

**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.

Rulemaking 11-02-019  
(Filed February 24, 2011)

**RESPONSE OF SOUTHWEST GAS CORPORATION (U-905-G) TO THE  
TECHNICAL REPORT OF THE CONSUMER PROTECTION AND SAFETY DIVISION**

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12 The Assigned Commissioner issued a ruling December 21, 2011, modifying the  
13 schedule to allow operators to, among other things, respond to the Consumer Protection  
14 and Safety Division's (CPSD) report regarding the operators' respective implementation  
15 plans (Ruling).

16 The CPSD provided its Technical Report Regarding Southwest Gas Corporation's  
17 Pipeline Safety Implementation Plan (Report) January 3, 2012. In accordance with the  
18 Assigned Commissioner's Ruling, Southwest Gas Corporation (Southwest Gas) hereby  
19 submits its response to the Report, a copy of which is included herewith as Exhibit A.

20 The Ruling also noted that the reasonableness and ratemaking review of Southwest  
21 Gas' Implementation Plan could be considered concurrently with either Pacific Gas &  
22 Electric Corporation (PG&E), or with San Diego Gas and Electric (SDG&E) and Southern  
23 California Gas Company (SoCalGas). Southwest Gas believes it may be most efficient to  
24 address its Implementation Plan on the same schedule as PG&E and is not opposed to a  
25 concurrent review. Southwest Gas also does not oppose reassigning the reasonableness  
26 and ratemaking review of SDG&E and SoCalGas' Implementation Plan to the Cost  
27 Allocation Proceeding, Application 11-11-002.

28 . . .

. . .

1 Southwest Gas appreciates the opportunity to respond to the CPSD's Report and  
2 looks forward to actively working with the California Public Utilities Commission and other  
3 parties in addressing the topics identified in this proceeding.

4 Dated this 13<sup>th</sup> day of January 2012, at Las Vegas, Nevada.

5 SOUTHWEST GAS CORPORATION

6  
7 /s/ Justin Lee Brown

8 Justin Lee Brown

9 Assistant General Counsel

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**EXHIBIT A**

## **RESPONSE OF SOUTHWEST GAS CORPORATION (U-905-G) TO THE TECHNICAL REPORT OF THE CONSUMER PROTECTION AND SAFETY DIVISION**

### General Comments

On January 3, 2012, the Consumer Protection and Safety Division (CPSD) filed a technical report (Report) on Southwest Gas Corporation's (Southwest Gas) Transmission Pipeline Comprehensive Pressure Testing Implementation Plan (Plan). Southwest Gas appreciates the detailed review conducted and summarized by the CPSD in the Report. The key components to Southwest Gas' Plan include the replacement of 7.1 miles of the Victor Valley Transmission System (VVTS) and the installation of one Remote Control Valve (RCV) on the Harper Lake Transmission System (HLTS). Overall the CPSD found this to reasonably address the requirements contained in the California Public Utilities Commission's (CPUC) Decision 11-06-017 (D.11-06-017). The CPSD also stated however, that pressure testing of the VVTS in lieu of replacement should be feasible and could provide a lower cost alternative in complying with the CPUC's Decision.

Based upon the intent of the CPUC Decision, along with the information provided throughout this proceeding, including the workshop held in June 2011, Southwest Gas believes its plan to replace the VVTS is necessary to meet the requirements in the Decision. Southwest Gas however, will consider the feasibility of pressure testing the 1965, 6" pipeline segments of the VVTS, if the CPUC supports the CPSD's recommendations and provides additional clarity and guidance on the specific requirements for establishing the MAOP in the CPUC Decision. Regarding the 8" segments in the VVTS, even with the reduced material coupon sampling that the CPSD indicates could be appropriate, Southwest Gas continues to maintain that replacement is the most prudent option to address the requirements of the CPUC's Decision for the reasons indicated in the Plan.

### Specific Responses

The CPSD noted seven findings in the Report. In addition, two issues were raised that Southwest Gas believes warrant a response. The findings and issues, along with Southwest Gas' responses are provided below.

