepared Testimony at 12:16-25:20).

632 Exh. SDGE-12 (Supplemental Testimony, Attachment B at 8-10).

633 POC Opening Brief at 29.

634 Exh. SDGE-2 (Sera Prepared Testimony at 8:13-16).

> on-going integrity assessments under the transmission integrity management plan will be required to monitor remaining seam anomalies for <u>potential future in-service growth and/or interaction with any conditions that may activate potential failure</u> in what are otherwise stable flaws. Moreover, assessment methodologies that primarily target the likelihood of failure component of risk <u>do not substitute for the universal risk benefits afforded through pressure reduction</u>, since a defect's likelihood of failure, consequence of failure, and overall future risk are all positively impacted (*i.e.*, reduced) through pressure reduction. As explained in Section III below, <u>if Line 1600 is pressure tested and maintained at a transmission service stress level, anomalies that survive the pressure test will be exposed to an increased potential of failure and higher overall risk compared to operation at lower stress levels</u>.[635]

Claiming that engineering experts Mr. Rosenfeld and Mr. Sera "presented qualitative or generic statements that contradicted the undisputed factual evidence," POC refers to its Attachment A, contending that Table 1 presents "undisputed facts" and Table 2 presents "Statements by Sera and Rosenfeld in Supplemental Testimony that Contradict Undisputed Factual Evidence."[636] Contrary to POC's statements, the "undisputed facts" presented in Table 1 address findings about <u>certain</u> threats to pipeline integrity, not all, and at a specific point in time. The professional engineering opinions provided in Table 2 are <u>not</u> contradicted by the ILI findings, but rather discuss other threats, the susceptibility of the line to future problems, and the limitations of the ILI and follow-on direct examinations. They are credible evidence.

The witnesses attempted to explain these points to POC's counsel during cross-examination.[637] For example, with respect to corrosion risk:

> A By virtue of the fact that this pipeline does have hook cracks, it is possible for those cracks to interact with corrosion.

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[635] Exh. SDGE-2 (Sera Prepared Testimony at 12) (emphasis added); see generally id (Sera Prepared Testimony at 12:15-25:20).
[636] POC Opening Brief at 30 & Attachment A, Tables 1 and 2.
[637] *See generally* Tr. at 675:13-688:21 (Utilities-Sera); Tr. at 474:25-478:15, 482:25-484:27, 487:16-488:13, 495:17-499:19 (Utilities-Rosenfeld).

> Q But the ILI and the DI found no external corrosion and no selective seam corrosion and was found to be reliable from sustained point of the leaks due to internal and external corrosion, correct?
>
> A No. The in-line inspection found corrosion. The in-line inspection did not detect selective seam corrosion. That does not mean we're not susceptible to it.
>
> Q What kind of corrosion was that?
>
> A External corrosion.
>
> …
>
> MS. SOMMERS: Q Okay. Page 5. I'm not sure why every page is off one. Page 5 of UCAN 10. This is the last sentence in the second paragraph. And that reads: External corrosion and third-party damage were not observed during examination, and no repairs were required.
>
> A And your question is.
>
> Q I had asked you what kind of corrosion there was. You had indicated there was external corrosion found. So is that still your testimony?
>
> A This response is correct specifically referring to external corrosion direct assessment. It's not referring to in-line inspection. Through in-line inspection, external corrosion was detected on Line 1600.[638]

Mr. Rosenfeld testified that a failure of Line 1600 at transmission pressure is more likely to result in rupture than a leak, it has a higher vulnerability to mechanical damage and corrosion than a modern pipeline, and that there is risk from unknown conditions not detected by in-line inspection.[639] POC ignores all such evidence.[640]

POC's claim that a de-rated "Line 1600 will actually present a greater risk to public safety" has no merit.[641] Attempting to deny the safety benefits of reducing pressure, POC states "the Applicant plans to keep Line 1600 operating and external damage caused by earthmoving, backhoes, and other equipment is unrelated to line pressure."[642] Not so. Mr. Rosenfeld testified:

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[638] Tr. at 686:4-668:3 (Utilities-Sera).
[639] Exh. SDGE-12 (Supplemental Testimony at 75:6-76:18 & Attachment C at 8-28).
[640] POC attacks witnesses Schneider and Kohls for deferring specific questions about pipeline integrity to the experts in that field. POC Opening Brief at 30. It is not evident why.
[641] POC Opening Brief at 31.
[642] POC Opening Brief at 31.

> Well, lowering the pressure doesn't decrease the likelihood of your pipe being hit by a backhoe or some other external events affecting the pipeline. But what lowering the pressure does do, is it <u>increases the pipe's ability to tolerate some forms of damage</u> compared to operating at a higher pressure. It also <u>reduces the fracture toughness thresholds</u> that are needed to arrest a fracture or <u>assure that the pipe fails as a leak rather than as a rupture</u>.[643]

POC next asserts: "Applicant admits that the lower line pressure only slightly lowers potential safety risk (~2,700 structures affected instead of ~3,200 structures.)"[644] POC is referring to the number of structures within the "potential impact radius" (PIR) as determined by 49 CFR § 192.305. As Mr. Sera testified:

> PIR also assumes a full guillotine fracture at any point along the pipeline segment, which is a failure mode representative of a 'rupture," as opposed to a "leak," where only a small volume of gas is released. Pipelines operating at stress levels above 20% SMYS, and especially above 30% SMYS, are at much greater risk of developing a rupture (or sometimes a propagating fracture) as opposed to a "leakage" failure, as compared to pipelines operated at stress levels below 20% SMYS.[645]

Finally, POC contends "risk of mechanical damage could actually be greater if Line 1600 is converted to distribution service and subject to a less rigorous pipeline route identification and inspection protocol than it currently is as a transmission pipeline."[646] While the Utilities believe that their Distribution Integrity Management Program (DIMP) assures safe operation of distribution lines, the Utilities have agreed to perform additional transmission line management protocols on a de-rated Line 1600. Among others, "Line 1600, currently a transmission line, already has above-ground markers of the pipeline in compliance with 192.707, and the Utilities will maintain those markers under DIMP for a de-rated Line 1600."[647]

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643 Tr. at 435:11-21 (Utilities-Rosenfeld); accord Tr. at 444:1-23 (Utilities-Rosenfeld).
644 POC Opening Brief at 31.
645 Exh. SDGE-2 (Sera Prepared Testimony at 13:16-14:2).
646 POC Opening Brief at 31.
647 Exh. SDGE-13 (Rebuttal Testimony at 35:1-36:3); *generally id.* (Rebuttal Testimony at 32:19-37:12).

B. ORA's Repeated Claim that Operating Line 1600 at 320 PSIG Would Violate Safety Regulations is Wrong

ORA states: "A necessary condition of Line 1600 operating safely is that it complies with all applicable Federal and State safety requirements. For this reason, this section explains why Line 1600, as proposed by SoCalGas/SDG&E, would not comply with certain Federal and State safety requirements."[648] ORA then repeats its arguments about the Utilities' alleged "discovery evasion" and "unreliable records." The Utilities have responded ORA's claims in ORA's Alleged "Evasion" Examples 1 to 7 and ORA's Alleged "Unreliable Records" Examples 1 to 5 above, and will not discuss the flaws in those claims in detail again here.

The Utilities address only a few new issues here. First, the Utilities have never said "SoCalGas/SDG&E claim that neither 49 CFR §192.619 nor 192.621 require that Line 1600 be pressure tested at an MAOP of 320 psig <u>and over</u>."[649] The Utilities assume that is a typographical error, as the cited quote is "Line 1600 at an MAOP of 320 psig and over pressure protection will operate in full compliance with both 49 CFR § 192.619 and § 192.621."[650]

ORA asserts "The only section of 49 CFR §192.619 upon which SoCalGas/SDG&E rely to establish Line 1600's MAOP is 49 CFR §192.619(c)."[651] That is incorrect. The grandfathering clause of Section 192.619(c) applies to much of Line 1600, but not all. As discussed above, Section 192.619(c) does not apply to pipe segments installed after 1970, and the Utilities do not establish the MAOP for those segments under that subsection.[652] Instead, as

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[648] ORA Opening Brief at 58 n.209.
[649] ORA Opening Brief at 58, citing to Exh. SDGE-13 at 30:4-6 (emphasis added).
[650] Exh. SDGE-13 (Rebuttal Testimony at 30:5-6).
[651] ORA Opening Brief at 58-59.
[652] *See, e.g.,* Exh. SDGE-36 (Utilities Response to ORA DR-87, Q2(c)) ("The segments involved in the ORA DR-84 data request did not impact the validated MAOP determination of Line 1600. The segments from ORA DR-84 Questions 1-3 using conservative wall thickness and grade values validated the MAOP of 640 psig and the segments from ORA DR-84 Questions 4-6 are qualified to be grandfathered.")

shown in the Line 1600 segment data tables provided to SED and ORA, the MAOP for those segments is established under other subsections of § 192.619.[653] The Utilities have responded to ORA's other claims about the MAOP for Line 1600 segments above.

ORA then claims that, because of allegedly "unreliable records," the Utilities have not met their burden to prove that Line 1600 would operate at a hoop stress of less than 20% of SMYS at a 320 psig MAOP.[654] ORA relies upon its "Evasion" Examples 1 to 6, and the Utilities have responded fully to those claims above. Again, ORA only asked for the underlying documents supporting SMYS and wall thickness for six segments of Line 1600, and admitted that the Utilities possessed documents supporting the values for those six segments.

