BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Ratemaking Mechanisms	R.11-02-019 (Filed February 24, 2011)

PACIFIC GAS AND ELECTRIC COMPANY'S SUPPORTING INFORMATION FOR LIFTING OPERATING PRESSURE RESTRICTIONS ON THE SUCTION SIDE OF TOPOCK COMPRESSOR STATION

STEPHEN L. GARBER
CHARLES R. LEWIS, IV
Pacific Gas and Electric Company
Law Department
77 Beale Street, B30A
San Francisco, CA 94105
Telephone: (415) 308-8393
Facsimile: (415) 973-5520
E-Mail: CRL2@pge.com

JOSEPH M. MALKIN
Orrick, Herrington & Sutcliffe LLP
The Orrick Building
405 Howard Street
San Francisco, CA 94105
Telephone: (415) 773-5505
Facsimile: (415) 773-5759
Email: jmalkin@orrick.com

Attorneys for
PACIFIC GAS AND ELECTRIC COMPANY

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Pursuant to Ordering Paragraph (OP) 2 of D.11-09-006, Pacific Gas and Electric Company (PG&E) submits its Supporting Information for the restoration of operating pressure on the suction side of the Topock Compressor Station (Topock). As discussed below, the supporting documentation demonstrates that pressure on the suction side of Topock can be safely restored. All station piping segments on the suction side of the compressor station have been successfully tested at pressures above those required to confirm the safe operation of Topock at the established maximum allowable operating pressure (MAOP) with an additional measure of safety. PG&E's documentation and safety certification meet the requirements of D.11-09-006, and the Commission should authorize Topock's return to its normal MAOP.

I. BACKGROUND

Located near the Arizona border, the Topock Compressor Station (Topock) receives gas from three pipelines: PG&E's Lines 300A and 300B (fed by El Paso Natural Gas' interstate pipeline), and the Transwestern interstate pipeline. Gas coming into Topock leaves through Lines 300A and 300B, the portions of PG&E's backbone system that bring gas into PG&E's service territory from the Southwest producing basins. Topock normally operates at a maximum allowable operating pressure (MAOP) of 660 pounds per square inch gage (psig), although the piping was designed for 900 psig at 250° F.

On February 1, 2011, gas pressure on the Transwestern pipeline increased, causing pressure on the suction side of Topock to increase to a recorded pressure of 727 psig – one pound over the margin of 10 percent above the 660 psig MAOP for pressure relieving or limiting stations allowed by 49 CFR § 192.201. The overpressurization only affected the suction side of Topock; the compressors themselves and Lines 300A and 300B downstream of the station were not affected. As a result of being back-fed from Topock, the upstream portion of Line 300B also experienced pressure above the allowable operating margin.[1/] Pursuant to 49 CFR § 191, PG&E timely reported this incident to the Commission and the Pipeline and Hazardous Materials Safety Administration (PHMSA). On February 2, 2011, CPUC Executive Director Paul Clanon directed PG&E to reduce operating pressure to 20 percent below MAOP on any transmission line with segments in high consequence areas (HCAs) that experienced pressure greater than 110 percent of MAOP and to "maintain these pressure reductions until such time as the Commission allows PG&E to return the lines to their normal operating pressures." Since Topock itself is within an HCA, PG&E reduced pressure on the suction side of Topock by 20 percent to 528 psig.

Typically, during the winter months when core demand is high, Topock suction pressures run up to 650 psig. Without restoring normal operating pressure, overall pipeline flowrates on PG&E's backbone Lines 300A and 300B will be reduced this winter. Further, El Paso Natural Gas has advised us that when the Southern California Gas Company (SoCal) pipeline returns to service in the latter part of October, it will have to resume deliveries to PG&E at the normal (600 psig +) pressures with which it serves both SoCal and PG&E. Unless PG&E is able to restore the operating pressure at Topock, it will have to shut off deliveries from El Paso. The El Paso supply at Topock represents 18 percent of the total gas supply to PG&E's system in the most recent 12 months. PG&E needs to return Topock to normal operation to avoid potential curtailments of our customers this winter.