### **FINDINGS**

1. *The SWG proposal to install a single RCV on its HLTS is reasonable in light of SWG estimates for its technicians to reach manual valves in an emergency. SWG has not provided any details as to where exactly on the HLTS its proposed RCV would be installed; however, based on SWG's cost estimates, it appears to CPSD it is intended to be installed at its tap point to PG&E.*

*Response:*

On page 6 of the Report, under the "Finding" on the HLTS, the CPSD indicated that the Plan did not detail the exact location of the RCV and inferred that it would be installed at the tap point to PG&E systems. The CPSD is correct that Southwest Gas is intending to install the RCV near the PG&E tap point. The CPSD further suggested that the installation of the RCV should be closer to the Class 3 location instead of the proposed location, which

is primarily a low population density Class 1 location. The CPSD believed that this would not only offer protection to a more populated area, but also reduce costs since the RCV size would be reduced from a 16" valve to 10" valve.

There are several factors that justify the installation of the RCV in the Class 1 location at the tap point to PG&E. First, placing the RCV at the source of gas supply to the HLTS will provide protection to the entire pipeline system. While there are few customers currently on the system, there are plans for future customers, along with the potential of class location changes. Secondly, while a smaller RCV costs less, the cost savings may be offset by other costs incurred in designing, installing, and maintaining the infrastructure necessary for the RCV location at the CPSD's suggested site. Unlike in areas closer to the Class 3 location suggested by the CPSD, the tap point location proposed by Southwest Gas already has the land, an electric source, and the SCADA equipment necessary to accommodate an RCV installation. While Southwest Gas believes the RCV should be installed at the tap point to PG&E, the CPSD's finding will be taken into consideration during the engineering design phase for the RCV.

2. *SWG's Implementation Plan clearly details why SWG would prefer to replace, instead of pressure test, its 7.1 miles of VVTS transmission piping. CPSD agrees that the new piping would be state of the art, and that pressure testing to 1,080 psig, to establish a segment MAOP of 720 psig, a system MAOP of 250 psig, and a system MOP of 240 psig, would result in the new system pipe operating at 6% of its SMYS. This would allow the new pipe to be removed from SWG's Transmission Integrity Management Program. According to SWG, this would entail an average annual savings of approximately \$41,000.*

*Response:*

Southwest Gas agrees that transmission integrity management costs savings would be realized. Southwest Gas notes however, that integrity management provisions would still be incorporated in the new pipeline system, primarily through Southwest Gas' distribution integrity management program (DIMP).

3. *Whether the existing VVTS pipe is replaced or pressure tested, current, non-self-powered, ILI tools, cannot be used on the VVTS due to pressure and flow conditions which inhibit their use. Any inline inspections of the VVTS system will have to be performed using robotic, self-powered, tools.*

- *CPSD is aware that robotic tools, with capabilities to maneuver through obstacles that have historically prohibited the use of today's commercially available ILI tools, are already available. Further research related to such tools is progressing rapidly and work is underway to resolve some of their limitations (i.e., the limited length of pipe the tools can inspect).*
- *CPSD believes that the same emerging robotic, self-powered, technology SWG proposes to use in replacement pipe could be used in existing pipe.*

*Response:*

The CPSD states in the first paragraph on page 11 of the Report, that *"Since SWG provides no estimates for replacing any existing pipeline features within the VVTS system that would be obstacles to ILI tools (i.e., non-full opening valves), it appears that none exist. Therefore, the same emerging robotic, self-powered, technology proposed to be used in replacement pipe could be used by SWG in existing pipe, after testing of the pipe."*

The existing VVTS cannot accommodate emerging robotic in-line inspection devices without significant modifications. Southwest Gas did not provide any details on modification requirements for the following reasons:

- a) The existing pipeline has many obstructions that affect the use of robotic devices. While Southwest Gas is aware of some of the obstructions, such as valves and fittings, many are unknown. To develop a reasonable estimate to modify the entire pipeline, significant engineering and construction resources would be required to dig and inspect numerous locations along the 7.1 miles of the VVTS.
- b) Southwest Gas is uncertain of the regulatory acceptability of the current robotic, self powered in-line inspection devices in the 6" and 8" sizes. The current technology uses remote field eddy current technology (RFEC), which is not an acceptable assessment technology under existing transmission integrity management regulations in 49 CFR Part 192, Subpart O. PHMSA considers this robotic in-line inspection devices as "other" technology and requires PHMSA approval before utilization of such technologies. To date, PHMSA has not approved the use of RFEC robotic in-line inspection devices by any natural gas operator, as an assessment technology to meet the requirements of the integrity management regulations. Therefore, Southwest Gas made no assumptions that providing details on non-approved technology would be useful to, or achieve the CPUC's expectations for a valid and timely implementation plan.