ORA then asserts: "There are Multiple Applicable Testing Requirements for Line 1600."[655] ORA is mistaken. First, ORA argues that the Utilities have not met their burden to show that Line 1600 would operate at a hoop stress below 20% of SMYS at a 320 psig MAOP because of their "unreliable records," the § 192.611 grandfather clause does not apply due to "unreliable records," and therefore the Utilities must test it.[656] As discussed repeatedly above, the Utilities' Line 1600 records are reliable—and ORA has only asked to see them for six segments. As discussed in the Utilities Opening Brief at 106-09, the Utilities have shown that Line 1600 would operate at a hoop stress below 20% of SMYS at a 320 psig MAOP.[657] The grandfather clause does apply to much of Line 1600, as shown by the 1968 Commission filing. Federal safety regulations do not require the Utilities to pressure test Line 1600.

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[653] See, e.g., SDGE-32-C (Utilities Response to ORA DR-25, Q1, Table, Column "MAOP_192619 GovCase"); Exh. SDGE-40-C (Utilities Amended Response to ORA DR-25, Q1, Table, Column "MAOP_192619 GovCase").
[654] ORA Opening Brief at 61-64.
[655] ORA Opening Brief at 64.
[656] ORA Opening Brief at 64.
[657] *See, e.g.*, Exh. SDGE-13 (Rebuttal Testimony at 7:19-22).

Second, again asserting that the Utilities have not met their burden to prove Line 1600 would operate at a hoop stress below 20% of SMYS at a 320 psig MAOP, ORA asserts it would remain a transmission line and must be tested under P.U. Code § 958. If that were so, ORA would be correct. It is not, and ORA thus is wrong. Third, ORA argues that the Commission's PSEP Decision adopted the Utilities' Decision Tree, and the footnote thereto requires the Utilities to pressure test Line 1600.[658] (The Decision Tree also calls for constructing proposed Line 3602). As addressed in detail in Utilities' Opening Brief at 91-96, the PSEP Decision approved the process set forth in the Decision Tree, not a result, and in any event the Commission expressly stated its PSEP "decision does not preclude SoCalGas or SDG&E from submitting additional applications for specific projects for <u>further guidance or approval</u>."[659]

The Utilities have operated and will continue to operate Line 1600 in full compliance with the law. If the Proposed Project is approved, Line 1600 will be de-rated to distribution service and no pressure testing will be required. At distribution pressure, the hoop stress of Line 1600 will be less than 20% of its SMYS, and the overall risk exposure will be reduced "to a level that is as low as reasonably practicable."[660]

XV. SCOPING MEMO ISSUE 13: LEGAL COMPLIANCE OF LINE 1600 DE-RATED TO 320 PSIG

Scoping Memo Issue 13: "Does SDG&E's and SoCalGas's proposed reduction of pressure to 320 psig on Line 1600, and any other required work as a result of that derating, comply with Pub. Util. Code § 950 and § 958 and other applicable federal, state, and Commission requirements (e.g. PSEP)?"

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658 ORA Opening Brief at 65.
659 D.14-06-007 at 24 (emphasis added).
660 Exh. SDGE-12 (Supplemental Testimony at 98:10-15).

SCGC claims that, even if Line 1600 were de-rated to distribution service immediately, SDG&E's gas system would comply with the Commission's design criteria because "the Applicants' capacity to transport gas south from Rainbow Station would be 570 MMcf/d, the standalone capacity of Line 3010, plus the 400 MMcf/d capacity to transport gas north from Otay Mesa."[661] This claim repeats SCGC's previous mistake, discussed *supra* at 67-68, of assuming that (a) Otay Mesa's receipt capacity can simply be added to the system capacity and (b) unused Otay Mesa receipt capacity in any way increases SDG&E's system capacity. It does not.[662]

POC argues that the Utilities' PSEP Decision Tree requires the Utilities to pressure test Line 1600. The Utilities respond to that claim under Scoping Memo Issue 15.

ORA repeats its previous claims, asserting: "Because of the multiple examples in the record, provided above, of SoCalGas/SDG&E's unreliable safety data on Line 1600, and the additional required adverse inferences that SoCalGas/SDG&E has unreliable safety data on Line 1600 when they rendered evidence unavailable or evaded discovery, the Utilities have not met their burden to show Line 1600 is a distribution line at their proposed MAOP of 320 psig."[663] The Utilities have responded to ORA's claims in ORA's Alleged "Evasion" Examples 1 to 7 and ORA's Alleged "Unreliable Records" Examples 1 to 5 above, and will not discuss the flaws in those claims in detail again here.

ORA incorrectly characterizes the test for determining whether a pipeline is a transmission line, claiming "that percent SMYS is simply a calculation of the percentage of the MAOP of design" under 49 CFR §192.105.[664] That is wrong. Under § 192.3, "***Transmission line*** means a pipeline … that … (2) "operates at a hoop stress of 20 percent or more of SMYS."

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[661] SCGC Opening Brief at 60.
[662] Exh. SDGE-13 (Rebuttal Testimony at 76:5-77:18).
[663] ORA Opening Brief at 67.
[664] ORA Opening Brief at 68.

Hoop stress is determined by Barlow formula, which is (pressure x diameter)/2 x wall thickness.[665] Section 192.3 provides that "***SMYS***" means specified minimum yield strength is: (a) For steel pipe manufactured in accordance with a listed specification, the yield strength specified as a minimum in that specification." Here, the Utilities calculated the hoop stress for each segment of Line 1600 at 320 psig as the percentage of that segments SMYS, and determined that every segment of Line 1600 would be at less than 20% of its SMYS at a 320 psig MAOP.[666]

Notwithstanding this straightforward analysis based on the plain language of the federal regulations, ORA asserts that "the record shows that hoop stress also needs to be compared with yield strength in order to determine whether a pipe will fail. It follows, and the record shows, that percent SMYS is simply a calculation of the percentage of the MAOP of design."[667] ORA is correct that hoop stress must be compared to yield strength, but wrong in asserting that "SMYS" is "a percentage of the MAOP of design."

"SMYS" is specified minimum yield strength. Comparing hoop stress to SMYS is assessing whether a pipe will fail. The regulations provide that hoop stress is compared to "SMYS," a defined term—and do not compare it to the design pressure calculated under 49 CFR § 192.105. Design pressure is calculated using "de-rating factors" that add a margin of safety

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665 Exh. SDGE-38 (ASME B31.8—hoop stress); Tr. at 1104:4-27 (ORA-Botros).
666 Exh. SDGE-13 (Rebuttal Testimony at 7:9-22 & Attachment A). As discussed *supra* at 151, the Utilities have learned of an error that existed in its HPPD between 2014 and 2016, and which exists in Attachment A, which was based on data extracted to respond to SED in June 2016. The Supplemental Response to ORA DR-25, Q1 was served on all active parties and the SED on December 14, 2017. The error does not affect the conclusion that the Lake Hodges segments would operate at a hoop stress below 20% of their SMYS at a 320 psig MAOP. The calculation with the correct data of 14.0" diameter, 0.375" all thickness, and 35,000 psi SMYS results in 17.1% SMYS at 320 psig. With the erroneous 0.250" wall thickness and 52,000 psi SMYS, it calculated to 17.2% SMYS at 320 psig. The record establishing the correct values has been in the Utilities' possession throughout this proceeding, and was reviewed by SED during its August 9-11, 2017 document review at SDG&E's Miramar facility.
667 ORA Opening Brief at 68.

beyond simply comparing hoop stress to SMYS, for example adjusting design pressure based on class location. PHMSA Interpretation PI-79-035 clearly states that the calculation of hoop stress does not include consideration of "de-rating factors" in § 192.105, and ORA's effort to compare hoop stress to design pressure rather than SMYS seeks to bring de-rating factors back in to the calculation. The federal regulations do not do so. Defining transmission lines is determined by a comparison of hoop stress to SMYS, while design pressure, which plays a role in setting the MAOP for post-1970 pipelines and other circumstances, is determined by the § 192.105 formula.

To support its claim, ORA relies not upon any regulatory text, but upon Mr. Botros' testimony.[668] Mr. Botros, however, testified that he was not "familiar with 49 CFR part 192.3's definition of transmission line"[669] and "I'm not experienced with Code of Federal Regulation, and I'm not testifying regarding this."[670] ORA's claim has no merit.

XVI. SCOPING MEMO ISSUE 14: RELATED PROCEEDINGS

Scoping Memo Issue 14: "How does this proceeding relate to the Applicants' other formal gas proceedings underway at the Commission, initiated via application and/or advice letter?"

SCGC discusses the Utilities' PSEP proceeding and the "North-South" Project. As noted above, the Commission indicated in the PSEP proceeding that the Utilities' proposal to construct proposed Line 3602 to replace the transmission function of Line 1600 must be addressed in a new application for the project. Apart from this direction and the application of the Decision Tree as discussed in Section XVII, neither has any bearing on this Application.

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668 ORA Opening Brief at 68 footnotes 247-249 (citing Botros).
669 Tr. at 1105:4-7 (ORA-Botros).
670 Tr. at 1106:9-11 (ORA-Botros).

XVII. SCOPING MEMO ISSUE 15: THE PSEP DECISION TREE

Scoping Memo Issue 15: "Should the Commissioners vote as part of any public process to vet and alter the PSEP decision tree?"

