FILED
05/02/18
08:28 AM

Attachment A

Attachment A

Acronyms

AAEE	Additional Achievable Energy Efficiency
AMFL	Axial Magnetic Leakage
API	American Petoleum Institute
ASA	American Standards Association
BC	North Baja California
CAISO	California Independent System Operator
CARB	California Air Resources Board
CEC	California Energy Commission
CEDU	Californnia Energy Demand Forecast
CFE	Comision Federal de Electricidad
CFR	Code of Federal Regulations
CMFC	Circumferential Magnetic Leakage
COF	Consequence of Failure
CPCN	Certificate of Public Convenience and Necessity
D.	Decision
DE	Direct Examination
DEIR	Draft Environmental Impact Report
DTH	Decatherm
DIMP	Distribution Integrity Management Plan
DSAW	Double Submerged Arc Welded
ECA	Energia Costa Azul
ECDA	External Corrosion Direct Assessment
EFW	Electric Flash Welded
EG	Electric Generation
ERW	Elecric Resistance Welded
RFO	Request for Offer
GDR	Gasoducto Rosarito Pipeline
GHG	Greenhouse Gas
HCA	High Consequence Area
HF	High Frequency
ICDA	Internal Corrosion Direct Assessment
ICE	Intercontinental Exchange
IEPR	Integrated Energy Policy Report
IID	Imperial Irrigation District
ILI	In-Line Inspection
INGAA	Interstate Natural Gas Association of America
LADWP	Los Angeles Department of Water and Power
LF	Low Frequency

LNG	Liquified Natural Gas
LOF	Likelihood of Failure
MAOP	Maximum Allowable Operating Pressure
MaxDDQ	Maximum Daily Delivery Quantity
MinDDQ	Minimum Daily Delivery Quantity
MMcfd	Million cubic feet per day
MSQ	Maximum Storage Quantity
MTPA	Metric Tons Per Annum
MWs	Megawatts
NAESB	North American Energy Board
NEPA	National Environmental Policy Act
Nox	Nitrogen Oxide
ORA	Office of Ratepayer Advocates
OSD	Off System Delivery Service
PEA	Proponent's Environmental Assessment
P2G	Power-To-Gas
PEMEX	Petroleos Mexicanos
PHMSA	Pipeline Hazardous Materials Safety Administration
POC	Protect Our Communities Foundation
PSEP	Pipeline Safety Enhancement Plan
PSIG	Pounds Per Square Inch Gage
RDOM	Reliable Deliveries at Otay Mesa
RFO	Request for Offer
RNG	Renewable Natural Gas
RT	Reporter's Transcript
SCGC	Southern California Generation Coalition
SDGE	San Diego Gas and Electric Company
SDIT	San Diego Transmission System Import Limit
SED	Safety Enforcement Division
SLCP	Short Lived Climate Pollutant
SMYS	Specified Minimum Yield Strength
SoCalGas	Southern California Gas Company
TGN	Transportatora de Gas Natural de Baja California
TIMP	Transmission Integrity Management Plan
TURN	The Utility Reform Network
UCAN	Utility Consumers' Action Network
USMC	United States Marine Corps

(End of Attachment A)

Attachment B

Attachment B

(Definitions)

Hoop Stress (from Gas Pipeline Technology Committee)
Hoop stress is the stress in a pipe wall acting circumferentially in a plane perpendicular to the longitudinal axis of the pipe and produced by the pressure of the fluid or gas in the pipe. Hoop stress is a critical factor in determining a pipe's pressure holding capabilities. Hoop stress is calculated using Barlow's Equation.

Grandfather Clause
Merriam Webster's dictionary defines the "grandfather clause" as a clause creating an exemption based on circumstances previously existing. In the context of natural gas pipeline safety regulations, 49 CFR (Code of Federal Regulations), Part 192 §192.619(C) is commonly referred to the "grandfather clause" and allows the MAOP for pipelines that were in operation before July 1, 1970 to be set based on their highest recorded operating pressure over the period 1965-1970.

