

Attachment A
Incident with Probable Violations

| PUC ID | Date | Address | Utility | Investigative Findings | Code Violations |
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| G20160810-2059 | 08/10/2016 | <p style="text-align: center;">██████████, Deer Park, Napa County</p> | PG&E | <p>1. U.S. Department of Transportation Chapter 49 CFR §192.605(a): <i>“(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response.”</i></p> <p>The procedures that address how to maintain and change customer service valves are TD-6100P-11, and TD-4150P-01. Neither of the procedures involve using a brass hammer to loosen a frozen valve.</p> <p>SED found that the practice of attempting to “free” an inoperable valve by loosening the packing nut and tapping the tang with a hammer is included in an obsolete procedure (TD-6436P-27). The practice was eliminated by PG&E procedure TD-6100P-11, Rev. 0; which was published on 07/30/14, and made effective on 09/01/14. The revision notes state:</p> <p style="text-align: center;"><i>“Removed guidance from the previous procedure TD-6436P-27 to use a brass hammer to hit the valve stem (tang) to loosen core. Added requirement to repair frozen core by lubrication or replace valve.”</i></p> <p>Procedure TD-6100P-11 states that potential hazards include “explosion or igniting of escaping gas.” Procedure TD-4150P-01</p> | 49 CFR 192.605(a) |

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| | | | | <p>states in several notes that gas may be “exhausted” from the valve body during the operation of the valve changer. Section A2 of PG&E’s procedure TD-6100P-01 requires field service personnel to inspect any job site for workplace hazards.</p> <p>Both procedures that outline service valve maintenance and replacement state the possibility of gas release. PG&E personnel should have been more diligent in examining the work area to identify possible sources of ignition.</p> <p>When PG&E personnel performed the “hammer tap” practice to free a stuck valve, they were not following their procedure TD-6100P-01 for maintaining and repairing or replacing valves. This failure to follow procedure violates Chapter 49 CFR §192.605(a) and directly contributed to the incident.</p> | |
| | | | | <p>2. U.S. Department of Transportation Chapter 49 CFR §192.605(a): <i>“(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response.”</i></p> <p>PG&E’s current Meter Valve Maintenance procedure (TD-6100P-11) states that valves with a frozen core, or a broken tang should be replaced. Valves that cannot be replaced must be referred to dispatch, and a repair crew must be requested. The current Service Valve Replacement procedure (TD-4150P-</p> | <p>49 CFR 192.605(a)</p> |

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| | | | | <p>01) states that the “service valve must be operational to perform [valve replacement]”. The procedure requires that gas flow be stopped before the valve change tool is attached, but assumes that the service valve is operable. Neither TD-6100P-11 nor TD-4150P-01 provides guidance on pressure control for valves that are frozen in the open position. Moreover, neither procedure provides guidance on how to proceed with the replacement of a valve which is frozen open.</p> <p>In its procedures, PG&E does not address how to safely replace frozen valves, or valves that are inoperable due to broken tangs. By not addressing this maintenance issue within its procedures PG&E is in violation of Chapter 49 CFR §192.605(a). The absence of a proper, safe procedure to address these situations contributed to the incident.</p> | |
| | | | | <p>3. U.S. Department of Transportation Chapter 49 CFR §192.805(f): <i>“Each operator shall have and follow a written qualification program. The program shall include provisions to...communicate changes that affect covered tasks to individuals performing those covered tasks”</i></p> <p>Mr. Fenzel stated he was not aware of any procedure that did not involve tapping the valve with a hammer to free it from a frozen position. Both Mr. Fenzel and Mr. Fuller claim that they perform the “hammer tap” procedure often; they were not aware that it</p> | <p>49 CFR 192.805(f)</p> |

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| | | | | <p>was an obsolete procedure, and were not aware it had been superseded by a different procedure. PG&E reports that the procedural change was not formally communicated to the Maintenance and Construction (M&C) crews and supervisors, because those target audiences were listed as “informational only”. TD-6100P-11 is a procedure targeted primarily at Gas Service Representatives (GSRs). TD-4150P-01, which is targeted at M&C personnel, does not reference TD-6100P-11, which contains the note about removing the “hammer tap” guidance.</p> <p>The elimination of the “hammer tap” procedure without proper communication to the individuals responsible for performing the task is a violation of Chapter 49 CFR §192.805(f), and contributed to the incident.</p> | |
| | | | | <p>4. U.S. Department of Transportation Chapter 49 CFR §192.805(b): <i>“Each operator shall have and follow a written qualification program. The program shall include provisions to...ensure through evaluation that individuals performing covered tasks are qualified [from §192.803: Qualified means that an individual has been evaluated and can: (a) Perform assigned covered tasks; and (b) Recognize and react to abnormal operating conditions.]”</i></p> <p>Mr. Fuller stated in the interview on August 11, 2016 that he did not recall receiving formal training through the Operator Qualification (OQ) training process on “unsticking” a frozen valve; most of his</p> | <p>49 CFR 192.805(b)</p> |