As set forth in the Utilities' Opening Brief, Section XVI: "The Commissioners do not need to 'vote as part of any public process to vet and alter the PSEP decision tree' for two independent reasons. First, the Proposed Project is consistent with the analytical approach set forth in the PSEP Decision Tree. Second, the Commission expressly stated that its PSEP 'decision does not preclude SoCalGas or SDG&E from submitting additional applications for specific projects for further guidance or approval,' as this Application does. ORA's contention that the PSEP Decision Tree requires the Utilities to pressure test Line 1600 unless the Decision Tree is modified is mistaken for each reason."[671]

Both ORA and POC contend that the Utilities must pressure test Line 1600 under the Commission's PSEP Decision, D.14-06-007, unless that Decision is modified.[672] POC contends this "Application is an impermissible collateral attack on D.14-06-007," and that the Utilities must seek to modify D.14-06-007 pursuant to a petition for modification under Public Utilities Code § 1708 and Commission Rule of Practice and Procedure 16.4.[673]

ORA and POC are mistaken. First, the Utilities' Proposed Project is entirely consistent with the Commission's approval of the PSEP Decision Tree as an "analytical approach for Safety Enhancement to ensure the safety and reliability" of the Utilities' integrated natural gas transmission system.[674] The Utilities have applied the PSEP Decision Tree's analytical

[671] Utilities' Opening Brief at 91-92.
[672] ORA Opening Brief at 70; POC Opening Brief at 37-38.
[673] POC Opening Brief at 37-38. POC's heading refers to "Scoping Question 3," but that appears to be a typo.
[674] D.14-06-007 at 59 (Ordering Paragraph 1) (emphasis added); *accord*, *e.g.*, D.14-06-007 at 56 (Conclusion of Law 8) ("The analytical approach for Phase 1 in the Decision Tree management process,

approach. As Mr. Schneider testified: "The first step in the PSEP Decision Tree is 'Start pipeline assessment on all transmission pipelines.' Once Line 1600 is de-rated to distribution level, it is no longer subject to the PSEP Decision Tree."[675]

Second, neither POC nor ORA explain how their position is consistent with the Commission's express authorization for the Utilities to submit "applications for specific projects for further guidance or approval."[676] The Commission did not state that "further guidance" on specific projects would require a petition to modify the PSEP Decision Tree, but rather than such guidance could be sought through an "application."

Decision Tree Footnote 5 does not prevent the Utilities from applying engineering judgment to advance safety by de-rating Line 1600 to distribution service, and thus removing it from the scope of PSEP. The Utilities have submitted this Application, proposing a specific project that constructs proposed Line 3602 and de-rates Line 1600 rather than pressure testing it. The Commission will provide its further "guidance or approval" when it rules on the Application. This is consistent with, and does not require modification of D.14-06-007.

Finally, the statement in the Decision Tree upon which ORA and POC rely to claim that the Commission requires pressure testing states: "After 54 <u>new miles installed</u> in Phase 1B (Amended Workpapers, WP-IX-1-34), then 45 miles of existing L#1600 will be pressure tested

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as fully described in testimony by SDG&E and SoCalGas, should be approved."); *id.* at 25 ("Therefore, we approve the Decision Tree and the analytical processes shown therein."); *id.* ("the Decision Tree does constitute a comprehensive plan to fully review and where necessary replace the natural gas system"); *id.* at 24 ("We authorize SDG&E and SoCalGas to proceed with Safety Enhancement projects that conform to the Decision Tree logic and track the costs of the work in a series of balancing accounts described below. This decision does not preclude SoCalGas or SDG&E from submitting additional applications for specific projects for further guidance or approval."); *id.* at 23 ("we find that SDG&E and SoCalGas have presented an adequate justification for Safety Enhancement at a conceptual level and we approve their Decision Tree (Attachment I) analytical approach").

675 Exh. SDGE-13 (Rebuttal Testimony at 57:3-5) (quoting D.14-06-007, Attachment 1 (Decision Tree)).

676 D.14-06-007 at 24.

in Phase 1B (Amended Workpapers, WP-IX-1-17)."[677] And the "Phase 1B box" says "Install new line and pressure test existing line."[678] If, as ORA and POC claim, the Commission determined in D.14-06-007 that pressure testing must proceed, then presumably ORA and POC also believe that the Commission has authorized construction of proposed Line 3602.

XVIII. SCOPING MEMO ISSUE 16: DE-RATING LINE 1600

Scoping Memo Issue 16: "Is it feasible, reasonable/cost-effective, and prudent to derate Line 1600 to 320 psig without any other changes to the SDG&E gas transmission system or contracting for firm gas resources sufficient to deliver the requisite gas supplies to SDG&E's Otay Mesa receipt point? If not, should the Applicants be responsible for making the necessary system changes, or should the Applicants' tariffs be modified to allow the Applicants to require shippers to tender gas to specific receipt points on the Applicants' system for redelivery to the Applicants' customers?"

Sierra Club states: "If the Commission finds that Line 1600 should be de-rated or removed from service prior to 2023, the Sempra Utilities have admitted that '[t]here are alternatives" to meet system design criteria – for example, an RFO through Otay Mesa to fill the gap in 1-in-10 design criteria until 2023," citing Mr. Schneider's testimony. Mr. Schneider, however, did not state that it was a good idea to obtain approximately 20 MMcfd in firm daily gas deliveries at Otay Mesa and de-rate Line 1600 to distribution service without another firm supply capable of serving SDG&E's gas demand. To the contrary, Mr. Schneider testified: "There are alternatives. But, again, if we don't build the new pipeline, the system will lose the amount of resiliency that is currently offered by Line 1600. So there is a difference there."[679]

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[677] D. 14-06-007, Attachment 1, Footnote 5 (emphasis added).
[678] D. 14-06-007, Attachment 1 (emphasis added).
[679] Tr. at 150:6-10 (Utilities-Schneider) (emphasis added).

SCGC again argues that Line 1600 could be de-rated immediately without violating the Commission's design criteria because SDG&E's system capacity should be assumed to be increased by the 400 MMcfd of unused Otay Mesa receipt capacity.[680] As noted above, this is wrong.[681] SCGC also argues that the Utilities could contract for firm or interruptible delivery of about 20 MMcfd at Otay Mesa to meet the design criteria until 2023. The Utilities do not recommend de-rating Line 1600 until a firm second source of supply is secured to provide reliable gas service in the event of a Line 3010 or Moreno Compressor Station outage. Without Line 3010 and with Line 1600 de-rated, a supply of 20 MMcfd at Otay Mesa would make no difference—it would simply slightly slow the de-pressurization of SDG&E's gas system and loss of gas service.[682] Although Line 1600 cannot ensure service to all customers in a Line 3010 outage event, it could serve some customers for a time.[683] The Utilities do not consider it prudent to make SDG&E's system less reliable than it is today.

SCGC also states "the Applicants' tariffs should not be modified to allow the Applicants to require shippers to tender gas to specific receipt points on the Applicants' system for redelivery to the Applicants' customers."[684] The Utilities agree that would not be an effective solution.[685]

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[680] SCGC Opening Brief at 65.
[681] Exh. SDGE-13 (Rebuttal Testimony at 76:5-77:18); *supra* at 67-68.
[682] As described by Mr. Kikuts, in a scenario where Line 3010 experiences an outage in the north, core customer curtailments would begin in six hours even with Line 1600 operating at 640 psig providing 150 MMcfd. Exh. SDGE-5 (Kikuts Prepared Testimony at 4:1-8:8).
[683] Tr. at 1000:12-28 (Utilities-Bisi).
[684] SCGC Opening Brief at 68.
[685] *See* Utilities Opening Brief at 96-98.

XIX. SCOPING MEMO ISSUE 17: RETURNING LINE 1600 TO TRANSMISSION SERVICE

Scoping Memo Issue 17: "Is it feasible, reasonable/cost-effective and prudent to pressure test Line 1600 and return it to transmission service (e.g., 512 psig) without any changes to the SDG&E gas system?"

As set forth in the Utilities' Opening Brief at 99-104, while it is technically feasible to pressure test Line 1600 and return it to transmission service at a 512 psig MAOP, it is neither cost-effective nor prudent as doing so, at a direct cost of $112.9 million, does not address long term safety concerns, does not avoid replacing Line 1600 in the future, and does not solve the Utilities' reliability concerns regarding SDG&E's gas transmission system. By contrast, the Proposed Project addresses these concerns.[686]

SCGC agrees that "it would be more cost-effective to de-rate Line 1600 instead of pressure testing Line 1600, assuming that reducing the pressure on Line 1600 [sic] 320 psig would be sufficient to for the pipeline to be derated to distribution service."[687]

POC contends: "It is absolutely feasible, reasonable, cost-effective and prudent to pressure test Line 1600 and return it to transmission service without any changes to the SDG&E gas system."[688] POC cites no evidence. The Utilities disagree. *See* Utilities Opening Brief at 99-104.

ORA asserts "Line 1600 is required to be tested in order to remain in service,"[689] citing its previous arguments that Line 1600 is a transmission line. ORA is mistaken for the reasons discussed above.

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686 Exh. SDGE-12 (Supplemental Testimony at 117:6-119:2).
687 SCGC Opening Brief at 69.
688 POC Opening Brief at 39.
689 ORA Opening Brief at 70.

XX. SCOPING MEMO ISSUE 18: LINE 1600 AT 512 PSIG

Scoping Memo Issue 18: "If Line 1600 at 512 psig is currently deemed "safe," but there are known hook cracks and manufacturing anomalies in transmission service in high consequence areas, how long should it be permitted to stay in service? If so, should Line 1600 be subject to more frequent testing?"

POC contends: "The Applicant and UCAN's own evidence and witnesses demonstrates that their cry of hook cracks is nothing more than a blatant attempt at fear mongering."[690] POC misunderstands and misrepresents the evidence. As an initial matter, "hook cracks" are simply one type of potential flaw in a pipeline, and the concern here is safety. Mr. Rosenfeld and Mr. Sera identified a number of potential risks to Line 1600, including the risk of brittle fracture, causing rupture, that would be mitigated by reducing it to distribution pressure.

