SED Investigation Report – October 11, 2013

January 13, 2012 Notice of Violation Regarding MAOP Exceeded and Missed Leak Survey in the City of Williams, Colusa County

Utility: Pacific Gas & Electric Company (PG&E)

Utility Operating Unit: Sierra Division and Sacramento Division

Subject of Report: MAOP exceeded and missed leak survey

Date Utility Self-Reported Violation to SED: January 13, 2012

Self-Report Number: SI2012-1

SED Investigator: Quang Pham

Summary:

On January 13, 2012, in accordance with Resolution ALJ-274, Pacific Gas & Electric Company (PG&E) self-reported to the California Public Utilities Commission's (CPUC) Safety and Enforcement Division (SED) violations discovered as a part of its High Pressure Regulator (HPR) inspection program. On January 13, 2012, PG&E also notified local authorities of Colusa County and the City of Williams of these violations.

These violations reported by PG&E primarily involved a ½-inch plastic gas service line stemming from a Distribution Feeder Main (DFM) connected directly to a single customer's meter set without proper gas pressure regulation and overpressure protection since its installation on August 15, 1984. DFM 0632-01 has a maximum allowable operating pressure (MAOP) of 180 psig and normally operates at 175 psig. The MAOP of the service line was only 60 psig, but was subjected to the higher operating pressure of DFM 0632-01. As part of its investigation, PG&E also discovered that this service line along with three other service lines, contained on plat map 2146-E5, had not been leak surveyed since July 25, 2005. Shortly after discovery, PG&E deactivated the single customer gas service line and replaced it by installing a new service line that branched off the adjacent gas service and reconstructed the customer's gas meter set. PG&E also performed a leak survey of the area contained on plat map 2146-E5.

SED investigated PG&E's January 13th report and determined that it exceeded the MAOP on the gas service. PG&E should have installed gas pressure regulation and overpressure protection equipment in order to not jeopardize the safety of its customers. As a result of exceeding the MAOP and missing the leak survey in 2010, PG&E is in violation of the CPUC General Order 112-E (GO 112-E). SED determined that no injuries or damages resulted from the violations, but the lack of proper pressure regulation and overpressure protection posed a safety risk to the public.

Based on its investigation SED has decided to issue Pacific Gas & Electric Company a citation in the amount of $140,000 for these self-reported violations.

Findings:

In 1984, as part of a new service installation, PG&E installed a 75-foot section of ½-inch plastic service line. The service line installed was a ½-inch DuPont Aldyl-A polyethylene plastic line. PG&E originally pressure tested the line to 100 psig for at least five minutes which established its MAOP for 60 psig. PG&E tapped the service line off the 3-inch steel main, DFM 0632-01, to provide service to a single customer. As part of the installation, PG&E was required to install a HPR station in order to provide overpressure protection and reduce the operating pressure from DFM 0632-01 down to no more than the MAOP of the ½-inch plastic service line. PG&E's service records from the installation in 1984 indicated that PG&E did not install a HPR station nor did it note a requirement to install a HPR station. As a result, the ½-inch plastic line, which had a MAOP of 60 psig, was subjected to pressures of 175 psig since installation in 1984.

In 2004, after receiving an interpretation from the Pipeline and Hazardous Materials Safety Administration, PG&E began inspecting its facilities such as exposed mains, services, HPRs, and meter sets for atmospheric corrosion. After an evaluation of the gas maintenance programs in 2008, PG&E discovered that there were more HPRs in the system than it originally identified in 2004. PG&E had identified 4,734 HPR stations serving one or two customers that needed to be inspected for atmospheric corrosion. HPR stations that served more than two customers were already covered under PG&E's district regulator station maintenance program, WP 4540-01. In 2009, PG&E started the HPR Atmospheric Corrosion Inspection Project as a three year program in order to inspect all the 4,734 HPR stations it identified.

As part of its inspection program, PG&E planned to inspect the HPR station that it should have installed to protect the ½-inch service line. After numerous failed attempts to locate the HPR station, PG&E determined that it connected the service line directly to DFM 0632-01 without ever installing an HPR. Therefore, the only means of over pressure protection on the service line to prevent high pressure gas from entering into the customer's piping was the pressure regulator installed at the customer's gas meter set downstream from the DFM 0632-01 service line tap. The gas regulator installed was a Singer American Meter Division full-capacity with internal relief regulator, model number 1813B2. The regulator was rated by the manufacturer for a maximum inlet pressure of 125 psig, but per PG&E's Gas Standard H-24.2, the regulator was not approved for any MAOP above 60 psig. PG&E tested the customer's pressure regulator after discovery and found it to be delivering the proper gas pressure of 0.25 psig. The pressure regulator was not designed to handle such a high load and the internal relief would not have been sufficient during an overpressure situation. Shortly after discovery, PG&E deactivated the service to the single customer and rebuilt the customer's gas meter set. The pressure in DFM 0632-01 was immediately lowered to less than 60 psig. PG&E initiated a job to install a new gas service by branching off the adjacent service, which has a HPR station for gas pressure regulation.

As part of its investigation PG&E discovered another compliance issue. PG&E identified that plat map 2146-E5, which contained this service line and three other service lines tapped off DFM 0632-01, was not part of the leak survey PG&E performed in 2010. The last leak survey performed in this area was on July 25, 2005. According to PG&E, plat map 2146-E5 was inadvertently omitted from the 2010 schedule when the schedule was created. The electronic file for the 2005 schedule was unavailable at the time of scheduling and so Gas Mapping had to create the schedule by reviewing the completed 2005 survey maps to identify each map, footage and number of gas facilities and then enter that information into a spreadsheet. Shortly after discovery, PG&E performed a leak survey in the area covered by plat map 2146-E5 and discovered an underground leak at one of the adjacent service lines. The leak surveyor classified

the leak as a Grade 2+, which is a non-hazardous leak that requires priority scheduling and repair within 90 days.