4. *SWG did not consider or address the use of air, inert gas, or some combination of the two as a test medium in its implementation plan.*

- *CPSD believes existing regulations allow SWG to perform required pressure testing to establish an MAOP of 250 psig with a 5% spike test, using air or an inert gas as the test medium.*
- *The use of air, inert gas, or some combination would avoid any damage to pipeline facilities or equipment that could occur from any water not removed from the pipeline after pressure testing and avert potential permitting difficulties related to the disposal of water after testing.*

*Response:*

In the first paragraph on page 10 of the Report, the CPSD states *"CPSD believes 49 CFR, Part 192, subpart J, §§192.503 and 102.507, allow for the minimum required pressure testing levels, plus a 5% spike pressure test, to be achieved through the use of air or an*

*inert gas (i.e., nitrogen), or a combination of the two as the test medium, in both Class 1 and 3 locations. The CPSD made note of this in response to Southwest Gas' concerns with the option of hydrostatic testing the VVTS in lieu of replacement.*

Southwest Gas agrees that the pipeline safety regulations allow for the use of air or inert gas instead of water. However, Southwest Gas evaluated pressure testing using water and not air or nitrogen, because hydrostatic testing is the safest medium for pressure testing, particularly when testing older facilities that have components with uncertain material properties or fabrication designs.

In addition to the medium utilized, in the last paragraph on page 10 of the Report, the CPSD notes, "*...CPSD believes there is no mandate for SWG to extract approximately 200 coupons, which it states are necessary, in order for it to learn of the pipeline specification prior to performing a pressure test to confirm the existing MAOP.*"

Southwest Gas derived the 200 coupons based on requirements in 49 CFR §192.109 and Appendix B, Table 2(d) to determine yield strength for steel pipe with unknown properties. Southwest Gas utilized these provisions to meet the CPUC's requirements for "traceable, verifiable, and complete records" to establish MAOP. If the CPUC confirms the CPSD's finding that the requirements in 49 CFR §192.109 and Appendix B, Table 2(d) are not applicable in meeting the "traceable, verifiable, and complete records" for pipe characteristics of existing pipelines, and if it is acceptable that the 6" 1965 segment is not required to accommodate in-line inspection tools, then Southwest Gas would consider pressure testing the 1965, 6" segments of the VVTS. For the 8" segments of the VVTS, Southwest Gas maintains that even if reduced coupon sampling is allowable, replacement is the best option to meet the requirements of the CPUC's Decision.

The other issue the CPSD raised with regard to pressure testing is in the second paragraph on page 11 of the Report, which states "*However, SWG has not developed or provided any specifics that allow CPSD to determine the extent of outages that may result under either of these scenarios or that SWG does not have the ability to plan for and execute contingency measures to avert pressure testing from unduly impacting SWG's ability to continue supplying all customers with gas service while testing is underway.*"

Southwest Gas believes that it can replace the VVTS with minimal customer disruptions as compared to pressure testing. In addition, replacing the pipe will be more expeditious than pressure testing due to the research, material testing, repair/remediation plan development for potential failures, and customer outage management required to prepare for and conduct the pressure testing. Southwest Gas believes replacement meets the requirement in the CPUC's Decision to comply with the pressure testing and/or replacement requirements as expeditiously as possible. As such, detailed analysis on customer outages and potential failures were not conducted.

5. *Pressure testing of the VVTS is feasible, likely at lower cost than estimated by SWG.*

*Response:*

See response to Finding 4.