POC correctly notes that the report on 2012-2015 ILI inspections of Line 1600 states that "All analysis confirms known hook cracks are safe for operation at an MAOP of 640 psig within the established 7-year reassessment interval."[691] But POC ignores the fact that direct examination found anomalies not detected by ILI in the segments examined, suggesting that other unexamined segments may have flaws.[692] Both Mr. Rosenfeld and Mr. Sera testified to the limitations of ILI tools,[693] and Mr. Rosenfeld noted that "risk is proportional to what is unknown."[694] Further, the hook cracks make Line 1600 more susceptible to the effects of

690 POC Opening Brief at 39.
691 POC Opening Brief at 39, citing to Exh. UCAN-10 at 1.
692 Exh. UCAN-10 at 3, 7, 17-24; *see also* UCAN-10-C (unredacted version).
693 Exh. SDGE-12 (Supplemental Testimony, Attachment C at 25-27); Exh. SDGE-2 (Sera Prepared Testimony at 19:11-20:13).
694 Exh. SDGE-12 (Supplemental Testimony, Attachment C at 27); *see also* Tr. at 496:1-13 (Utilities-Rosenfeld) ("Q On this topic, you conclude risk is proportional to what is unknown at least in part. Is this an engineering or philosophical concept that you are relying on? A Well, look, if you want to take an extreme event look at Line 132 in San Bruno. There was something there that the operator didn't know about and he didn't know that he didn't know.").

corrosion. As Mr. Sera testified: "hook cracks associated with the EFW seam welds have been observed on Line 1600, and given the presence of both EFW and pre-1970 ERW long seams, interacting threats such as metal loss coincident with the seam weld (including corrosion interacting with manufacturing-related seam flaws, selective seam corrosion, and potential third-party damage) are threats that must be considered as part of a complete integrity assessment."[695]

POC also misstates the evidence regarding potential time to failure, claiming "Surely, with Applicant's witnesses' testimony that the shorted predicated time for failure of anomalies is either 171 or 312 years, inspection of Line 1600 at seven year intervals should be sufficient."[696] POC is referring to Kiefner's pressure cycle fatigue analysis.[697] POC wrongly takes an analysis of one threat, cyclic fatigue, and asserts it applies to all "failure of anomalies." POC's counsel was specifically told otherwise:

> Q So for pressure cycles acting on defects such as hook cracks, it's been determined that the shortest predicated time to failure is 171 years. And for failure for linear axially-oriented flaws is 433. So what I want to know is besides these issues, what else are you talking about? What other transmission stresses upon undetected flaws will create a risk?
>
> A These two statements, the one on page 14 of Attachment C of SDG&E-12 and the one on page 56 of UCAN 10 are <u>referring to cyclic fatigue</u>. These are referring to stresses in the pipeline caused by fluctuations through daily operations. <u>This is only one specific type of stress that's acting on the pipeline</u>. When we talk about transmission stresses, we're really talking about the hoop stress in the pipeline due to operation at a transmission stress level above 20 percent of the SMYS. And the risks associated with those are increased when you operate a pipeline at a level that could trigger, for example, rupture conditions that are not present when you operate a pipeline below 20 percent of the SMYS, or I should say not as likely below 20 percent of the SMYS.
>
> Q So there's additional transmission stresses beyond those that have been identified at the 433 and 170-year time period?

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[695] Exh. SDGE-2 (Sera Prepared Testimony at 4:7-12).
[696] POC Opening Brief at 40.
[697] POC Opening Brief at 40, citing UCAN-10 at 55.

> A These stresses are referring to a very specific threat which is termed fatigue. Fatigue is a form of cracking that is exacerbated by pressure fluctuation. <u>There are other categories of threats separate from fatigue that are affected by transmission stress</u>.[698]

POC notes that Mr. Rosenfeld testified that A.O. Smith-manufactured pipe "'was probably the best pipe could you buy in 1949.'"[699] POC ignores improvements since 1949. Among other things, Mr. Rosenfeld testified: "The pipe installed in Line 1600 was not manufactured with fracture control in mind because the concept was not known at that time. While the pipe has good mechanical strength, its propagating fracture control properties do not meet modern criteria for gas transmission pipelines."[700] Similarly: "[T]he industry now recognizes that pipe produced using some outmoded steelmaking and pipemaking practices can be susceptible to specific failure mechanisms that warrant special attention. … Thus the type of pipe installed in Line 1600 is of the type that the regulations specify must be presumed to be affected by the seam manufacturing defects integrity threat."[701] Mr. Rosenfeld noted that selective seam weld corrosion (SSWC) is "enhanced by high sulfur content in the steel," and samples show that Line 1600 has sulfur content "ten times what would be present in modern line pipe steel.[702] Similarly, line coatings have improved since 1949.[703]

In sum, POC has not shown that the Utilities' concerns about the long-term safety of Line 1600 should be ignored.[704]

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698 Tr. at 682:12-683:22 (Utilities-Sera) (emphasis added).
699 POC Opening Brief at 41.
700 Exh. SDGE-12 (Supplemental Testimony, Attachment C at 8).
701 Exh. SDGE-12 (Supplemental Testimony, Attachment C at 10-11).
702 Exh. SDGE-12 (Supplemental Testimony, Attachment C at 16).
703 Exh. SDGE-12 (Supplemental Testimony, Attachment C at 18).
704 POC also complains that it was prevented from asking Mr. Sera questions based on a declaration he submitted in opposition to an earlier motion in this proceeding. POC Opening Brief at 41-42. POC's counsel was not prevented from asking question. Rather, POC counsel failed to bring a copy of such declaration for the witness, the ALJ, or the witness's counsel; she did not offer it as an exhibit; and chose to go on to other questions when asked to cite the testimony it related to. Tr. at 673:9-676:10.

ORA "recommends against keeping Line 1600 at 512 psig."[705] "SCGC does not oppose more frequent testing of Line 1600."[706]

XXI. SUPPLEMENTAL QUESTION A

Supplemental Question A: "If de-rated to 320 psig or less, is Line 1600 a transmission line or a distribution line as defined by federal safety requirements? If Line 1600 can be called a distribution line in compliance with 49 Code of Federal Regulations Section 192.3 (Definitions), what are all of the steps that must be taken to do so? What are the implications of SoCalGas/SDG&E operating and conducting safety assessments of Line 1600 as a distribution line rather than a transmission line?"

As set forth in Utilities Opening Brief at 106-117, if Line 1600 is de-rated to a MAOP of 320 psig or less, it will be a distribution line under 49 CFR § 192.3 and safety will be enhanced.

A. TURN Agrees That a De-Rated Line 1600 Would be a Distribution Line and Would be Safe at Below 20% of SMYS

"TURN agrees that Line 1600 would be a distribution line if de-rated to below 20% of SMYS."[707] TURN rejects ORA's claim that Line 1600 would remain a transmission line based on the first prong of the definition under 49 CFR § 192.3, *i.e.* whether Line 1600 is downstream of a "distribution center." "TURN witness Berger concluded that a de-rated Line 1600 could qualify as a distribution line, based on his review of various PHMSA interpretation letters and the characteristics of Line 1600, including the proximity of direct paying customers to the regulator station at Rainbow."[708]

[705] ORA Opening Brief at 71.
[706] SCGC Opening Brief at 69.
[707] TURN Opening Brief at 45.
[708] TURN Opening Brief at 46.

Recognizing that the Utilities have agreed to apply certain Transmission Integrity Management Program (TIMP) maintenance requirements and ECDA to a de-rated Line 1600 as part of its DIMP plan for the line,[709] TURN stated:

> The practical effect of classifying Line 1600 as transmission even at less than 20% SMYS could be significant, since a transmission line would have to be pressure tested or replaced pursuant to § 958.
>
> However, it <u>does not appear that classifying the pipeline as transmission would reduce safety risks as compared to classifying the line as distribution</u>, as long as Line 1600 is operated at less than 20% of SMYS and certain TIMP maintenance procedures are utilized, even if it is classified as a distribution line. Reducing pressure to below 20% of SMYS minimizes the potential for the pipe to fail by rupture, irrespective of whether the pipeline is classified as transmission or distribution. Using certain TIMP maintenance procedures will further reduce the risk of rupture due to third party excavation or unstable manufacturing threats.[710]

B. ORA Erroneously Claims That a De-Rated Line 1600 Would Be a Transmission Line

ORA first contends that the Utilities have failed to show that Line 1600 would operate at a hoop stress below 20% SMYS at a 320 psig MAOP, again claiming the Utilities do not have the "safety data" to support that calculation. This is untrue, ORA has no evidence that it is true, and the Utilities have responded fully above.

ORA then claims that the Utilities "still have not met their burden to show that Line 1600 does not meet the first definition of transmission line under 49 CFR §192.3."[711] Under that prong of the definition, a transmission line include a pipeline that "transports 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."[712] ORA is mistaken.

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[709] TURN Opening Brief at 48.
[710] TURN Opening Brief at 47 (emphasis added).
[711] ORA Opening Brief at 72.
[712] 49 CFR 192.3 (Transmission Line definition).

The Utilities address this issue in detail in Utilities' Opening Brief at 110-14. However, the Utilities and ORA agree that "PHMSA official interpretations have defined 'distribution *center'* as 'the point where gas enters piping used primarily to deliver gas to customers who purchase it for consumption as opposed to customers who purchase it for resale.'"[713] Under that test alone, Rainbow Metering Station is a distribution center. As Mr. Schneider testified: "At Rainbow Metering Station, the gas enters the SDG&E pipeline for consumption by its core and non-core customers. Once de-rated to below 20% SMYS, Line 1600 would serve customers who purchase gas for consumption."[714]

Mr. Schneider also noted: "Customer imbalances may be traded, and financial transactions may occur, but gas delivered to the SDG&E system at the Rainbow Meter Station is not delivered with imbalance trading in mind. In any event, gas entering SDG&E's Gas System at Rainbow Metering Station is 'primarily' for consumption."[715] The two pipelines extending south from Rainbow Metering Station are Line 1600 and Line 3010,[716] and gas entering those pipelines is primarily for consumption. As Line 1600 is downstream from the distribution center at Rainbow Metering Station, it is not a transmission line under the first prong of Section 192.3's definition of transmission line.