1/ PG&E determined that it does not need to restore pressure on this portion of Line 300B as urgently as on the suction side of Topock, so we will file later to restore pressure there.

II. SUPPORTING INFORMATION

In compliance with OP 4 of D.11-09-006, PG&E submits the following Supporting Information.

A. Name/Number of Segment, General Description, Location, Length of Segment, and Percent Specified Minimum Yield Strength (SMYS) at MAOP.

Test ID	Test Segment Description	Reference to Exhibits
A1	Suction piping from closed Station Inlet Valves A-1 and A-3, and A-5; to blind flanges at removed Suction Lateral Valves A-7, A-11, A-15, A-19, A-23 & A-27 (upstream flange side of Valves); to closed Valve AB-1; to blind flanged Valves G & H.	See Exhibit A for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview
A2-1	Suction line piping from blind flanges at removed Suction Lateral Valves A-11, A-15 & A-19 (downstream flange side of Valves); through Scrubbers 2A, 3A & 4A; to closed Valves A-13, A-17 & A-21.	See Exhibit A for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview
A2-2	Suction line piping from blind flanges at removed Suction Lateral Valves A-7, A-23 & A-27 (downstream flange side of Valves); through Scrubbers 1A, 5A & 6A; to closed Valves A-9, A-25 & A-29.	See Exhibit A for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview
A3	Suction piping from closed Valves A-5, FG-1, A-9, A-13, A-17, A-21, A-25 & A-29; to closed Valve AB-3; to blind flanges at removed Unit pulsation bottles and Unit Bypass Valves at K-2, K-3, K-4, K-5 & K-6; and blind flange at removed Valve A-41 (Unit K-1).	See Exhibit A for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview
A-side Suction Bottles	Chain suction bottles from Units K-5 and K-6 together, blind flanges, and test in parallel.	See Exhibit A for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview
B1	Suction piping from closed Station inlet Valves B-1 & B-3; to blind flanges in place of removed Scrubber Lateral Valves B-7, B-11, B-15, B-19, B-23 and B-27 (upstream flange side of valves); to closed Valve AB-1; to blind flanged Valves J and N.	See Exhibit B for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview

Test ID	Test Segment Description	Reference to Exhibits
B2-1	Suction piping from blind flanges at removed Scrubber Lateral Valves B-7 and B-15 (downstream flange side of Valves); through Scrubbers 1B and 3B, to closed Valves B-9 and B-17.	See Exhibit B for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview
B2-2	Suction piping from blind flanges at removed Scrubber Lateral Valves B-19 and B-27 (downstream flange side of Valves); through Scrubbers 4B and 6B, to closed Valves B-21 and B-29	See Exhibit B for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview
B2-3	Suction piping from blind flanges at removed Suction Lateral Valves B-11 and B-23 (downstream flange side of Valves); through Scrubbers 2B and 5B, to closed Valves B-13 and B-25.	See Exhibit B for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview
B3	Suction piping from closed Valves B-9, B-13, B-17, B-21, B-25, and B-29 to closed Valve AB-3; to blind flanges at remove pulsation bottles and Unit Bypass Valves at K-7, K-8, K-9 and K-10.	See Exhibit B for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview
B-side Suction Bottles	Chain suction bottles from Units K-7 and K-8 together, blind flanges, and test in parallel.	See Exhibit B for: Length of segment and Percent SMYS at MAOP - Strength Test Pressure Report See Exhibit C for: Location - Map of Test Overview

B. Maximum Operating Pressure (MOP) and MAOP for Each Segment and the Entire Line Prior to the Pressure Reduction.

Test ID	MOP	MAOP
A1	660 psig	660 psig
A2-1	660 psig	660 psig
A2-2	660 psig	660 psig
A3	660 psig	660 psig
A-side Suction Bottles	660 psig	660 psig
B1	660 psig	660 psig
B2-1	660 psig	660 psig
B2-2	660 psig	660 psig
B2-3	660 psig	660 psig
B3	660 psig	660 psig
B-side Suction Bottles	660 psig	660 psig

The upstream portions of Lines 300A and 300B also had MOPs and MAOPs of 660 psig.

