

Status Report on IRP Recommendations to the CPUC

August 2014

Review PG&E's plan to enhance pipeline safety and perform technical oversight of PG&E program implementation

5.7.4.2 The CPUC or its designated consultant should review [PG&E pipeline safety enhancement plan] and collaborate with PG&E in the development of clear objectives, measures, and schedule.

6.2.4.6 Retain independent industry experts in the near term to provide needed technical expertise as PG&E proceeds with its hydrostatic testing program, in order to provide a high level of technical oversight and to assure the opportunity for legacy piping characterization through sampling is not lost in the rush to execute the program.

To ensure the safety and reliability of gas pipeline systems in California, the CPUC has adopted several of the most stringent pipeline safety rules in the nation. Driving these rules is the CPUC's commitment to eliminate the grandfathering of historical pressures levels by requiring jurisdictional operators to hydrostatically test or replace their pipelines. Specifically, the CPUC Decision (D.) 11-06-017, directed all California natural gas transmission operators to develop and file for CPUC consideration implementation plans for comprehensive pressure testing, also known as Pipeline Safety and Enhancement Plans (PSEP), to achieve the goal of orderly and cost effectively replacing or testing all natural gas transmission pipelines that have not been pressure tested. The CPUC approved PG&E PSEP in December 2012, in a Decision (D.) 12-12-030.

As of April, 2014, PG&E has hydrostatically tested over 565 miles and replaced approximately 90 miles of pipeline. To ensure that PG&E properly hydrotests its pipelines, the CPUC has been performing ongoing oversight of spike and hydrostatic tests performed by PG&E, including:

- Field presence at over 65 % of PG&E PSEP projects in 2013
- Review of PG&E PSEP procedures, policies and records
- Review of quarterly PG&E PSEP progress reports

To supplement the workforce and expertise of the SED team, the CPUC has also brought on an independent industry experts, Bureau Veritas, to assist with the quality review of PG&E's PSEP work.

Through audits, inspections and close involvement in all aspects of the PSEP program, CPUC staff serves the public interest by ensuring that work is being performed in accordance with gas safety regulations and by validating that PG&E has traceable, verifiable, and complete records for existing and new natural gas pipeline infrastructure.

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Elevate the importance of safety at the CPUC and leverage performance based regulatory frameworks

6.5.3.1 Adopt as a formal goal, the commitment to move to performance-based regulatory oversight of utility pipeline safety and elevate the importance of the [gas safety program] in the organization.

6.2.4.1 Adopt as a formal goal, the commitment to move to more performance-based regulatory oversight of utility pipeline safety.

7.4.2 Upon thorough analysis of benchmark data, adopt performance standards for pipeline safety and reliability for PG&E, including the possibility of rate incentives and penalties based on achievement of specified levels of performance.

6.4.3.1 CPUC should consider seeking approval from the State Budget Director for an increase in gas utility user fees to implement performance-based regulatory oversight for all gas utilities.

The CPUC is in the process of implementing long-term changes to the internal safety culture at the CPUC and instilling a safety culture in the utility companies and other industries the CPUC regulates. Many improvements have been implemented to elevate the importance of the gas safety program in the organization and to ensure that safety is consistently considered as top priority throughout the organization. Over the past four years, the CPUC has:

- Established a Safety Council to strengthen and support the CPUC's internal and external safety oversight functions. The Safety Council immediately focused its efforts on establishing guidelines and implementing policy changes at the CPUC to drive its cultural approach and commitment to gas pipeline safety. From its initiation, the Safety Council worked with the CPUC gas safety experts to establish a high-level comprehensive Gas Safety Action Plan to address the NTSB and IRP recommendations and to promote a change in culture away from the traditional compliance model towards performance based regulation.
- Ensured that every decision voted on by the Commissioners now includes an analysis of safety implications, including the CPUC's analysis of pending legislation.
- Ensured that every Voting Meeting of the CPUC includes a public presentation by CPUC staff on a safety issue involving the CPUC and the companies it regulates. Since this processes that began in March 2011, the presentations have included regular updates from gas safety staff, including a recent presentations on the results of a risk assessment of Aldyl A pipelines.
- Adopted a Safety Policy Statement on July 10, 2014. The Safety Polity Statement defines the role of the Commissioners, binds together the agency in constantly strengthening our safety efforts, and provides a unifying vision and guidance for the organization's multiple and disparate functions.