C. ORA Wrongly Claims That Treating Line 1600 as a Distribution Line Raises Multiple Safety Concerns

ORA claims that to "misclassify Line 1600 as distribution" would have various ill effects. None are valid concerns.

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[713] ORA Opening Brief at 73 (citing PHMSA Interpretation PI 09-0019).
[714] Exh. SDGE-13 (Rebuttal Testimony at 19:6-8).
[715] Exh. SDGE-13 (Rebuttal Testimony at 19:7 n.54).
[716] Exh. SDGE-12 (Supplemental Testimony at 13:1-2).

(1) De-rating Line 1600 to distribution service does not "[c]ircumvent the intent of California Public Utilities Code §958, which requires testing or replacement of transmission lines" because Line 1600 then would not be a transmission line. Reducing pressure to below 20% SMYS actually enhances safety more than a pressure test.

(2) De-rating Line 1600 to distribution service does not circumvent the Utilities' Decision Tree, as the first step is to determine whether a pipeline is a transmission line. If Line 1600 is not, then it is not subject to the remainder of the Decision Tree.

(3) & (4) As discussed in Utilities' Opening Brief at 114-16, de-rating Line 1600 will significantly increase operational safety by reducing pressure. Although certain requirements applicable to transmission lines are not applicable to distribution lines, the federal safety regulations include "Subpart P–Gas Distribution Pipeline Integrity Management," which the US Department of Transportation found sufficient to assure safety of distribution lines. The Utilities safely manage over 8,071 miles of distribution mains and services under their DIMP. For a de-rated Line 1600, the Utilities have agreed to incorporate additional measures otherwise applicable to transmission lines as well.[717] Further, the purpose of the potential impact circle (PIC) is to determine the extents of the High Consequence Area (HCA). The HCA is then used to determine the extents of an integrity assessment and repair schedule for anomalies upon discovery. Although Line 1600 would be operating below 20% SMYS and in technical terms would not have any HCAs, the Utilities have proposed to continue to conduct External Corrosion Direct Assessment on Line 1600, which would include determining the extents of HCAs to prioritize the inspection and any necessary repairs.

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[717] Exh. SDGE-13 (Rebuttal Testimony at 35:20-36:8).

(5) ORA suggests that de-rating Line 1600 could risk being "pre-empted for not following federal safety requirements," but does not explain how. The Utilities believe that the Proposed Project would comply with the federal safety regulation in all respects.

ORA again "recommends the installation of four overpressure protection devices at each connection point on a de-rated Line 1600."[718] Again, "[t]he Utilities believe ORA's proposal is inconsistent with industry practice, adds a layer of unnecessary complexity that may potentially increase safety risks for employees responsible for operations and maintenance on the equipment, presents unwarranted operational and maintenance challenges, as well as increases costs." ORA's proposal is not required by regulation, ORA could not identify any utility that uses four overpressurization devices, and this is not a place to incur added expense.

XXII. SUPPLEMENTAL QUESTION B

Supplemental Question B: "What limitations are there to pressure testing a pipeline? How long does pressure testing reasonably ensure fitness for service of a pipeline?"

As set forth in Utilities' Opening Brief at 99-101, 117-18, implementing a pressure test on Line 1600 is challenging. Further, it is a snapshot in time that will address flaws that fail during the test, but does not mitigate other flaws in the line. It does not have the safety benefits of reducing pressure.

Ignoring the question posed, POC asserts: "Applicant has presented no factual evidence, only fear mongering, to support its position that pressure testing Line 1600 could represent a significant safety risk."[719] POC asserts that the Utilities have successfully pressure tested other lines, but ignores all of the factors that make pressure testing Line 1600 difficult. Mr. Kohls

[718] ORA Opening Brief at 76-77.
[719] POC Opening Brief at 42-43.

explained the challenges in detail, in both written and oral testimony.[720] POC has presented no evidence that such challenges do not exist.

POC does point out a discrepancy in Mr. Kohls' testimony. As shown by Figure 3, the schedule estimates approximately four years after Commission approval and three years after other subsequent approvals required by environmental review.[721] POC's point about the schedule is meaningless as the time it will take for the Commission to reach a final decision in this proceeding <u>and</u> for the Utilities to pressure test the entire length of Line 1600 is estimated to be longer than the time associated with constructing proposed Line 3602 and de-rating Line 1600.[722]

Furthermore, POC's proposal to hydrotest Line 1600 at 768 psig[723] will not necessarily ensure the long-term safety of Line 1600. As discussed by Mr. Sera, "successfully hydrotesting the line demonstrates that at the time of the test, the line was capable of sustaining that test pressure."[724] Mr. Kohls further explains: "Though it provides an important measure, the relevancy of the test can diminish over time as other factors begin to influence the integrity of the line. These include time dependent threats such as corrosion, especially if coupled with other threats related to existing anomalies such as hook cracks, as well as other time independent threats such as third party/mechanical damage and certain other inherent manufacturing anomalies."[725] Pressure testing uncovers a wide range of defects, <u>and when conducted to a sufficiently high level</u>, will cause critically-sized defects to fail, allowing for their detection and

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[720] *See* Opening Brief at 99-101, 117-18; Exh. SDGE-12 (Supplemental Testimony at 149:4-151:17); Tr. at 562:13-565:20 (Utilities-Kohls).
[721] POC Opening Brief at 44; Exh. SDGE-8-R (Kohls Prepared Testimony at 30, Figure 3).
[722] *See* Exh. SDGE-8-R (Kohls Prepared Testimony at 26, Figure 2 & 30, Figure 3).
[723] POC Opening Brief at 46.
[724] Exh. SDGE-2 (Sera Prepared Testimony at 22).
[725] Exh. SDGE-12 (Supplemental Testimony at 151:20 – 152:4).

repair prior to pipeline commissioning.[726] At an estimated $112.9 million in direct costs, POC's suggested pressure test at 768 psig accomplishes little as the test pressure is less than what Line 1600 has historically operated at, and would not likely uncover all the flaws that could compromise the integrity of the line. If the Commission wishes to proceed with pressure testing Line 1600, the Utilities propose a minimum test pressure of 960 psig for 8 hours, with a "spike test" to further test the integrity of the pipeline.[727]

POC's proposal ignores the fact that even after a successful hydrotest, the pipeline will be over 70 years old and still be primarily comprised of A.O Smith EFW pipe with known issues related to hook cracks and fracture toughness. The Utilities testified that "time dependent threats, such as corrosion will continue to influence the integrity of the line. The utilities will continue to monitor the integrity of the line, and at some point in the future it may be necessary to re-evaluate the test or replace options. Whether this happens in 10 or 20 years or longer when the pipeline is 80 or 90 years or older, is unknown."[728] In short, POC's suggestion to hydrotest the line at 768 psig is not the best solution to enhance the safety of Line 1600. As the Utilities testified, de-rating Line 1600 to operate at a much lower stress level, at a maximum pressure of 320 psig, is a much better solution for complying with P.U. Code § 958 and addressing the long term risks associated with Line 1600.

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[726] Exh. SDGE-12 (Supplemental Testimony at 152:11-13) (emphasis added).
[727] Exh. SDGE-8-R (Kohls Prepared Testimony at Attachment B, page 2).
[728] Exh. SDGE-12 (Supplemental Testimony at 156:12-16).

XXIII. ADDITIONAL INFORMATION REQUIRED BY AMENDED SCOPING MEMO

The December 22, 2016 Assigned Commissioner and Administrative Law Judge's Ruling Modifying Schedule and Adding Scoping Memo Questions at 14 states:

> *In supplemental testimony, San Diego Gas & Electric Company and Southern California Gas Company shall file and serve "missing information" pertaining to Rule 3.1 of the Commission's Rules of Practice and Procedure pertaining to Certificate of Public Convenience and Necessity "Construction or Extension of Facilities Requirements," including the following information:*
>
> > *A. Ten-year forecasted (maximum daily and annual daily average) volumes in the area to be served by the proposed Line 3602; including information on the quality of gas broken down by customer type (e.g., core, non-core commercial and industrial, and non-core electric generation);*
> >
> > *B. Ten-year historic monthly volumes through Line 1600; and*
> >
> > *C. Ten-year historic daily and annual maximum volumes through Line 1600.*[729]

The Utilities addressed these questions in their Opening Brief at 119-20. No other party addressed these questions in their Opening Briefs.

XXIV. CONCLUSION

The Utilities respectfully request that the Commission's Phase 1 Decision determine: (a) that Line 1600 should not be pressure tested and instead should be de-rated to distribution service, or whether further consideration of abandonment is appropriate; (b) that the Utilities' obligation to provide safe and reliable gas service includes planning to maintain gas service in the event of a Line 3010 or Moreno Compressor Station outage; and (c) that the Otay Mesa alternatives to the Proposed Project are not feasible.

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[729] While the Utilities do not contest the Commission's authority to request such information, Rule 3.1 of the Commission Rules of Practice and Procedure does not specify that such information is required.

Dated this 15th day of December 2017 at San Diego, California.

