

**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)

**REPORT OF PACIFIC GAS AND ELECTRIC COMPANY  
ON STATUS OF HYDROSTATIC PRESSURE TESTING  
AS OF DECEMBER 30, 2011**

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Dated: December 30, 2011

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Pacific Gas and Electric Company (“PG&E”) hereby provides a status update as of December 30, 2011, on PG&E’s ongoing hydrostatic pressure testing efforts. PG&E has completed its hydrostatic testing for 2011, which consists of 144.5 of the 152 Priority 1 transmission pipeline miles that have been successfully hydrostatically tested and tied in, replaced, or have had strength test pressure records verified. PG&E has experienced two ruptures during the hydrostatic tests, T-117 on Line 300B in a rural area near Bakersfield and T-31 on Line 132 in Woodside. In both incidents, the segment of pipe was replaced and has successfully passed a second hydrostatic test. Also, PG&E has experienced one leak during the hydrostatic tests, T-30 on Line 132 in Palo Alto, due to a corrosion pit. It was repaired by welding a full encirclement sleeve around the pipe and has successfully passed a second hydrostatic test. All of the other hydrostatic tests have been completed successfully.

On June 9, 2011, the California Public Utilities Commission (“CPUC” or the “Commission”) issued Decision No. 11-06-017, Decision Determining Maximum Allowable Operating Pressure Methodology and Requiring Filing of Natural Gas Transmission Pipeline Replacement or Testing Implementation Plans. Decision No. 11-06-017 directed PG&E to continue its efforts to perform hydrostatic testing of 152 miles of pipeline in 2011. (D.11-06-017, at p. 19.)

During the pre-hearing conference on June 2, 2011, PG&E agreed to provide monthly status reports on the status of its hydrostatic testing efforts for these 152 miles of “Priority 1” pipeline. On June 16, 2011, assigned Commissioner Florio issued a Scoping Memo and Ruling directing PG&E to file the first such report by June 30, 2011 and at 30-day intervals thereafter. (See Ordering Paragraph 5.)

**I. UPDATE ON STATUS OF HYDROSTATIC TESTS**

PG&E considers a test section complete when all sub-sections have been hydrostatically tested and returned to service. As of December 30, 2011, PG&E has completed hydrostatic tests and returned those sections to service for 74 test sections and replaced 2 test sections,<sup>1</sup> totaling 102.3 Priority 1 miles. In addition, complete strength test pressure records have been verified for 26 test sections, representing 42.2 Priority 1 miles. In total, 144.5 of the 152 Priority 1 transmission pipeline miles have been successfully hydrostatically tested and tied in, replaced, or have had strength test pressure records verified.<sup>2</sup> PG&E is currently working on finalizing the scope and schedule of tests planned for 2012 in accordance with Pipeline Safety Enhancement Plan (PSEP) Phase 1.

Table 1 below lists the 74 test sections where the hydrostatic tests have been completed and the sections have been returned to service:

**Table 1: Completed Hydrostatic Tests**

Test	Line No.	City	Tie-In Date
T-40	L-132A	Mountain View	05/25/11
T-41	L-132A	Mountain View	05/25/11
T-96	SP5	Oakley	05/27/11
T-02	L-101	San Jose	06/11/11
T-03	L-101	Santa Clara	06/11/11
T-11	L-105N	Newark	06/12/11
T-51	L-300A	Newberry-Baker	06/12/11
T-52	L-300A	Newberry Springs	06/12/11
T-77	L-300B	Newberry Springs	06/21/11
T-62	L-300A	Kettleman City	06/30/11
T-63	L-300A	Avenal/Kettleman City	06/30/11

<sup>1</sup> The following small replacements have been completed: T-23 Line 131 in Milpitas, and T-09 Line 105A-1 in Emeryville.

<sup>2</sup> The portion of Line 132 that ruptured on September 9, 2010 (Segment 180) is included in this total of 152 Priority 1 transmission pipeline miles. However, PG&E does not plan to re-pressurize this portion of Line 132, so the actual total of Priority 1 miles is slightly less than 152 miles.