6. *When SWG installed the 2,175 feet of 6.625-inch diameter pipe in 1965 in a Class 1 location, GO 112 required a pressure test to a level of 1.25 times the MAOP, held for a minimum of 1 hour, to be performed and for documents to be maintained, for the life of the pipe, to show SWG's compliance with GO 112 regarding pipelines operating at or above 20% of SMYS. However, because SWG has provided no documentation of pipeline specifications, installation, or testing related to the 1965 installation, CPSD cannot confirm if SWG complied with GO 112.*

- *CPSD believes the costs for new testing or replacement of the Class 1 segments should be borne by SWG shareholders because of its failure to follow GO 112.*

*Response:*

The CPSD states in the first paragraph on page 7 of the Report, "*However, CPSD cannot know for certain what the test values should have been, or were, because SWG has provided no documents related to the construction or testing related to the 1965 installation even though such records were required to be maintained by GO 112, Sections 301-303.*"

Southwest Gas does not agree that the costs for testing or replacing the Class 1 segment of the VVTS should be borne by shareholders, and maintains that the 1965 segment was designed, installed and tested in accordance with the version of GO 112 in effect at the time, as well as in accordance with industry standards. The pipeline was installed in a Class 1 location and had a maximum allowable operating pressure (MAOP) of 175 psig. Using this pressure as the MAOP and the minimum pipe material specifications, the operating stress on the pipeline was 16.3% of SMYS, as the CPSD noted. Thus, the pipeline was considered a "distribution" pipeline in 1965 and not a "transmission" pipeline. The MAOP pressure test requirements set forth in GO 112 in 1965 did not apply to distribution pipelines in Class 1 locations.

7. *GO 112-C, in place when SWG uprated the VVTS from 175 psig to 250 psig in 1973, required design, operating, and maintenance history to be reviewed, before commencing with the uprate, and records of the review maintained for the life of the segment. SWG indicates that such records are not readily available now, nor has SWG included the findings of its uprate review in its Implementation Plan.*

*Response:*

In the first paragraph on page 8 of the Report regarding Southwest Gas' uprate of the VVTS, the CPSD states "*GO-112-C, which codified California's gas safety regulations at that time, required design, operating, and maintenance history to be reviewed, before commencing with the uprate, and records of the review maintained for the life of the*

*segment. SWG indicates that such records are not readily available now, nor has SWG included the findings of its uprate review in its Implementation Plan."*

Before commencing the uprate to comply with GO 112-C and 49 CFR Part 192, engineering calculations were performed and documented to establish the design pressure and the operating stress level (% SMYS) based upon the proposed MAOP for each segment of pipe in the VVTS. The uprate increased the system MAOP from 175 psig to 250psig. The uprate was limited to this maximum pressure due to the 250 psig pressure rated cast iron caps found to exist during the review of the system. This information was not included in the Plan because the uprate does not address the pressure testing requirements of the CPUC's Decision.

## **ISSUES**

### 1. VVTS original construction records (general).

*On page 6 of the Report under the description of the VVTS, the CPSD states that "...the 7.1 miles of transmission pipe on the VVTS does not have any documentation to show VVTS was pressure tested to a level of 1.5 times its current MAOP of 250 psig, nor does it have complete, accurate, and verifiable records to show initial systems construction and all subsequent alterations occurring on the VVTS."*

In 1973, Southwest Gas' uprating procedure did not subject the pipeline to a pressure test of 1.5 times its MAOP (which is the requirement set forth in the current CPUC Decision), but did follow its interpretation of 49 CFR §192.557 for uprating steel pipelines to a pressure that will produce a hoop stress less than 30 percent of SMYS.

### 2. VVTS HCA miles.

The CPSD states in the third paragraph on page 8 of the Report that *"CPSD has requested, but not yet received, information from SWG to explain the 0.2 mile difference between the 1.3 miles of HCA it provided in its Implementation Plan and the 1.1 mile it noted in its recent response to an information request from the CPSD."*

Per the information requested by the CPSD on December 29, 2011, Southwest Gas submitted its responses on January 3, 2012. In the response, Southwest Gas noted *"the reduction from 1.3 miles to 1.1 miles of HCAs is attributed to the recently completed project on 7th avenue (WR# 1297115.)"* The documentation for WR 1297115 was previously provided to the CPSD on December 22, 2011. The project was initiated and completed in August 2011.