Respectfully submitted,

By: /s/ *Allen K. Trial*
ALLEN K. TRIAL

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Attachment A

A.11-11-002 Select Excerpts in the Prepared Rebuttal Testimony of Douglas Schneider

(Dated July 18, 2012)

Application No: A.11-11-002
Exhibit No.: SCG-18
Date: July 18, 2012
Witness: Douglas Schneider

In the Matter of the Application of San Diego Gas & Electric Company (U 902 G) and Southern California Gas Company (U 904 G) for Authority to Revise Their Rates Effective January 1, 2013, in Their Triennial Cost Allocation Proceeding.	)	A.11-11-002 (Filed November 1, 2011)

CHAPTER 6

PREPARED REBUTTAL TESTIMONY OF

DOUGLAS SCHNEIDER

THE DECISION TREE AND SUBPRIORITIZATION PROCESS;

TIMP PROGRAM; MANAGING PIPELINE INTEGRITY;

AND PROPOSED CASE

IN SUPPORT OF PROPOSED NATURAL GAS PIPELINE SAFETY ENHANCEMENT PLAN FOR

SOUTHERN CALIFORNIA GAS COMPANY AND SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

July 18, 2012

CHAPTER 6

THE DECISION TREE AND

SUBPRIORITIZATION PROCESS;

TIMP PROGRAM;

MANAGING PIPELINE INTEGRITY;

AND PROPOSED CASE

TABLE OF CONTENTS

PREPARED REBUTTAL TESTIMONY

DOUGLAS SCHNEIDER

I. INTRODUCTION

My name is Douglas Schneider. I am the Director of Pipeline Integrity for Southern California Gas Company (SoCalGas) and San Diego Gas & Electric Company (SDG&E). I sponsored opening testimony in this proceeding and my qualifications can be found in that volume. This testimony responds to the prepared direct testimony of several intervening parties to Southern California Gas Company (SoCalGas) and San Diego Gas & Electric Company's (SDG&E) Proposed Natural Gas Pipeline Safety Enhancement Plan. Specifically, this testimony responds to claims made, primarily by the Division of Rate Payer Advocates (DRA) and The Utility Reform Network (TURN), that:

1. SoCalGas and SDG&E's Pipeline Safety Enhancement Plan is not consistent with the Commission's Decision (D.11-06-017).
2. Certain pipeline features should have been or should be managed as part of SoCalGas and SDG&E's Transmission Integrity Management Program (TIMP).
3. A prudent operator would have pressure tested and maintained records of those pressure tests well before regulations came into existence.
4. The Commission should reject SoCalGas and SDG&E's proposed case.

Intervenors fundamentally misunderstand what the Commission ordered natural gas operators to do in D.11-06-017. Specifically, Ordering Paragraph 4 requires that California natural gas transmission operators "file and serve a proposed Natural Gas Transmission Pipeline Comprehensive Pressure Testing Implementation Plan (Implementation Plan) to comply with the requirement that all in-service natural gas transmission pipeline in California . . . [be] pressure tested in accordance with 49 CFR 192.619, excluding subsection 49 CFR 192.619(c)."[1] As the Commission states, "Historic exemptions must come to an end with an orderly and cost-conscience [*sic*] implementation plan."[2]

SoCalGas and SDG&E's Pipeline Safety Enhancement Plan accomplishes the intent of the Decision to cost effectively end historic exemptions in a thoughtful and orderly manner. To do so, SoCalGas and SDG&E's decision tree proposes to test or replace all transmission pipelines that have not been pressure tested to current standards, with identified pipelines in populated areas receiving priority. DRA seems to miss the fact that SoCalGas and SDG&E's proposed decision tree already takes into account the location of the pipeline when DRA recommends the Commission require the location of pipelines be considered (or included) as part of the sub-prioritization process.

There is also no merit to DRA's recommendation to reduce PSEP costs by $74 million because certain pipelines should have been or should be managed as part of SoCalGas and SDG&E's Transmission Integrity Management Program (TIMP). In making this recommendation, DRA appears to misunderstand the relationship between existing regulations and what was ordered by the Commission in D.11-06-017. This misunderstanding bleeds over into DRA and TURN's conclusions that a prudent operator should have maintained pressure test records well before regulations came into existence. As explained in Section 2 below, D.11-06-017 sets forth new requirements that gas operators must now meet, and these requirements are incremental to existing regulations. Thus, the suggestion that SoCalGas and SDG&E are somehow imprudent as operators because they lack some historic records is unfounded.

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[1] D.11-06-017, p. 31.
[2] D.11-06-017, p. 18.

could take appropriate action if the data showed that corrosion is now occurring on the pipeline being reassessed.

As such, the scope and purpose of TIMP is distinct from that of the PSEP. The PSEP decision tree was developed specifically in response to Decision 11-06-017 and is not appropriate or applicable to TIMP.

IV. SOCALGAS AND SDG&E ARE PRUDENT OPERATORS OF THEIR GAS TRANSMISSION SYSTEM

While DRA and TURN do not explicitly comment that SoCalGas and SDG&E are imprudent in the operation of the system, the implication is obvious with statements suggesting that a prudent operator should have all historic records of a pressure test.[29,30] In a similar vein, Utility Workers Union of America suggests that somehow the Commission's directives to implement interim safety enhancement measures indicate that the pipelines included in the Pipeline Safety Enhancement Plan are hazardous to public and employee safety.[31] Such suggestions are unfounded.

SoCalGas and SDG&E take seriously the obligation to maintain their transmission system in a safe operating condition. We are proud of the strong safety record that we have built over the years and we strive to maintain our system in a manner that meets industry safety standards. To that end, SoCalGas and SDG&E have implemented robust Integrity Management Programs in addition to our long-standing routine safety and maintenance practices. Our integrity management programs have significantly increased the level of preventative and

[29] Exhibit DRA-1 Executive Summary and Cost Recovery Policy in R.11-11-002, p. 11-16.
[30] TURN Prepared Testimony of Thomas J. Long, Sempra Utilities' Pipeline Safety Enhancement Plan A.11-11-002, p. 15-16.
[31] Exhibit UWUA-1 Testimony of UWUA Witness Carl Wood in A.11-11-002, page 9 ("They recognize that the pipe under scrutiny is old and leaky, and that until the pipe conforms to 'modern standards for safety' it will continue to pose a hazard to the public and to the employees who work with it every day.").

mitigative activities on our pipeline system as part of ongoing assessments (i.e., as in-line inspections, direct assessment, and integrity-related pressure tests). Any issues identified during these routine or integrity related activities have either been rectified or are being managed within the appropriate program.

As part of our transmission integrity management program, SoCalGas and SDG&E take into account, as the regulations allow, the records that exist for a pipeline when assessing the integrity of that pipeline.[32] In cases where background information is unavailable, or cannot be supplemented with reliable sources or institutional knowledge, more conservative default values are used. As an example, a pipeline acquired from another operating company where complete records are unavailable may result in the designation of a more conservative default value (e.g., pipe with undocumented grade and unknown attributes is assigned a default specified minimum yield strength of 24,000 psi).

Continuous improvements are made to assigned default values. These updates are accomplished through careful review and verification of existing information, newly discovered documentation, institutional knowledge, and knowledge of the system gained through physical inspection of pipe properties. Specific guidelines to determine, document and incorporate these new values based on vintage, manufacturing type, manufacturer, etc. are part of the program.

SoCalGas and SDG&E utilize these guidelines to assign enhanced estimates when data are lacking, using pipeline historical information such as company history, institutional knowledge, and knowledge of pipe characteristics (such as pipeline vintage, manufacturer, long

[32] Subpart 0, incorporates by reference ASME Standard B31.8-S, which provides guidance on the use of unsubstantiated data as part of the integrity management process. ASME B31.8-S, Appendix A, Section 4.4

seam type, etc.) as is an industry-accepted practice.[33] This information in turn is used to determine known pipeline manufacturing practices, develop an understanding of prevailing practices, and estimate or derive missing material properties. In this manner, realistic estimates of the missing data can be derived and supported with the pipeline specifications used during the time of installation, and in data from pipelines that share work orders or purchase orders from similar vintages of pipe. The process continually benefits from improved pipeline knowledge gained through ongoing data collection that results from continued records research, pipeline observations made during inspections, material sampling, or combinations of physical features and known background information.

This approach was developed in accordance with the following guidance from ASME B318.S:

> NOTE: When pipe data is unknown, the operator may refer to History of Line Pipe Manufacturing in North America by J.F. Kiefner and E.B. Clark, 1996, ASME.[34]

The guidance within the ASME Standard acknowledges the value of estimating reasonable values when faced with unknown data. To illustrate this approach, two examples are provided below:

> **Example 1** - Suppose that during the course of pipeline integrity work a flash-welded long seam is observed during exposure of the pipeline for inspection. Using knowledge of the seam type, the grade of material and age of manufacture can be determined accordingly:
>
> > "A.O. Smith Corporation made only flash-welded steel pipe in the period between 1930 and 1969. All of it would have been at least Grade A material."[35]

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[33] ASME B31.S, Nonmandatory Appendix A, Section A4.2 (acknowledging missing records, and addressing supplementation of those records using background historical knowledge when available).

[34] ASME B318.S, Nonmandatory Appendix A, Section A4.2.

[35] History of Line Pipe Manufacturing in North America by J.F. Kiefner and E.B. Clark, 1996, ASME, p. 8-5.

Example 2 - Suppose records show a 16-inch diameter pipeline was made by U.S. Steel. This knowledge may also be used to determine likely seam type and minimum pipe grade:

> "In the sizes below 24-inch, all U.S. Steel pipe would be either seamless pipe or high-frequency ERW pipe. The minimum grade would be Grade A."[36]

In this manner, knowledge of the pipeline diameter can be combined with known manufacturing processes to improve upon previously missing and unknown pipeline data.

What intervenors fail to understand is that recordkeeping alone is not the singular barometer of true pipeline integrity, and should not be the sole view into comprehensive integrity management; a fully integrated and developed understanding of pipeline integrity equally includes knowledge of historical operation, maintenance practices, and pipeline condition. This understanding is reflected in our April 15th Report:

> During the course of their records review, SoCalGas and SDG&E did not discover any documented inconsistencies that would call into question the standard engineering practices used through the years, nor cause concern regarding the current pressure-carrying capacity of in-service pipelines. Gas pipelines are manufactured, designed and constructed to safely operate at MAOP, and throughout their operating histories SoCalGas and SDG&E have employed industry standard engineering practices to provide appropriate margins of safety. SoCalGas and SDG&E are confident those line segments are operating safely and in compliance with current regulatory requirements.[37]

These efforts, along with the investments that we have made enabling much of our system to be piggable, as well as the active participation in industry groups such as American Gas Association, Pipeline Research Council International and American Society of Mechanical Engineers to advance the state-of-the-art in integrity management, are all part of our comprehensive approach to managing our systems in a safe operating condition.