T-85	L-300B	Cantua Creek	06/30/11
T-45	L-153	Union City	07/11/11
T-46	L-153	Hayward	07/14/11
T-84	L-300B	Kettleman City/Avenal	07/26/11
T-20	L-131	Sunol	07/30/11
T-44	L-153	Fremont	08/06/11
T-70	L-300A	San Jose	08/08/11
T-71	L-300A	San Jose	08/08/11
T-72	L-300A	San Jose	08/08/11
T-73	L-300A	San Jose	08/08/11
T-74	L-300A	Milpitas	08/08/11
T-60	L-300A	Arvin	08/12/11
T-28	L-132	Mountain View	08/18/11
T-76	L-300B	Barstow/Topock	08/30/11
T-10	L-105C	Oakland	08/31/11
T-81	L-300B	Arvin	09/01/11
T-80	L-300B	Tehachapi	09/01/11
T-82	L-300B	Bakersfield	09/01/11
T-89	L-300B	San Jose	09/10/11
T-90	L-300B	San Jose	09/10/11
T-27	L-132	Sunnyvale	09/14/11
T-15	L-105N	San Leandro	09/16/11
T-29	L-132	Mountain View	09/19/11
T-19	L-114	Brentwood	09/20/11
T-65	L-300A	Hollister	09/28/11
T-16	L-105N	Oakland	09/30/11
T-54	L-300A	Barstow	10/04/11
T-55	L-300A	Barstow/Lenwood	10/04/11
T-56	L-300A	Barstow	10/04/11
T-75	L-300A-1	Barstow	10/04/11
T-07	L-105A	Emeryville	10/05/11
T-115	L-300A	Bakersfield	10/11/11
T-87	L-300B	Hollister/Tres Pinos	10/13/11
T-26	L-132	Sunnyvale	10/17/11
T-79	L-300B	Barstow	10/20/11
T-22	L-131	Fremont	10/21/11
T-17	L-105N	Oakland	10/25/11
T-24	L-132	Milpitas	10/25/11
T-67	L-300A	San Martin	10/27/11
T-42	L-147	San Carlos	10/29/11
T-43	L-147	San Carlos	10/29/11
T-122	L-0211-01	Burlingame	10/29/11
T-117	L-300B	Bakersfield	10/31/11
T-109	L-148	Modesto	11/03/11
T-68	L-300A	Morgan Hill	11/09/11
T-49	L-191	Pittsburg	11/15/11
T-112	L-191	Pittsburg	11/15/11
T-33	L-132	San Mateo/Belmont	11/17/11
T-34	L-132	San Mateo/Hillsborough	11/17/11
T-35	L-132	Burlingame	11/17/11
T-31	L-132	Menlo Park	11/18/11
T-32	L-132	Woodside	11/18/11
T-30	L-132	Palo Alto	11/18/11
T-121	L-303	Livermore	11/19/11
T-120	L-300A	N. Kettleman	11/19/11
T-47	L-153	San Leandro	11/20/11
T-116	L-300A	Bakersfield	11/21/11
T-118	L-300A	Tehachapi	11/21/11
T-93	L-400-3	Antioch	11/21/11
TV-36	L-132	San Bruno	11/22/11
T-12017	L-132	San Bruno	11/22/11
T-64	L-300A	Paicines	12/08/11
T-86	L-300B	Paicines	12/15/11

Table 2 below lists the sections for which strength test pressure records have been verified:

**Table 2: Test Sections with Verified Records**

Test	Line No.	City
T-1	L-21A	Sonoma County
T-4	L-101	Mountain View
T-6	L-101	Millbrae
T-8	L-105A	Albany
T-18	L-107	Livermore
T-61	L-300A	Kern County
T-91	L-301G	Hollister
T-95	L-SP3	Concord
T-97	L-0821-01	San Jose
T-113	L-101	Mountain View
T-12	L-105N	Hayward
T-21	L-131	Fremont
T-58	L-300A	Kern County
T-59	L-300A	Kern County
T-69	L-300A	San Jose
T-66	L-300A	Hollister
T-50	L-300A	Topock
T-111	L-153	Newark
T-88	L-300B	San Martin
T-53	L-300A	Barstow
T-78	L-300B	Daggett
T-83	L-300B	Bakersfield
T-99	1816-01	Watsonville
T-100	1816-01	Watsonville
T-98	1816-01	Watsonville
T-110	191	Antioch

Per the Commission’s request, PG&E is committed to performing spike tests wherever it is safe and reasonable to do so. In the limited situations where spike tests are not advisable because the tests pose risks to the integrity of our pipeline system, PG&E will provide advanced notice to the Consumer Protection and Safety Division (CPSD).<sup>3</sup> As of December 30, 2011, PG&E has conducted 12 hydrostatic tests<sup>4</sup> without performing a spike test. These tests included engineering variables such as significant elevation, which would cause the maximum pressure with a spike test to exceed 100% of the specified minimum yield strength of a pipeline, and/or the test was against a valve where the test exceeds the valve seat pressure or could allow water into the pressurized side of the valve.

<sup>3</sup> In the Consumer Protection and Safety Division’s September 12, 2011 letter to PG&E, the letter states “For any applicable pressure tests where a spike hydro-test will not be performed, PG&E’s MAOP restoration request must provide advance notice regarding the specific pipeline facility, or component, which PG&E believes would preclude the spike hydro-test from being performed to a minimum level of 5%” (p.4).

<sup>4</sup> The 12 hydrostatic tests include T-80, T-70, T-121, T-118, T-68, and subsets of tests including T-87B, T-87C, T-65A, T-89N, T-89S, T-76-2 and T-76-4.

