

Safety Progress at PG&E

Gas Operations

PAS 55/ISO 550001 Dual certification

Corrective Action Program

“Super Gas Ops” crew pilot programs

New Technologies

Achieved international certification: Two and a half years ago, Gas Operations began developing a systematic framework to achieve best-in-class standards for asset management with a heavy commitment to promoting a strong safety culture.

We pursued two international operational standards, ISO 550001 and PAS 55, and this past May an independent auditor, Lloyds Register, agreed that we had achieved certification.

This process includes detailed review by independent auditors who look at safety practices, information and risk management policies, employee qualifications, emergency response protocols, corporate governance, and more than 20 additional critical areas of asset management. This was a rigorous review involving records review, hundreds of employee interviews, and extensive on-site random evaluations throughout the service territory.

It is a continuing process. We must continue to show progress in order to stay certified.

The PAS 55/ISO 550001 standards are the foundation of our **safety management system**, and the framework for managing the large number of physical assets we have.

The standards require that we demonstrate we have a robust platform for continuous improvement, and the new Gas Ops Corrective Action Program (CAP) was central to meeting that requirement. Not only did auditors see that we had it in place, they measured a high level of employee understanding about it and engagement with it.

Corrective Action Program (CAP): encourages all employees and contractors to raise issues and submit them in a system where they are tracked until resolved. CAP is based on underlying processes used in the airline and nuclear industries.

It provides multiple reporting channels to allow real time, onsite issue reporting of issues, including:

1. Submitting email via a secure internal website
2. Calling a hotline accessible from any location (1-855-GO-CAP)
3. Filling out and submitting a paper form

7.1.14

Reporting may be done anonymously, however thus far only 1% of submittals have chosen to be anonymous.

It includes a risk assessment tool to evaluate the significance and probability of issues, and tracking metrics.

Since September 2013, over 2100 items have been entered into CAP; over 700 have been closed.

Gas Safety examples of industry leadership

- **Faster odor call response:** response to gas odor calls is faster than ever. Now roughly 20 minutes on average, with over 99% in less than 60 minutes. **Top quartile** nationally.
- **Control Center:** Operating a new, state of the art gas control center, consolidated to support both transmission and distribution systems (San Ramon) **UNIQUE TO PG&E**
- **Super Gas Ops:** Kicking off “Super Gas Ops” approach to work management in which we find and fix non-emergency leaks faster, dramatically shortening time to repair and doing the work more efficiently through a comprehensive, end to end process. **UNIQUE TO PG&E**

New gas technology being developed and used in the field

- Picarro’s car mounted natural gas leak detection device, the most advanced in the world **UNIQUE TO PG&E**
- Ruggedized laptops to gas construction crews that provide real-time access to detailed maps
- Developed a new “smart pig” customized for our gas system
- Developed a robot prototype to visually inspect pipeline casings for corrosion