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[36] History of Line Pipe Manufacturing in North America by J.F. Kiefner and E.B. Clark, 1996, ASME, p. 8-8.

[37] Report of Southern California Gas Company and San Diego Gas & Electric Company on Actions Taken in Response to the National Transportation Safety Board Safety Recommendations, p. 10.

Attachment B

SoCalGas and SDG&E Maximum Allowable Operating Pressure Workshop

(Dated May 11 & 12, 2015)

Maximum Allowable Operating Pressure Workshop

SoCalGas and SDG&E

May 11 & 12, 2015

Alex Morua

Agenda

1. Company Overview
2. Methodology for MAOP Validation
   - SoCalGas and SDG&E: 192.619
   - Engineering based values
3. Why SoCalGas and SDG&E use 192.619(c)
4. Public Utility Code 958 and Pressure Testing

Service Territory

SoCalGas and SDG&E

SoCalGas and SDG&E Facts

SoCalGas

Largest natural gas distribution company in the nation

- 3,489 miles of Transmission
- 5.8 million natural gas meters
- 20,000 square miles

SDG&E

Provides natural gas distribution service to San Diego County

- 234 miles of Transmission
- 850,000 natural gas meters
- 4,100 square miles

Safety Philosophy

- **Our commitment to safety**
  - Embedded in what we do and the foundation of who we are – from initial employee training to the installation, operation and maintenance of our utility infrastructure and our commitment to provide safe and reliable service to our customers
- **Our tradition of safety**
  - Over 100 years of dedication to gas safety
- **Our organization structure and culture**
  - Enables us to be skilled, proactive, agile, focused, transparent and accountable in delivering safe products and services
- **Our priority of public and employee safety**
  - Embedded in every aspect of our business and operations: standards, policies and procedures, training and decision-making

SoCalGas and SDG&E: 192.619

- (a)(1) – The MAOP is the design pressure. The attributes are obtained via a data collection process. Engineering based values are used to populate the attributes yet to be verified.

$$P=(2St/d) \times F \times E \times T$$

  - P – MAOP (Design Pressure)
  - S – Yield strength determined in accordance with 192.107
  - t – Nominal wall thickness of the pipe
  - d – Nominal outside diameter of pipe
  - F – Design Factor determined in accordance with 192.111
  - E – Joint factor in accordance with 192.113
  - T – Temperature factor determined in accordance with 192.115

SoCalGas and SDG&E: 192.619

- Where the pipe attribute information is yet to be verified, the information is populated using Decision Tree values.

- Decision Tree Value Table

	Vintage Group 1964 - 1967	
Diameter	Min Wall (in)	Min SMYS (psi)
16 in	0.250	35,000

SoCalGas and SDG&E: 192.619

- (a)(2) – The MAOP is calculated as the Test Pressure adjusted for class location. Test pressures are obtained by researching pressure test records (Completion/As-Built/ Design drawings, Hydrotest logs, design data sheets, test charts, test procedures and results, pressure test work orders).

SoCalGas and SDG&E: 192.619

- (a)(3) – The MAOP for pipelines installed before July 1, 1970 is equal to the highest recorded operating pressure to which the segment was subjected during the period of July 1, 1965 through July 1, 1970.

SDGE SoCalGas
Sempra Energy utilities

SoCalGas and SDG&E: 192.619

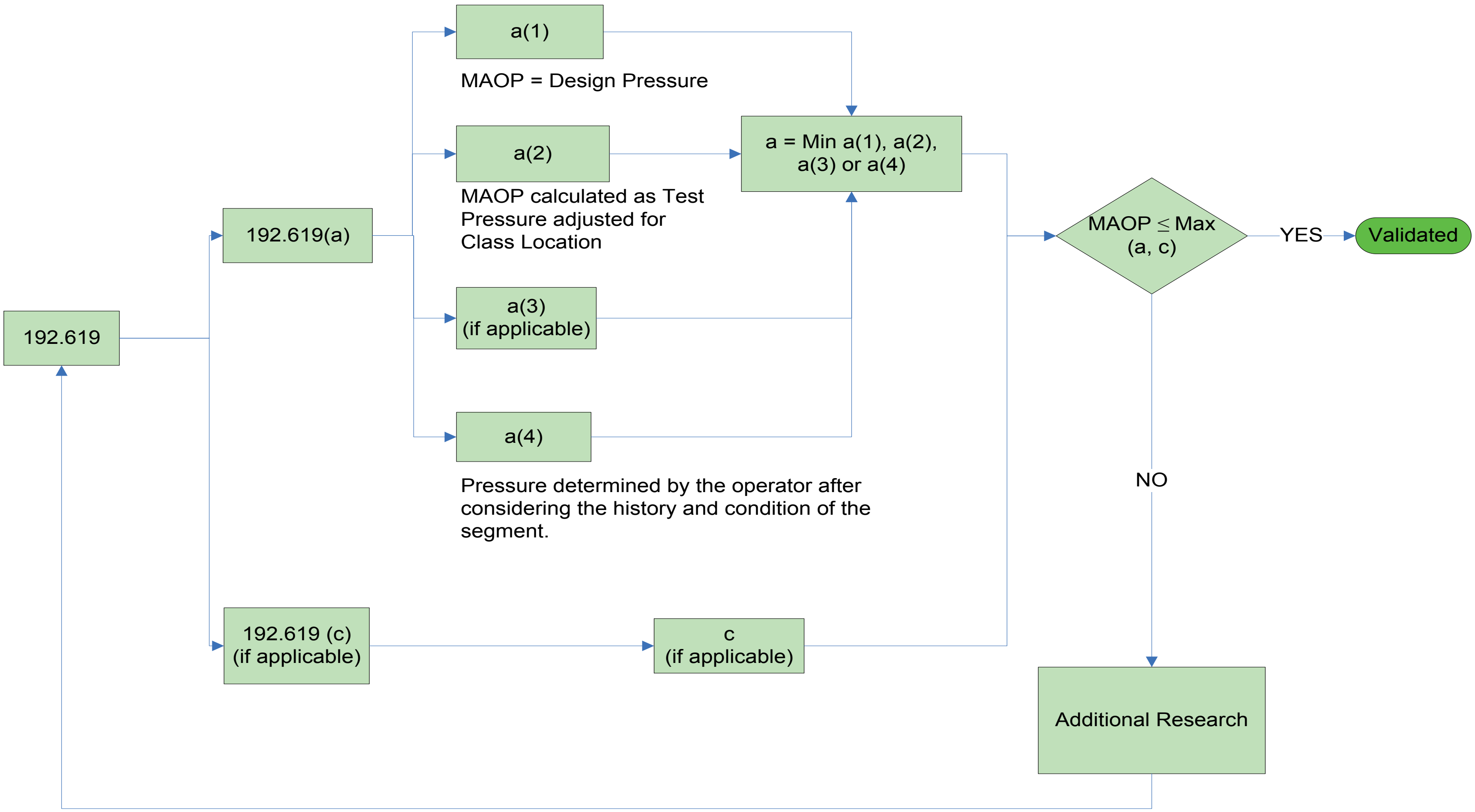
- (a)(4) – The MAOP is determined by the operator to be the maximum safe pressure after considering the history and actual operating pressure.

SoCalGas and SDG&E: 192.619

- 192.619 (c) – The MAOP is determined by allowing the utility to operate a pipeline segment to the highest recorded operated pressure from July 1, 1965 – July 1, 1970

- 192.619 (d) – The MAOP is determined by using an alternative maximum allowable operating pressure.

MAOP Validation per 49 CFR Section 192.619



Note: Where there is significant change in elevation, the Test Pressure and MAOP of Record are adjusted for elevation

SDGE SoCalGas Sempra Energy utilities

Roles and Use of Pressure Testing

California Public Utility Code 958 (a)

» Each gas corporation shall prepare and submit to the commission a proposed comprehensive pressure testing implementation plan to pressure test those lines or to replace all segments of intrastate transmission lines that were not pressure tested lack sufficient records.

» The comprehensive pressure testing implementation plan shall include a timeline for completions that is as soon as practicable.

» SoCalGas and SDG&E submitted a Pipeline Safety Enhancement Plan in 2011.

Summary

» SoCalGas and SDG&E are continually adapting to new regulations in their commitment to safety and compliance.

» As prudent operators, SoCalGas and SDG&E completed MAOP evaluations of Transmission pipelines in accordance in accordance with 192.619.

» SoCalGas and SDG&E filed for the Pipeline Safety Enhancement Plan in compliance with Cal. Pub. Util. Code Section 958, which will continue to promote the enhancement of public safety.

Attachment C

Utilities' Response to ORA DR-39, Question 4 with Attachment

(Dated September 20, 2016)

(Public)

Attachments have been removed due to their confidential nature and have been provided to the California Public Utilities Commission and Select Parties to A.15-09-013 with a Nondisclosure and Protection Agreement with SDG&E/SoCalGas pursuant to Public Utilities Code § 583, General Order 66-C/D, D.16-08-024, the accompanying declaration, and/or a Nondisclosure and Protection Agreement with SDGE/SoCalGas.

Attachment D

Utilities' Response to ORA 86, Q2 with Attachment

(Dated June 5, 2017)

QUESTION 2:

The confidential attachment to ORA Data Request 39, Question 4, identifies the Customer for the AO Smith pipe as "Southern Counties Gas Co. of Calif."

a. Was Line 1600 installed by Southern Counties Gas Co. of Calif? If not, explain what company installed Line 1600, and provide the basis for why a document titled for Southern Counties Gas Co. of Calif. has in asserting the specifications for a different company that installed Line 1600.

b. Were the materials for Line 1600 purchased by Southern Counties Gas Co. of Calif.? If not, explain what company purchased the materials for Line 1600, and provide the basis for why a document titled for Southern Counties Gas Co. of Calif. has in asserting the specifications for a different company that installed Line 1600.