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In 2011, the CPUC also opened a Gas Safety Order Instituting Rulemaking (OIR) R. 11-02-019 to evaluate how the CPUC gas safety General Order 112-E can be modified to incorporate performance based standards. As part of the Gas Safety OIR, the CPUC solicited input from industry experts and held workshops to identify performance metrics that can be incorporated into the proposed rule changes. Among many improvements, the new rule changes will require pipeline operators to submit the following performance data in their annual reports to the CPUC:

- Number of gas leaks associated with causes, pipeline materials, sizes, and decades of installation and the time it took to repair the leaks
- Number of events in which the gas pressure exceeded the maximum allowable operating pressure
- Number of employees by operating unit
- Excavation damage related data
- Lost and uncounted for gas
- Public liaison activities
- Response times for the utilities to respond to leaks and damages reported to them

New version of the General Order 112 is currently being finalized and is on track to be adopted by the end of 2014.

Enhance understanding of the costs associated with pipeline safety and consider a more proactive role for the safety staff in utility rate filings.

6.8.3.1 Consider a more proactive role for the safety staff in utility rate filings. Improve the interaction between the gas safety organization and the [Office] of Ratepayer Advocates of the CPUC so there is an enhanced understanding of the costs associated with pipeline safety.

7.4.1 Improve the interaction between the gas safety organization and the [Office] of Ratepayer Advocates of the CPUC so that there is an enhanced understanding of the costs associated with pipeline safety.

6.3.3.3 The CPUC should consider requiring the major regulated utilities operating in the State of California to submit the results of the independent integrity management audits as part of their respective rate case processes.

6.6.3.1 The CPUC should significantly upgrade its expertise in the analytical skills necessary for state-of-the-art quality risk management work. The CPUC should have an organizational structure for individuals doing this work such that they have an equal stature and access to management of the CPUC as those who deal with rate issues or legal or political issues. Although the CPUC's role is to provide oversight of the operator's compliance with federal and state codes, its role should not be to provide management of risk direction to the utilities.

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The CPUC has embraced the need to improve capabilities necessary for risk identification, analysis and management. The first step was the creation of a new Risk Assessment section, comprised of utility engineers and analysts whose focus is to identify potential threats to public safety and system vulnerabilities and examine the most cost-effective method to mitigate risks and prevent accidents. One of the initial efforts of the Risk Assessment section was to analyze safety considerations in PG&E's General Rate Case (GRC) Application A. 12-11-009. In order to thoroughly evaluate safety considerations in PG&E's GRC Application, CPUC augmented Risk Assessment staff with three independent expert evaluators, Liberty Consulting for electric safety, Cycla Corporation for natural gas safety review and Overland Consulting for financial analysis. The expert evaluators composed evaluation reports that were added into the record of PG&E GRC proceeding and the Risk Assessment staff supported the Commissioners and the assigned Administrative Law Judge in an advisory capacity. The Risk Assessment team has continued to expand its participation in ratemaking proceeding, recently submitting risk assessment reports in PG&E Gas Transmission and Storage (GT&S) Application A. 13-12-012 and Southern California Edison (SCE) GRC Application A. 13-11-003 proceedings.

The other process change that will have lasting and significant impact is an OIR to develop a risk-based decision-making framework to evaluate safety improvements and revise the GRC plan for energy utilities (Risk Framework OIR), initiated by the CPUC in November 2013. The changes that are being considered will ensure that risk assessment and investment in safety are key considerations in rate cases. GRCs are a traditional regulatory proceeding in which a utility files a request for additional ratepayer funds based on its estimated operating costs and capital needs. The CPUC then determines the reasonable amount of additional funds. The CPUC initiated the Risk Framework OIR to determine whether and how we should formalize rules to ensure the effective use of a risk-based decision-making framework to evaluate safety and reliability improvements presented in GRC applications, and to develop necessary performance metrics and evaluation tools. Essentially, the CPUC is moving from a pure cost assessment approach toward a qualitative and risk based analysis. The proposed changes in the GRC process will also improve the interaction between the parties and CPUC staff, including the Safety and Enforcement Division (SED) and the Office of Ratepayer Advocates of the CPUC, so that there is an enhanced understanding of the interaction of costs and infrastructure safety.

Implement organizational improvements to increase capabilities of the gas safety program and increase staff involvement in industry groups

6.3.3.4 The USRB is currently understaffed and will be further understaffed as new programs such as Distribution Integrity Management are added. This understaffing problem must be relieved by a combination of an enhanced recruitment and training program to attract and retain qualified engineers plus a framework of supplemental support by outside consultants.