On October 24, 2011, while conducting hydrostatic test T-117, PG&E experienced a rupture of the long seam on Line 300B near Bakersfield in a farm field. The pipe was installed in 1950 and was 34-inch diameter with 0.344 wall thickness, X-52, double submerged arc welded (DSAW) pipe. The rupture occurred during the spike test at 998 psig, which was 94.9% of the pipe's specified minimum yield strength (SMYS). The MAOP of the pipe is 757 psig. The ruptured pipe segment was replaced with 84 feet of new pipe. After the pipe was replaced, on October 27, the pipe passed a new hydrostatic test that included a spike test. An analysis is currently being conducted on the ruptured pipe segment, but the failure cause appears to be a section of incomplete cross penetration on both the interior and exterior seam weld and a hot crack on the exterior seam weld.

On November 6, 2011, while conducting hydrostatic test T-31, PG&E experienced a rupture of the pipeline on Line 132 in Woodside. The pipe was installed in 1947 and was 24-inch diameter with 0.281 wall thickness, seamless pipe with specified minimum yield strength of 45,000 psi. The rupture occurred during the spike test at 550 psig, which was 52.2% of the pipe's SMYS. The MAOP of the pipe is 400 psig. The ruptured pipe segment was replaced with 59 feet of new pipe. After the pipe was replaced, on November 12, the pipe passed a new hydrostatic test that included a spike test. The cause of failure appears to be mechanical damage to the pipeline.

PG&E has delayed eight tests<sup>5</sup> representing 5.7 Priority 1 miles into 2012 until after the winter cold season or permits are obtained. Seven of these tests were delayed because they could not be completed before November 15 and would have risked PG&E's ability to serve core customers. One test, T-57 on Line 300A, has been delayed because of an environmental permit, which we hope to obtain by early January to allow testing early in 2012. These tests are all planned for pipelines where the pressure has been lowered, and the short delay will not impact the safety of these pipelines. PG&E also plans to test in 2012 about 0.6 miles of Priority 1 pipe

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<sup>5</sup> The eight tests are T-25B, T-37, T-38 and T-39 on Line 132, T-114 on Line 109, T-47C on Line 153, T-57 on Line 300A, and T-101 on DFM 1816-01.

residing within regulating and compressor stations posing complex engineering and construction challenges, and a section of pipe crossing over a major freeway.

As a result of the hydrostatic testing that occurred in 2011, PG&E has now hydrostatically tested about 39.5 miles of Line 132. PG&E plans to test the remaining 12.6 miles (with the exception of the segment that ruptured on September 9, 2010) on Line 132 in 2012. By the end of 2012, all 52.1 miles of Line 132, less the ruptured segment, will have been hydrostatically tested under PG&E's current plan.

## **II. HYDROSTATIC TESTING IN 2012 AND FUTURE REPORTING**

In 2012, PG&E is planning to hydrostatically test about 185 miles as proposed in PG&E's Pipeline Safety Enhancement Plan. PG&E will adjust, as needed, the segments to be hydrostatically tested in the PSEP plan to allow the tests postponed from 2011 to be completed in 2012.

As proposed in the PSEP, progress reports on the PSEP will be filed every six months. These progress reports will provide an update on PG&E's pipeline replacement, valve automation, in-line inspections, and hydrostatic testing activity. In 2012, PG&E will no longer be filing these monthly hydrostatic testing reports and will, instead, include an update on completion of the remaining Priority 1 miles in the PSEP progress report. In the event that the proposal for PSEP progress reports has not been adopted, PG&E will file a report upon completion of the hydrostatic tests for the remaining Priority 1 miles.

## **III. CONCLUSION**

As of December 30, 2011, about 144.5 of the 152 Priority 1 transmission pipeline miles have been hydrostatically tested and tied in, replaced, or have had strength test pressure records verified.

Because the 152 Priority 1 miles are not contiguous segments, PG&E often must hydrostatically test longer sections of pipeline in order to test the Priority 1 miles. As a result, PG&E's hydrostatic test program has strength tested more pipe miles in total (both Priority 1 and associated non-Priority 1 Miles) than the planned 152 Priority 1 miles. As of December 30,

PG&E has strength tested about 163 miles of pipeline overall in 2011. With the addition of 42.2 Priority 1 miles of strength test pressure records located and verified and 24 miles of associated non-Priority 1 miles of strength test pressure records located and verified, PG&E's hydrostatic test program will have impacted approximately 229 miles of transmission pipeline in total in 2011.

PG&E appreciates the support and opportunity to work collaboratively with the CPUC to expedite permitting processes. PG&E also appreciates the cooperation and understanding of local governments and government agencies to help expedite the permitting process. In addition, PG&E appreciates the support from the CPUC in the collaborative efforts to address concerns associated with pressure reduction activities.

PG&E remains committed to operating and maintaining its gas transmission pipeline system safely and reliably. The information PG&E is gathering through ongoing hydrostatic tests are important components of our goal to improve our overall system performance and safety.

Respectfully Submitted,

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