TITLE: Gas Valve Maintenance Requirements

Purpose

This Work Procedure provides the maintenance requirements and procedures for plug, ball, and gate valves (referred to as "valves") installed in, and determined to be necessary for the safe or emergency operation of, Pacific Gas and Electric Company's (the Company's) gas systems.

Recission

This Work Procedure replaces UO Standard S4220 "Gas Valve Maintenance Requirements."

Safety

Failure to perform the required maintenance could pose risk to public safety in the event of an equipment or pipeline failure.

Implementation Responsibilities

The vice president of Gas T&D is responsible for approving, revising, and distributing this Work Procedure. The vice president of Gas T&D authorizes the managers of GT&D Pipeline Engineering and Gas System Integrity to update and reissue this Work Procedure.

Division and District M&C superintendents are responsible for implementing this Work Procedure within their respective organizations.

The manager of GT&D Pipeline Engineering and the manager of Gas System Integrity are responsible for establishing and maintaining procedures to comply with this Work Procedure.

Compliance

Division and District M&C superintendents shall insure their valve maintenance supervisors are aware of, and follow the requirements in, this Work Procedure. Periodic audits by Company personnel may be conducted to ensure compliance with these requirements. Responsible superintendents and supervisors shall measure the implementation and effectiveness of this Work Procedure through the record reviews described in Attachment 2 and regular field verifications. The CPUC also conducts compliance audits on the requirements in this Work Procedure.

Procedure

See Attachment 1 for detailed maintenance requirements and procedures.

Acronyms

BTU: British Thermal Unit

49 CFR: Title 49 of the Code of Federal Regulations – Transportation

ESD: Emergency Shutdown

DOT: Department of Transportation

G.O. 112E: State of California Public Utilities General Order 112-E, which contains the rules governing design, construction, testing, maintenance, and operation of utility gas gathering, transmission, and distribution piping systems.

MAOP: Maximum Allowable Operating Pressure

Definition of Terms

Distribution Regulator Station Valves: Those valves identified in Work Procedure 4430-03, "District Regulator Station Maintenance."

Emergency: An emergency is defined as: "Any unsafe condition that requires the **immediate shutdown and isolation** of an entire station or pipeline section in order to protect employees or the public, and to prevent or minimize equipment damage and property loss."

Emergency Valves: Gas transmission valves used to isolate a pipeline facility or pipeline section in the event of an emergency. Valves in this category include transmission mainline valves, cross-tie valves, tap valves, pipeline blowdown valves, station upstream and downstream block valves, line rupture-control valves, and all of the valves controlled by a station ESD system (varies by station, includes uphole safety valves at storage fields). **Note:** Classify BTU Zone isolation valves as "Emergency Valves" because leakage across the valve may create a hazard for customers because of excessive BTU variations.

Gas Distribution Critical Main Valves: Gas distribution main valves that may be necessary for the safe operation of a distribution system. See Attachment 3 for criteria to identify gas distribution's "critical" main valves.

Maintenance Valves: Gas transmission valves used to isolate equipment in order to facilitate maintenance or repairs. Valves in this category include, but are not limited to, equipment isolation valves (e.g., separators, filters, coolers, etc.), block valves installed on either side of a meter or individual regulator/monitor or load valve/trimmer runs, unit block valves (compressor stations), bypass valves (unless controlled by an ESD system), fuel gas valves (unless controlled by an ESD system), valves on gas well Christmas trees (except uphole safety valves), tap valves for power and control gas, and valves on power gas or instrument supply piping (supply racks). Valves are typically in open/close service and are generally manually operated. A few valves may be power-actuated.

Operational Valves: Gas transmission valves used to facilitate system operations. Valves in this category include, but are not limited to, MAOP separation valves, and valves used to change routing through a station (primarily Terminals and compressor stations). Valves are typically in open/close service and may be manually operated, but are more likely power-actuated.

Date Issued/Updated

Effective: May 2003 Review Date: May 2008

Signed,

Reference Documents

49 CFR Paragraph 192.745, "Valve maintenance: Transmission lines"

49 CFR Paragraph 192.747, "Valve maintenance: Distribution systems"

G.O. 112-E Section 143.2, "Valve Maintenance"

Utility Standard S4430

Work Procedure 4430-02, "Station Inspection, Testing, and Maintenance Procedures"

UO Standard S5000, "Gas Distribution Emergency Shutdown Zones"

Work Procedure 4430-03, "District Regulator Station Maintenance"

http://mpr/mpr/mpr.do "Material Problem Reporting"

Attachments

Attachment 1, "Valve Maintenance Requirements"

Attachment 2, "Valve Maintenance Record" (with instructions)

Attachment 3, "Gas Distribution Critical Main Valves"

Attachment 4, "Buried Valve Identification"

Attachment 5, "Guidelines for the Use of Hydraulic Wrenches (and Other Devices That Can Provide High Torque) on Gas Transmission and Distribution Valves, Such as Torque Multipliers for Box Wrenches on Gas Transmission and Distribution Valves"

Attachment 6, "How to Estimate Applied Torque When Manually Operating a Valve"