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6.2.4.2 Greater involvement by staff in industry groups such as the Gas Piping Technical Committee (GPTC) will better enable the CPUC staff to keep abreast pipeline integrity management advancements from a technical, process, and regulatory perspective. In addition, the CPUC can, through such forums, gain insight for pipeline operators, utilities, service providers, and professional services firms, as well as other federal and state pipeline safety professionals.

6.2.4.4 Undertake an independent management audit of the USRB organization, including a staffing and skills assessment, to determine the future training requirements and technical qualifications to provide effective risk-based regulatory oversight of pipeline safety and integrity management, focused on outcomes rather than process.

In the last several years, the natural gas safety program has been fundamentally reformed. The change started in 2012 with splitting the Utility Safety and Reliability (USRB) organization into Electric Safety and Reliability Branch (ESRB) and Gas Safety and Reliability Branch (GSRB). This organizational change has enabled a much deeper subject matter specialization among staff. The CPUC has also made significant improvements in staffing levels. In 2010, there were total of approximately 25 people who worked on gas and electric safety in USRB. As of August 2014, the utility safety and enforcement program has grown to approximately 70 people, with more than half dedicated exclusively to gas safety. In addition, GSRB staff have been augmented by external experts to assist with various programs, including Liberty Consulting for electric risk assessment, Cycla Corporation for gas risk assessment, Overland Consulting for financial analysis and Bureau Veritas for hydrostatic tests monitoring.

With additional resources, GSRB has initiated new auditing programs, including: public awareness, risk assessment, transmission and distribution integrity management, damage prevention, and control room management. GSRB has also increased engagement in industry groups, including presenting at American Gas Association (AGA) annual meetings, membership in the AGA Gas Piping Technical Committee and American Society of Mechanical Engineers (ASME) B31Q Committee, participation in Natural Gas Safety Subcommittee at the National Association of Regulatory Utility Commissioners (NARUC), issuing a white paper in June 2014 on risks associated with Aldyl A pipelines and hosting seminars on safety for small natural gas and propane gas pipeline systems.

Finally, the gas safety program is currently undergoing an independent management audit, conducted by Crowe Horwath. The audit includes a detailed assessment of staffing, skills, processes, training, and management practices and is on target to be completed by the end of 2014.

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Augment gas safety auditing practices and work with the legislature to change gas safety program requirements

6.3.3.5 USRB should augment its current use of vertical audits that focus on specific regulatory requirements such as leak records or emergency response plans with:

- *Horizontal audits that assess a segment or work order of the operator's system through the entire life cycle of the current asset for regulatory compliance.*
- *Focus field audits based on an internally ranking of the most risk segments of the gas transmission system assets in the state, regardless of the operator.*

6.3.3.6 *To raise the profile of the audits among all the stakeholders, add the following requirements to the safety and pipeline integrity audits of the utilities that includes the following features: (1) posting of audit findings and company responses on the CPUC's website; (2) use of a "plain English" standard to be applied for both staff and operators in the development of their findings and responses, respectively; and (3) a certification by senior management of the operator that parallels that certifications now required of corporate financial statements pursuant to Sarbanes-Oxley.*

6.3.3.2 *Request the California General Assembly to enact legislation that would replace the mandatory minimum five year audit requirements for mobile home parks and small propane systems with a risk-based regime that would provide the [GSRB] with needed flexibility in how it allocates inspection resources.*

6.4.3.2 *Request the California legislature pass legislation that would replace the mandatory minimum five-year audit requirements with a risk-based regime that would provide the [GSRB] with the needed flexibility in how it allocates inspection resources.*

GSRB has revamped the gas safety auditing program, developing an updated gas auditing procedure, establishing an Audit Guidelines and Best Practices manual, and adding new specialized auditing programs. In addition to regular utility audits, in from 2012 to date GSRB has performed over 35 specialized audits on topics ranging from integrity management to emergency response. This year, GSRB has updated audit regions to allow for greater regional focus and extended the length of several audits for more in-depth reviews.

In 2012, through Assembly Bill 1694 (Fuentes), the California State legislature has updated the requirements for mobile home park and propane systems to allow for a risk-based regime that allows GSRB more flexibility to conduct the audits. The bill required that if the operator demonstrates compliance with the initial inspection, additional inspections be made at least once

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every seven years pursuant to a risk-based inspection schedule adopted by the CPUC. The GSRB auditing practices have been revised accordingly.