Longitudinal Joint Factor
LJF ("Longitudinal Joint Factor") refers to the term "E" (determined in accordance with 49 CFR, Part 192, § 192.113), in the Design Formula (See 49 CFR, Part 192 § 192.105). It is used in calculating the design pressure for steel pipe, and represents a level of confidence in the overall strength of a longitudinal seam weld.

PSIG
Pound per square inch gauge (psig) is a unit of pressure which is determined relative to atmospheric pressure. Gauge pressure is positive for pressures above atmospheric pressure, and negative for pressure below it. If we measure a pressure in an open container at sea level, the gauge pressure reads zero. However, there is a pressure of one atmosphere (14.7 psia) inside and outside of the container. Hence the absolute pressure inside and outside of the container is 14.7 psia (pounds per square inch absolute).

$$P_{absolute} = P_{gauge} + P_{atmospheric}$$

For example, a bicycle tire pumped up to 35 psig in a local atmospheric pressure at sea level (14.7 psia) will have an absolute pressure of 49.7 psia (14.7 psi + 35 psi).

MAOP
Maximum allowable operating pressure (MAOP) means the maximum pressure at which a pipeline or segment of a pipeline may be operated under 49 CFR, Part 192.

SMYS
SMYS means specified minimum yield strength:

(1) For steel pipe manufactured in accordance with a listed specification, the yield strength specified as a minimum in that specification; or

(2) For steel pipe manufactured in accordance with an unknown or unlisted specification, the yield strength determined in accordance with 49 CFR, Part 192 §192.107(b).

(End of Attachment B)

ATTACHMENT C

STATE OF CALIFORNIA
PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

December 15, 2017

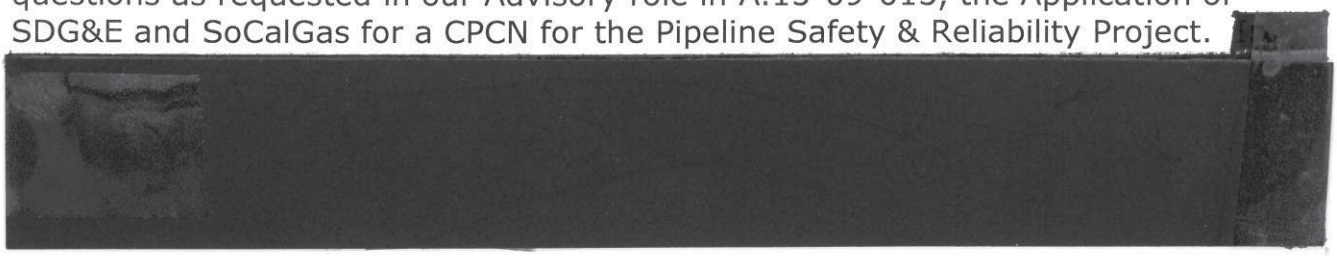
To: ALJ Kersten
Rachel Peterson

From: Kenneth Bruno, Program Manager – Safety and Enforcement Division

Re: SED's Analysis and Opinion on Supplemental Question A in the 12/22/2016 Joint Scoping Ruling

Dear ALJ Kersten and Rachel:

The Safety and Enforcement Division (SED) is providing our opinion on the questions as requested in our Advisory role in A.15-09-013, the Application of SDG&E and SoCalGas for a CPCN for the Pipeline Safety & Reliability Project.



From 12/22/2016 Joint Scoping Ruling

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?

Q1:
If de-rated to 320 psig or less, is Line 1600 a transmission line or a distribution line as defined by federal safety requirements?