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| | | | | <p>training regarding frozen valves was “on-the-job”. He stated that more formal training on how to perform maintenance on frozen valves would be helpful. Mr. Fuller also stated that he did not recall being trained on Nordstrom valves at all during his OQ training.</p> <p>The OQ task identified by PG&E to perform valve replacement is 06-10, “Operate Riser Valve Changer Equipment and Service Riser Thread Replacement (3/4” to 2”)”. Mr. Fenzel had most recently obtained the qualifications to perform that task on 06/16/2016, approximately 2 months before the incident. Mr. Fuller had most recently obtained it on 06/01/2016. Neither Mr. Fenzel nor Mr. Fuller had been informed that the “hammer tap” procedure was obsolete during this training, and had not been trained on how to change a valve that was stuck in the open position. PG&E reported that “valve changer training does not address replacing inoperable valves,” and “Valve changer OQs (OQ 06-10 & OQ 06-23) do not address changing valves that are damaged, e.g. broken tang.”</p> <p>Both a frozen valve, and a valve with a damaged tang are abnormal operating conditions (AOCs) that effect how maintenance tasks are performed. By failing to train its personnel on how to react to these AOCs, and by failing to evaluate how its personnel react to these AOCs, PG&E was not ensuring that its employees were qualified to perform tasks involving service valve maintenance. This failure to train and to evaluate its employees violates Chapter</p> | |
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| | | | | 49 CFR §192.805(b), and contributed to the incident. | |
| | | | | <p>5. U.S. Department of Transportation Chapter 49 CFR §192.801(b): <i>“For the purpose of this subpart, a covered task is an activity, identified by the operator, that: (1) Is performed on a pipeline facility; (2) Is an operations or maintenance task; (3) Is performed as a requirement of this part; and (4) Affects the operation or integrity of the pipeline.”</i></p> <p>Procedure TD-6100P-11 (Valve Maintenance) states that OQ Requirements do not apply to the procedure, but the GSRs are required to complete training course CSVC-0032. TD-6100P-11 includes maintenance tasks like valve inspections, service valve lubrication, and changing valve components.</p> <p>SED believes that the tasks included in TD-6100P-11 meet the 4 requirements of 49 CFR §192.801(b), and should be considered covered tasks, and therefore would require qualified personnel to perform the tasks. This violation of 49 CFR §192.801(b) did not contribute to the incident, but SED believes it is a deficiency in PG&E’s procedures and their OQ program, and should be addressed.</p> | 49 CFR 192.801(b) |
| | | | | 6. U.S. Department of Transportation Chapter 49 CFR §192.481(a): <i>“Each operator must inspect each pipeline or portion of pipeline that is exposed to the atmosphere for evidence of</i> | 49 CFR 192.481(a) |

atmospheric corrosion, as follows: If the pipeline is located onshore, then the frequency of inspection is at least once every 3 calendar years, but with intervals not exceeding 39 months.

The most recent atmospheric corrosion survey records show that the service at [REDACTED] was last inspected on March 19, 2013. The incident occurred on August 10, 2016, approximately 41 months after the last survey. Although the root cause analysis claims that no indication of corrosion was found on the Nordstrom valve threads, there was general corrosion observed on the packing nut, valve plug, and on both the exterior and interior of the valve body. The valve plug, in particular was severely corroded, and the broken surface of the small remaining tang section showed signs of corrosion. Corrosion is a time dependent threat that causes metal loss, and compromises structural integrity if it is left unchecked. The risk of failure due to corrosion increases as time passes without some type of recognition and reaction to the threat. PG&E violated 49 CFR §192.481(a) by failing to perform the atmospheric corrosion survey within 39 months of the previous survey, and that failure increases the risk of failure on their pipeline.