California State legislature has passed several additional bills aimed to enhance the CPUC gas safety program. Assembly Bill 56 (Hill) required the CPUC to end the “grandfather clause” established in Federal regulation, which has allowed pipe installed before 1970 to persist without having undergone a hydrostatic pressure test. The CPUC has implemented this legislation through the Gas Safety OIR R.11-02-019 proceeding. Senate Bill 879 (Padilla) required the CPUC to implement balancing accounts to make sure that the money isn’t diverted from safety to other areas. Senate Bill 879 also increased penalties for violations from \$20,000 maximum to a \$50,000 maximum. These are continuing requirements and the CPUC has been in compliance. Senate Bill 705 (Leno) provided that safety is the top priority in the industry and required for the CPUC to adopt and implement gas safety plans that describe how the gas utilities will achieve specified objectives. The current gas safety plans have been in effect since June 30, 2013, and their approval entailed a thorough review and involvement by the GSRB team. Senate Bill 44 (Corbett) required gas operators to conduct liaison activities with first responders and required the CPUC to develop emergency response standards. The CPUC convened workshops in the fall of 2011, initiated audits of utility emergency response programs and continues to be involved in emergency response issues. In addition, further emergency response requirements are proposed in General Order 112 revisions, scheduled to be adopted by the CPUC by the end of 2014. Senate Bill 216 (Yee) required the CPUC to approve location plans for automatic shut-off and remote controlled valves. The CPUC directed the utilities to file the plans in the Decision (D.) 11-06-017 and approved operator-specific plans through subsequent decisions. Assembly Bill 1456 (Hill) required the CPUC to perform an analysis of benchmark data and to adopt safety performance metrics for pipeline safety. The CPUC held a two day workshop in 2013 to discuss the proposed rule changes associated with AB1456 and the results were incorporated into the proposed changes to General Order 112.

The CPUC will continue to work closely with California State legislature on opportunities to make further improvements to the gas safety program, including any further changes needed to safety audit requirements.

Expand CPUC staff expertise in pipeline integrity management and initiate audits of utility programs

6.2.4.3 The CPUC should further divide gas auditing groups to create integrity management specialists.

6.2.4.5 Provide USRB staff with additional integrity management training.

6.3.3.1 The CPUC should develop a plan and scope for future annual California utility initiated independent integrity management program audits. The results of

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these audits should be used to provide a basis for future CPUC performance based audits on a three-year basis.

6.5.3.2 Develop a holistic approach to identifying pipeline segments for integrity management audits based on intrastate pipeline risk as opposed to simply auditing each operator's pipeline.

Creation of an organizational unit that's dedicated exclusively to gas safety matters, combined with staff increases, has enabled expansion into new program areas such as integrity management. To date, GSRB performed a total of fifteen integrity management audits on our regulated gas utilities and operators, including two integrity management audits conducted jointly with Pipeline and Hazardous Materials Safety Administration (PHMSA). In order to gain needed integrity management expertise, GSRB staff have been participating in PHMSA integrity management training. To date, 19 GSRB engineers are qualified to lead integrity management audits; 14 have completed the Distribution Integrity Management Program (DIMP) courses and five have completed the Transmission Integrity Management Program (TIMP) courses. GSRB plans include future annual integrity management program audits and the results will continue to be integrated with other GSRB oversight efforts.

Provide CPUC staff with additional enforcement tools for ensuring pipeline safety that are modeled on industry best practices

6.7.3.1 The CPUC should seek to align its pipeline enforcement authority with that of the State Fire Marshal's by providing the USRB staff with additional enforcement tools modeled on those of the OSFM and the best from other states.

6.8.3.2 Consider, as appropriate, transferring the USRB gas safety staff to the OSFM and with them the responsibility for inspection of gas operator safety and integrity management programs as required by federal and state gas pipeline safety regulations.

In 2011, through Resolution ALJ 274, the CPUC initiated an aggressive safety citation program for natural gas companies that provides SED staff with additional enforcement tools that reflect industry best practices. This program directly connects shareholder funds with company performance. It establishes the foundation for an aggressive program of citations intended to make safety central to the utility's bottom line. To date, SED staff has issued more than \$24 million in penalties through the citation program. For example, in October 2013 Southern California Gas Company was fined \$150,000 for failure to survey 3 different pipelines. Also, in November 2013 the Safety & Enforcement Division staff issued an \$8.1 million citation to PG&E for allowing a contractor to conduct radiographic pipeline tests that did not meet federal requirements.

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While initiation of the gas safety citation program was an important first step, the CPUC is dedicated to making further improvements to the program and in 2014 has opened a Citation Program OIR R.14-05-013 to assess additional considerations. Among many issues, the Citation Program OIR will consider setting an administrative cap, developing a risk-based schedule of fines, treatment of utility self-reports and notifications to local governments. Through the Citation Program OIR process, the CPUC will solicit input from industry experts and will further review best practices from other States.