Based on its review, SED believes the cause of the violation to be a misapplication of the requirements by PG&E during the original installation of the service line. According to PG&E Standard Practice 468-2, now known as the Utility Operations Standard S5458, *"The Engineer in charge of the work will initiate the Service Record and assure that all necessary information for installation or modification of the gas service is provided."* The original gas service record indicated that PG&E was aware that it connected the service line to a high pressure line but did not take the necessary step to install proper gas pressure regulation and overpressure protection. As per PG&E's standard, the gas service record is again reviewed, signed and dated by the crew foreman once the job has been completed before turning it in. The gas service record should have been reviewed by multiple parties, but in this case, the requirements for gas regulation and overpressure protection were missed at all levels. PG&E had opportunities to identify this violation while installing the service line and throughout its documentation review process. After installation, unless there was a problem with the gas system, PG&E would not have known about this violation. SED reviewed PG&E's service call records between 2005 until discovery of the address with the ½-inch service line and found no evidence that indicated a problem with the service line, such as a gas leak. PG&E's retention policy for service calls information is six years plus the current calendar year. Service call records from this address were only available as far back as 2005.

By operating the ½-inch plastic service line above its MAOP of 60 psig, PG&E is in violation of Title 49 Code of Federal Regulations (CFR) § 192.123 and § 192.619, which are referenced and adopted by GO 112-E and which requires *"the design pressure may not exceed a gauge pressure of 100 psig for plastic pipe used in distribution systems"* and *"no person may operate a segment of steel or plastic pipeline at pressure that exceeds a maximum allowable operating pressure"* respectively.

Moreover, by not installing pressure regulation and overpressure protection, PG&E is in violation of CFR § 192.195, which requires each pipeline to have pressure relieving or pressure limiting devices; and § 192.197, which requires one of four methods to regulate and limit, to the maximum safe value, the pressure of gas delivered to the customer. By not performing a leak survey in 2010, PG&E is in violation of CFR § 192.723, which requires a leak survey to be performed on the distribution system once every five years, not to exceed 63 months.

SED's investigation found that no injuries or damages resulted from this violation, and PG&E has initiated corrective actions to replace the gas service. SED confirmed that as of February 6, 2012, PG&E has installed a new service line to the customer by branching off the adjacent service line. PG&E has completed the system wide HPR inspection program and have found no other similar instances. PG&E repaired the Grade 2+ leak that it discovered during the leak survey on February 02, 2012. PG&E's Sacramento Division added plat map 2146-E5 to its leak survey schedule. PG&E will leak survey the area again in 2015. As part of the self-identified notification reported back in December 30, 2011 for missed distribution leak surveys in Contra Costa County, PG&E is currently performing a system-wide review for other potential missed leak surveys.

Recommendations:

Commission Resolution ALJ-274 requires SED staff to consider factors in Public Utilities Code § 2104.5 for self-identified and self-corrected violations. In determining whether it should issue a citation, SED considered the size of PG&E's operations, the gravity of the self-reported violations, and the good faith demonstrated by PG&E in its efforts to achieve compliance going forward. In that regard, SED is aware that: 1) By not installing gas pressure regulation and overpressure protection equipment, PG&E created an unsafe condition; 2) Also missing the leak survey in 2010, PG&E missed an opportunity to identify any potential hazardous leaks that could have been present; 3) PG&E's violations of CFR § 192.123, § 192.619, § 192.195, § 192.197, and § 192.723 in this instance did not result in any injuries or damages; 4) PG&E initiated corrective actions and reconstructed the service line to the customer and performed a leak survey of the area.

It is imperative that PG&E operate its gas system in compliance with GO 112-E and in manner that promotes and safeguards the health and safety of the public. While it is fortunate that there were no injuries or damages resulting from these violations, the lack of proper gas pressure regulation and overpressure protection equipment posed a safety risk to the public and PG&E's customer. Although, PG&E's standards contained requirements to review the records related to the ½- inch plastic service line, at no point in the review process did PG&E identify the violations. Programs such as PG&E's HPR inspection program are steps in the right direction that it should perform to discover potential deficiencies, such as the one PG&E identified in this report, early and before they result in compromising the integrity of PG&E's gas system.

Based on its investigation, SED has decided to issue a citation in the amount of $140,000 for these violations.

Appendix A

The following table contains the calculated fine amount.

Item #	Violation	Description	Date of Discovery	First Opportunity	Remediation	Length of Violation	Fine Amount
1	Title 49 CFR § 192.123	Plastic design pressure	1/3/2012	4/18/1984	2/6/2012	N/A	$ 20,000.00
2	Title 49 CFR § 192.195	Protection against overpressure	1/3/2012	4/18/1984	2/6/2012	N/A	$ 20,000.00
3	Title 49 CFR § 192.619	MAOP Exceeded	1/3/2012	1/3/2012	2/6/2012	N/A	$ 50,000.00
4	Title 49 CFR § 192.723	Missed Leak Survey	1/3/2012	*10/25/2010	1/11/2012	N/A	$ 50,000.00

* Last leak survey for plat map 2146-E5 was on 07/25/2005