SED Response to Supplemental Question A, Q1

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

December 15, 2017

To: ALJ Kersten
Rachel Peterson

From: Kenneth Bruno, Program Manager – Safety and Enforcement Division

Re: SED's Analysis and Opinion on Supplemental Question A in the 12/22/2016 Joint Scoping Ruling

Dear ALJ Kersten and Rachel:

The Safety and Enforcement Division (SED) is providing our opinion on the questions as requested in our Advisory role in A.15-09-013, the Application of SDG&E and SoCalGas for a CPCN for the Pipeline Safety & Reliability Project. In addition to the answers provided below, SED in its professional opinion believes that Line 1600 should be permanently derated to a pressure (MAOP) below 20% SMYS indefinitely, or abandoned, because of the specific pipeline characteristics and threats presenting in Line 1600. This SED recommendation holds true, even if Line 1600 completes the pressure-testing requirements of PU Code § 958.

From 12/22/2016 Joint Scoping Ruling

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?

Q1:
If de-rated to 320 psig or less, is Line 1600 a transmission line or a distribution line as defined by federal safety requirements?

SED Response to Supplemental Question A, Q1

If Line 1600 is de-rated to 320 psig or less as a permanent MAOP, it will no longer meet the operational definition of a transmission line (i.e., a pipeline operating at greater than 20% SMYS), however SED's opinion is that Line 1600 will still be a transmission line functionally irrespective of the % SMYS @MAOP. As such SED will support the continuation of the additional Safety Assurance measures required for a transmission pipeline.[1]

Although the operational definition of a transmission pipeline is straight forward, SED had to look at additional information to determine whether Line 1600 meets the functional definition of a transmission pipeline. As such SED conducted extensive research and analysis, and submitted a data request to the operator gather additional details in answering this question.[2] Two relevant PHMSA interpretations (74-0114) and PHMSA Interpretation Response (PI-09-0019) were used to help inform SED's opinion in addition to our data requests and other materials reviewed. It should be noted that the PHMSA interpretations are analogous but not necessarily precedential, as every situation has unique circumstances. Both of these PHMSA Interpretations were mentioned by the Office of Ratepayer Advocates in this proceeding.[3] Ultimately SED determined that that Line 1600 was designed, constructed and operated as a transmission pipeline and should continue to be treated as a transmission pipeline even if de-rated to 20% SMYS or below.[4] Here are some facts, SED opinions and logical inferences that SED drew from to render its opinion:

- Line 1600 begins at the Rainbow metering station and ends at Mission Valley, San Diego, transporting natural gas to 63 regulator stations along the 50 mile distance.
- Rainbow metering station was previously a compressor station and Line 1600 was designed as a transmission pipeline and remains as a transmission pipeline to this day.
- SDG&E/SoCal Gas's definition of a "Distribution Center" is more inclusive than the PHMSA definition. PHMSA defines a Distribution Center as *"A location at which gas may change ownership from one party to another (e.g., from a transmission company to a local distribution company), neither of which is the ultimate consumer. May also be referred to as a gate station or town border station."*
- Although, SoCal Gas/ SDG&E considers Rainbow a distribution center, in our opinion it does not meet the PHMSA supplied definition as it is not a gate station (city gate) or a town border station. Furthermore the 'change of ownership' from SoCal Gas to SDG&E at rainbow appears to be superficial as SoCal Gas/SDG&E did not respond with any financial records demonstrating a true transfer of gas from one company to another when requested by SED; SED would expect a change of ownership to be backed by financial records. In fact SDG&E/SoCal Gas state "No gas sales are made from SoCal Gas to SDG&E at Rainbow".[5] As it relates to Line 1600, SED views SoCal Gas/ SDG&E as essentially the same operator under parent company Sempra.
- In a March 22, 2010 PHMSA Interpretation to New Mexico, PHMSA made it clear in their logic that merely lowering pressure to below 20% SMYS does not automatically

[1] SED also supports the continued quarterly leak surveys per Resolution SED-1
[2] SED Data Request SED-06
[3] See A.15-09-013 ORA Opening Brief and Exhibit ORA 28
[4] https://www.phmsa.dot.gov/regulations/title49/interp/PI-74-0114
[5] See SDG&E / SoCal Gas's 10/17/17 response to SED's 10/6/17 Data Request SED-06

make it a distribution line.[6] One must also look at 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.