C. Reason for MAOP Reduction.

As discussed above, the pressure reduction resulted from an overpressurization event one pound over 10 percent above MAOP on February 1, 2011.

D. Complete Pressure Test Results for Each Segment in Class 3 or Class 4 Locations or Class 1 or Class 2 High Consequence Areas Where a Pressure Increase Will Occur. Explain Findings and Any Actions Taken Based on Results of Pressure Testing.

To validate the strength and integrity of the Topock piping and components without prior complete pressure test records, PG&E hydro tested one-half of the station piping (e.g. "A Side") while maintaining minimum pipeline flows through the other half of the station piping ("B Side"). To achieve this, PG&E sectionalized the station piping into eleven test sections, testing against the station's existing isolation block valves.

All segments were successfully tested to a pressure above the minimum required to confirm the safe operation of the Topock station at the established MAOP with an additional measure of safety. Complete pressure test results for each test segment are found in Exhibit A ("A Side – Hydrostatic Test Packages") and Exhibit B ("B Side – Hydrostatic Test Packages") with supporting documentation (e.g., hydrostatic test procedure, post hydro test leak survey leak survey records, ultrasonic thickness records, carbon equivalency tests, et cetera) in Exhibit C ("Supporting Information").

PG&E's hydro tests met the requirements of 49 CFR Part 192, Subpart J, as required by OP 4 of D.11-09-006. In two respects, however, the Topock hydro tests deviated from PG&E's internal procedures. First, PG&E went beyond its standard, and used a deadweight tester for the tests. PG&E standard A34 establishes a uniform procedure for designing and testing gas piping systems that meet the requirements of 49 CFR Part 192. It requires the use of a deadweight tester for pressure readings if the test pressure exceeds 90 percent of specified minimum yield strength (SMYS), and states that the deadweight tester is the official record of the test, to be read every 30 minutes. Although the hydro tests at Topock did not exceed 90 percent of SMYS,

PG&E had its contractor use a deadweight tester in addition to a chart recorder. A second PG&E hydrostatic testing procedure, A37, requires that if an electronic pressure recorder is used to record pressure, a print out of the pressure recording must be made every 15 minutes. It also requires that pressure recording devices must be accurate within 0.5%. Consistent with PG&E standard A34, PG&E's contractor recorded the deadweight tester readings every 30 minutes, while the chart recorder continuously recorded pressure through the duration of each test. PG&E's contractor calibrated its deadweight tester to ± 0.485% and its chart recorder to ± 0.67%. With the use of the deadweight tester, PG&E used a calibrated, accurate instrument as required by A34 and A37 (though the chart recorder was not calibrated to 0.5%). PG&E recognizes that with the changing requirements for hydro testing, standard A34 and procedure A37 must be updated and harmonized.

Second, as part of its 152 mile hydro test program, PG&E had orally agreed with CPSD to do a spike test where possible. Unfortunately, the hydro test team working at Topock was unaware of this agreement. Had they been aware of this agreement, however, they would have advised CPSD that the spike test was not advisable at Topock because of the configuration of the station piping and the potential for damage due to approaching the maximum pressure limits of station piping components, such as closed valves.

The findings and actions taken by PG&E as a result of the pressure testing are also found in Exhibits A and B. In general, these involved minor water leakage from valves and flanges. After the hydro tests, the leaking components were either tightened or had their rubber gaskets replaced and, after the compressor station was repressurized, the components were leak surveyed to verify that they were not leaking gas.