RESPONSE 2:

a. No, SDG&E installed the pipeline. The basis for the documentation to support the pipe specifications provided titled "Southern Counties Gas Co. of Calif" is addressed in the response to Question 2(b) below.

b. Yes. Please see the attached purchase agreement between Southern Counties Gas Company of California and SDG&E, which facilitated the purchase of pipe for both companies and contains invoices of the purchased pipe.

SOUTHERN COUNTIES GAS COMPANY OF CALIFORNIA

Los Angeles, California

October 18, 1948

[redacted]
San Diego Gas and Electric Company
P. O. Box 1831
San Diego, California

Subject: Purchase of Pipe for Proposed Moreno to San Diego Pipe Line

Dear Sir:

As you know from previous discussions and from correspondence between El Paso Natural Gas Company and Southern Counties Gas Company, and between El Paso Natural Gas Company and Sheffield Steel Corporation, the El Paso Natural Gas Company has released to Southern Counties Gas Company 11,000 tons of steel plate which it has on order with Sheffield Steel.

We have been advised by El Paso Natural Gas Company that Sheffield Steel Corporation will not accept an order from us for this plate, but prefers to sell directly to El Paso Natural Gas Company, which will in turn sell the plate to Southern Counties Gas Company.

We have also been informed by El Paso Natural Gas Company that they have been advised by the A. O. Smith Corporation that it will accept an order from the Southern Counties Gas Company for the fabrication of this plate into 16" pipe. Since all discussion with A. O. Smith Corporation concerning this matter has been with reference to pipe for Southern Counties Gas Company, the El Paso Natural Gas Company recommends that San Diego Gas and Electric Company should not deal directly with A. O. Smith Corporation.

The total length of pipe to be fabricated from 11,000 tons of steel is not known because of losses due to defective pipe, but it will exceed 85 miles. We propose therefore to purchase all pipe fabricated from the 11,000 tons of steel plate and to resell to you 58.8% of the total. (Total length of proposed pipe line, 85 miles. Length of San Diego County Section, 50 miles. $\frac{50 \times 100}{85} = 58.8\%$)

We suggest that this matter be handled as follows:

1. Southern Counties Gas Company will issue a purchase order to and buy from El Paso Natural Gas Company 11,000 tons of plate

to be manufactured by Sheffield Steel Corporation in accordance with the terms, price, and conditions set forth in Mr. Kayser's letter to Sheffield Steel Corporation dated July 2, 1948, (a copy of which letter is in your possession). El Paso Natural Gas Company will order this plate shipped to A. O. Smith Corporation's plant at Milwaukee.

2. Southern Counties Gas Company will issue a purchase order to the A. O. Smith Corporation and pay for the fabrication of this 11,000 tons of plate into 16" O.D. pipe in accordance with that company's standard specifications for gas line pipe. Southern Counties Gas Company will order this pipe shipped to California in accordance with shipping instructions to be issued later after conferring with San Diego Gas and Electric Company.

3. San Diego Gas and Electric Company will issue a purchase order to Southern Counties Gas Company for 58.8% of total pipe received from A. O. Smith Corporation on order referred to in (2) above.

4. San Diego Gas and Electric Company will reimburse Southern Counties Gas Company for the pipe received by an amount equal to 58.8% of the total expenditure made by Southern Counties Gas Company in connection with the acquisition of all pipe manufactured from the Sheffield Steel plate.

   Included in these expenditures for which Southern Counties is to be reimbursed in part shall be:

   a. Payments to El Paso Natural Gas Company under (1) above

   b. Cost of shipping plate from Houston to Milwaukee

   c. Payments to A. O. Smith Corporation under (2) above

   d. Freight on pipe from Milwaukee to destination

   e. Cost of inspection of plate at Houston and pipe at Milwaukee

   f. Any sales or use tax that may be applicable

   g. Any other direct costs incurred by Southern Counties Gas Company in connection with the acquisition of this pipe.

The payment of $330,000 already made to El Paso Natural Gas Company by Southern Counties Gas Company shall be included as a part of the total cost of the pipe, and you will be given credit for the $198,000 payment you have already made to Southern Counties Gas Company.

As Southern Counties Gas Company makes payments in connection with the acquisition of this pipe, the San Diego Gas and Electric Company will be billed for its share, and San Diego Gas and Electric Company shall make progress payments in accordance with these bills.

For your information, we have received a quotation from the A. O. Smith Corporation for the fabrication of this pipe as follows: for shearing plate received from Sheffield Steel Corporation, 8 cents per linear foot of pipe; for fabricating pipe, $.7479 per foot. Both of these prices are subject to escalation if labor rates increase.

It is the intent of this agreement that Southern Counties Gas Company be fully compensated for all of its direct costs incurred in the acquisition of pipe to be resold to the San Diego Gas and Electric Company. No Southern Counties Gas Company purchase expense, profit, overheads, or other Southern Counties Gas Company indirect costs will be charged to the San Diego Gas and Electric Company in connection with this transaction.

Copies of all documents pertaining to this transaction will be sent to you as they are issued.

While Southern Counties Gas Company will give you the benefit of any warranty it may have in the transaction, to the extent that it can so do, it is understood that Southern Counties Gas Company will not be responsible to you on any warranty, expressed or implied, in connection with the quality of the plate, or the manufacture or use of the pipe. Furthermore, we are not to be responsible for the final cost of the pipe nor for maintenance of delivery schedules.

If the procedure proposed herein is acceptable to you, please so indicate by signing two copies of this letter and returning them to us.

Very truly yours,

SOUTHERN COUNTIES GAS COMPANY
OF CALIFORNIA

By /s/ [redacted]

Vice President

FAH:lg

Accepted and Agreed to:

SAN DIEGO GAS AND ELECTRIC COMPANY

By /s/ [redacted]

Vice President

A. O. SMITH CORPORATION

Tubular Products:

Your order is being entered and scheduled for manufacture and shipment subject to terms and conditions set forth on the reverse side of this acknowledgment and if this is not satisfactory to you, please inform us immediately.

SHIPPER'S ORDER NO. 63-400-39 DATE 10-28-48

SHEET 1 OF 1 SHEETS

CUSTOMER'S ORDER NO. 10125 DATE 10-25-48

CONTRACT NO.

INVOICE NO.

SHIPPED VIA AND DATA

CAR NO.

WEIGHT

C.M.P. AL

PRIORITY

FIN. SYM.

IND.

DESTIN. C

% SALES 100% -63

ISSUED B VP

PRICED B

SOLD TO SOUTHERN COUNTIES GAS CO. OF CALIF.
P. O. Box 6996
E. Los Angeles Branch
Los Angeles 22, California

SHIPPED TO WILL ADVISE

TERMS *SEE BELOW

F.O.B. Milwaukee

SALESMAN [redacted]

SHIP VIA Will Advise Prior to 5-1-49

ITEM	QUANTITY ORDERED	SHIPPER'S PART NO.	CUST. PART. DESCRIPTION	UNIT PRICE	AMOUNT	QUANTITY SHIPPED THIS INVOICE	QUANTITY BALANCE TO SHIP	SALES C NO.
1.	479,600' approx. 96 miles	PA-40160250-6	SMITHway LINE PIPE 16" O.D.x.250" wallx42.053#/ft. PE, 30° bevel, approximately 40' lengths, without mill coating. Approx. 10,000 tons	74.79 cft.				400
			Plus shearing mill edge plate	8.00 cft				
			Sales Taxability to be determined by shipping instructions(Resale #AX 1027-2)					

*TERMS: 2% on Basing Point Value 4.79 cft.
1st to 15th Incl. due 25th Inst.
16th to 31st Incl due 10th Prox.

Discount Allowable on Std. Selling Price 239.69

SPECIAL INSTRUCTIONS: Inspection by Moody Engr. A.O.S. to furnish Std. Mill reports. Customer reserves right to purchase substandard pipe. To be fabricated from plates customer is supplying us FOB Milwaukee as follows: ... 1949 & 2725 plates each July & August 1949. Skelp arriving at Plant prior to June 1949 run of 16" ¼ wall line pipe to be fabricated at that time. Subsequent ... will be fabricated in September. Over-width sheared from plate to be sold as scrap & credited to customer at the price in effect at the time scrap is accumulated. Transverse yield to be 52,000 psi min. Test pressure to be 90% of yield strength.

SPECIAL INSTRUCTIONS ... P.O. AND ... DOCUMENTS AND INVOICES.

ACKNOWLEDGMENT

NOT AN INVOICE

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OS-22 Tub. - 2-48

Attachment E

Southern Counties Gas Company Moody Engineering Report

(Dated July 29, 1949)

(Public)

Attachments have been removed due to their confidential nature and have been provided to the California Public Utilities Commission and Select Parties to A.15-09-013 with a Nondisclosure and Protection Agreement with SDG&E/SoCalGas pursuant to Public Utilities Code § 583, General Order 66-C/D, D.16-08-024, the accompanying declaration, and/or a Nondisclosure and Protection Agreement with SDGE/SoCalGas.

Attachment F

Line 1600 Regulator Station Inspection Reports

(Public)

Attachments have been removed due to their confidential nature and have been provided to the California Public Utilities Commission and Select Parties to A.15-09-013 with a Nondisclosure and Protection Agreement with SDG&E/SoCalGas pursuant to Public Utilities Code § 583, General Order 66-C/D, D.16-08-024, the accompanying declaration, and/or a Nondisclosure and Protection Agreement with SDGE/SoCalGas.