- Line 1600 receives gas upstream from a SoCal Gas transmission pipeline. Thus gas does not enter the system at Rainbow; it is essentially an extension of the upstream transmission line route whose primary function is to supply gas to the 63 regulator stations.
- Each of the 63 regulator stations can be considered a distribution center; downstream of the 63 regulator stations, gas enters the distribution systems to the customers who purchase it for consumption. The only exception is in cases where the pipeline downstream of the regulator station is operating at greater than 20% SMYS, which would make the pipelines transmission (i.e., the pipeline designated as 49-11).
- Similar to PHMSA Interpretation 74-0114 Line 1600 contains 63 regulators over its 50 mile span. The lines downstream from the outlet of each regulator station are comprised of mains and services; thus, each regulator station is a "distribution center," and the line connecting the 63 regulator stations is functionally a continuous "transmission line."

Q2:
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?

SED Response to Supplemental Question A, Q2
N/A

SED believes the line functionally would remain a transmission line.

Q3:
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?

SED Response to Supplemental Question A, Q3
If classified as a distribution line, Line 1600 would not be subject to a number of important code requirements. The most important of these is 49 CFR (Code of Federal Regulations), Subpart O (Gas Transmission Pipeline Integrity Management). This code section requires each operator to do a number of important tasks, including threat identification, risk assessment and integrity assessment. Among these tasks, the "integrity assessments" in High Consequence Areas (HCAs) is of utmost importance. These integrity assessments are comprised of both physical tests and direct/indirect examinations of the pipeline that is meant to assess presence of certain threats, extent of the susceptible threats and the consequence of a failure due to the threats on each segment particularly in HCAs. These integrity assessments are also required to be

[6] https://www.phmsa.dot.gov/regulations/title49/interp/PI-09-0019

done periodically. The specific integrity assessments may include External Corrosion Direct Assessment, Internal Corrosion Direct Assessment, Stress Corrosion Cracking Direct Assessment, Hydrostatic-testing, In-Line-Inspection (pigging) and Other technologies.[7]

There are also integrity management requirements for distribution lines in Subpart P (Gas Distribution Pipeline Integrity Management). This code section contains some of the same requirements as Subpart O, such as threat identification. But, most importantly, it does not mandate integrity assessments.

In addition to the fact that Subpart P does not mandate integrity assessment, Subpart M (Maintenance) requirement for a distribution line would allow for less frequent leak surveys. SDG&E could leak survey Line 1600 on a schedule of once every five years (192.723), except where Line 1600 is classified as being in a business district (leak surveys must be done once a year). This as opposed to at least yearly for all of Line 1600 if it were classified as a transmission line (192.706). In addition, for a transmission pipeline Subpart M would require patrolling of the entire pipeline (192.705) at least once every six months. If Line 1600 were classified as a distribution line, patrolling would only be required in areas were anticipated physical movement or external loading could cause leakage (192.721).

As a result of the foregoing points, it is SED's opinion that classifying Line 1600 as a transmission line will ensure a higher level of integrity/safety in HCAs and non-HCAs.