E. MAOP Validation Records for Non-High Consequence Areas Segments Where MAOP will be Restored.

This does not apply; the Topock Compressor Station is located in an HCA.

F. Proposed MOP and MAOP for Each Segment and the Entire Line and Proposed Effective Date.

Test ID	MOP	MAOP	Proposed Effective Date
	660 psig	660 psig	October 6, 2011
A2-1	660 psig	660 psig	October 6, 2011
A2-2	660 psig	660 psig	October 6, 2011
A3	660 psig	660 psig	October 6, 2011
A-side Suction Bottles	660 psig	660 psig	October 6, 2011
B1	660 psig	660 psig	October 6, 2011
B2-1	660 psig	660 psig	October 6, 2011
B2-2	660 psig	660 psig	October 6, 2011
B2-3	660 psig	660 psig	October 6, 2011
B3	660 psig	660 psig	October 6, 2011
B-side Suction Bottles	660 psig	660 psig	October 6, 2011

PG&E does not plan to restore pressure on the upstream portion of Line 300B at this time. We will provide the Supporting Information for restoring pressure on that line in a later filing.

G. Safety Certification.

Jane Yura, PG&E's Vice President of Gas Operations, Standards & Policies, has certified that PG&E has validated the relevant pipeline engineering and construction; has reviewed the pressure test results and, along with the certification from Bureau Veritas, confirmed that the pressure tests performed on the suction side of Topock meet the requirements of 49 CFR Part 192, Subpart J and that the five pulsation bottles previously pressure tested had been tested to the standards in effect at the time; and in her professional judgment, Topock is safe to operate at the restored MAOP of 660 psig. See Exhibit D for Ms. Yura's signed declaration

H. Concurrence of the Commission's Consumer Protection and Safety Division.

CPSD has reviewed the Supporting Information submitted by PG&E and provided PG&E with a memorandum containing its comments and conclusions. That memorandum, which is found in Exhibit E, notes some deficiencies in PG&E's procedures, but "confirmed that all tests

subject to the Request were performed in conformance with 49 CFR, Part 192, Subpart J." CPSD concluded, "Despite the deficiencies noted, as described below, the hydrostatic tests conducted by PG&E, on pipeline facilities subject to the Request, provide adequate assurance of the fitness for operation of these facilities at the restored MAOP."

PG&E appreciates the time and effort CPSD has put into reviewing our records and commenting on our request to restore the operating pressure on the suction side of Topock. We are taking CPSD's comments about our procedures seriously and will be making appropriate changes.

III. CONFIDENTIALITY

Certain detailed maps and drawings included in the Supporting Information contain sensitive information, the disclosure of which could pose a public safety risk. Consequently, PG&E is providing such portions of the supporting documentation to CPSD pursuant to Public Utilities Code section 583, and serving parties with redacted versions of the documents. Pursuant to guidance from ALJ Bushey, PG&E will serve a Notice of Availability that it will make a complete set of Supporting Information available for viewing (but not copying) by parties.

IV. CONCLUSION

As shown above and in the accompanying exhibits, PG&E has met the requirements of OP 4 of D.11-09-006. The information PG&E has provided demonstrates that the operating

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pressure on the suction side of the Topock Compressor Station may be safely restored. The Commission should authorize PG&E to restore the pressure to the MAOP of 660 psig.

Respectfully submitted,

STEPHEN L. GARBER
CHARLES R. LEWIS, IV

/s/
CHARLES R. LEWIS, IV
Law Department
Pacific Gas and Electric Company
77 Beale Street
San Francisco, CA 94105
Telephone: (415) 308-8393
Facsimile: (415) 973-5520
E-Mail: CRL2@pge.com

JOSEPH M. MALKIN

/s/
JOSEPH M. MALKIN
Orrick, Herrington & Sutcliffe LLP
The Orrick Building
405 Howard Street
San Francisco, CA 94105
Telephone: (415) 773-5505
Facsimile: (415) 773-5759
Email: jmalkin@orrick.com

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