Sincerely,

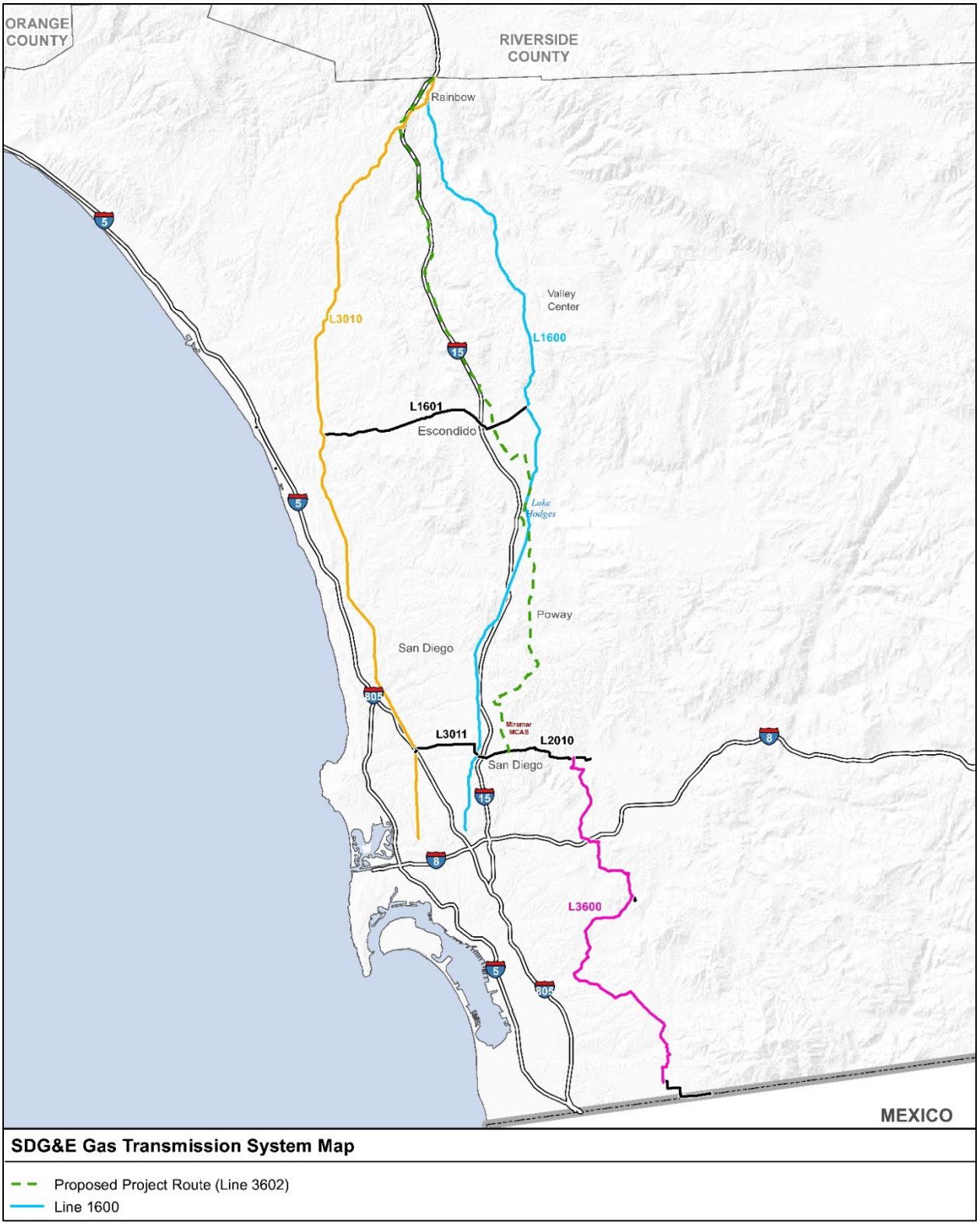
Kenneth Bruno
Program Manager
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission

Cc: Liza Malashenko, Director, SED, CPUC
Maryam Ebke, Deputy Executive Director, CPUC
Lee Palmer, Deputy Director, SED, CPUC
Durga Shrestha, Utilities Engineer, SED, CPUC
Paul Penney, Senior Utilities Engineer Specialist, SED, CPUC
Ed Moldavsky, Legal Division, Federal Advisory Section
Matthewson Epuna, PPS, SED, CPUC
Dennis Lee, PPS, SED, CPUC

[7] This is meant to include emerging technologies that may provide an equivalent understanding of the threats to pipeline integrity, such as Guided Wave Ultrasonic Technology (GWUT).

Attachment D

Attachment D
Existing Line 1600 and Proposed Line 3602



Source: Proponent's Environmental Assessment, September 2015, Figure 3-2 at. 3-7

(End of Attachment D)