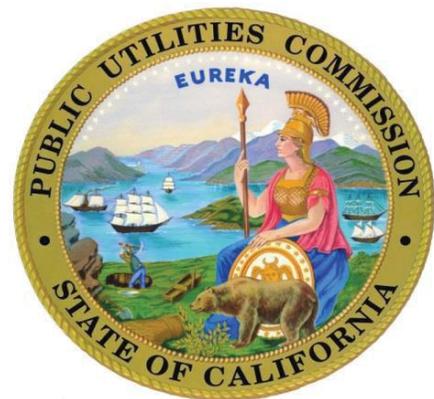


CALIFORNIA PUBLIC UTILITIES COMMISSION

Office of the Safety Advocate

2017 Annual Report



January 10, 2018

1 EXECUTIVE SUMMARY

In this report, the California Public Utilities Commission (CPUC) Office of the Safety Advocate (OSA), reports on its activities in 2017. These include:

A. Actions taken by OSA to recommend improvements to public utility safety management policy and procedures and safety culture

In 2017, OSA engaged with industry and academic experts to explore application of safety management system standards as a tool to further improve utility safety management processes and safety culture. Safety management systems typically have a number of common elements, and may be used to help identify and drive corrective actions to close safety gaps not covered by traditional compliance based regulation. Safety culture is often one element of a safety management system standard. OSA has scheduled a 2018 CPUC safety en banc, focused on safety management systems.

In 2017, OSA become a party to a number of proceedings to advocate for safety. Commissions proceedings can end in settlements. These settlements are typically reached through confidential settlement discussions, in which Commission advisory staff may not participate. Once settlements are reached, it becomes problematic for the Commission to modify such settlements, without jeopardizing the consensus reached among settling parties. As a party to proceedings, however, the Office of the Safety Advocate may now have a seat at the settlement table. As a safety arm of the Commission, OSA provides a vehicle for Commission safety staff to advocate for safety as part of the detailed negotiated settlement process. OSA participated in such settlement discussions in 2017.

B. Actions taken by OSA to recommend improvements to the Commission's safety management policy and procedures and its safety culture related to its oversight of utilities

Training is typically one important element of a safety management system. Training is also an important tool to improve safety management policies and culture.

In 2017:

- OSA partnered with the Commission’s Deputy Executive Director-Safety Ombudsperson to conduct 2 onboarding training sessions for new employees devoted to CPUC safety culture.
- OSA began collaborating with other CPUC Divisions to explore adoption of a CPUC “Safety Leadership Academy” to be comprised of a curriculum available to both Commission safety and non-safety staff.
- OSA began operating a looping message display in the lobby of the CPUC’s San Francisco office to promote safety culture, communication, and to reinforce a positive, inspirational Commission culture

C. OSA advocacy and participation in Commission proceedings

OSA participated in, or is participating in, several Commission proceedings. These include:

A.15-05-002, et al	Safety Model Assessment Proceeding (SMAP) * SMAP Metrics Technical Working Group * SMAP Test Drive Working Group
I.15-08-019	PG&E Safety Culture OII (Investigation)
I.16-10-015, 016	Sempra SDG&E and SoCalGas 2016 Risk Assessment Mitigation Phase (RAMP) Proceeding
A.17-02-003	Gill Ranch Gas Storage Proceeding
A.17-01-024	Wild Goose/Lodi Gas Storage Proceeding
I.17-11-003	PG&E 2017 RAMP Proceeding
A.17-10-007, 008	Sempra SDG&E and SoCalGas 2019 General Rate Case (GRC)
A.17-11-009	PG&E 2019 Gas Transmission and Storage (GT&S)

More information on these proceedings and OSA is provided in this report.

2 TABLE OF CONTENTS

- 1 Executive Summary..... 2
- 2 Table Of Contents 4
- 3 Background 5
- 4 OSA 2017 Activities Overview..... 6
- 5 Actions taken by OSA to recommend improvements to public utility safety management policy and procedures and safety culture 6
- 6 Actions taken by OSA to recommend improvements to the Commission’s safety management policy and procedures and its safety culture related to its oversight of utilities 8
- 7 OSA advocacy and participation in Commission proceedings..... 11
- 8 OSA Training..... 14
- 9 Long Term Roadmap..... 16

3 BACKGROUND

On September 29, 2016, Governor Brown signed and the Secretary of State chaptered Senate Bill 62 (Chapter 806, Stats. 2016). These actions added Section 309.8 to the Public Utilities Code (PUC) which establishes the Office of the Safety Advocate (OSA) within the Commission “to advocate for the continuous, cost effective improvement of the safety management and safety performance of public utilities.”

PUC Section 309.8 expires at the end of 2019 unless a later statute extends it.

PUC Section 309.8.c requires OSA to report to the Legislature annually no later than January 10 on:

- 1) actions taken by the office to recommend improvements to the Commission’s safety management policy and procedures and its safety culture related to oversight of utilities;
- 2) actions taken to recommend improvements to public utility safety management policy and procedures and safety culture; and
- 3) proceedings in which the office participated and a brief description of the testimony it filed.

In September 2016, CPUC Executive Director Tim Sullivan announced the formation of the OSA and named an interim director, Assistant Chief Administrative Law Judge Dorothy Duda. In April 2017, Christopher Parkes became the permanent director of the Office of the Safety Advocate.

OSA’s Vision:

Build a World Class Safety Organization that safeguards communities, the environment, and infrastructure through innovation, collaboration, and empowerment.

OSA’s Mission:

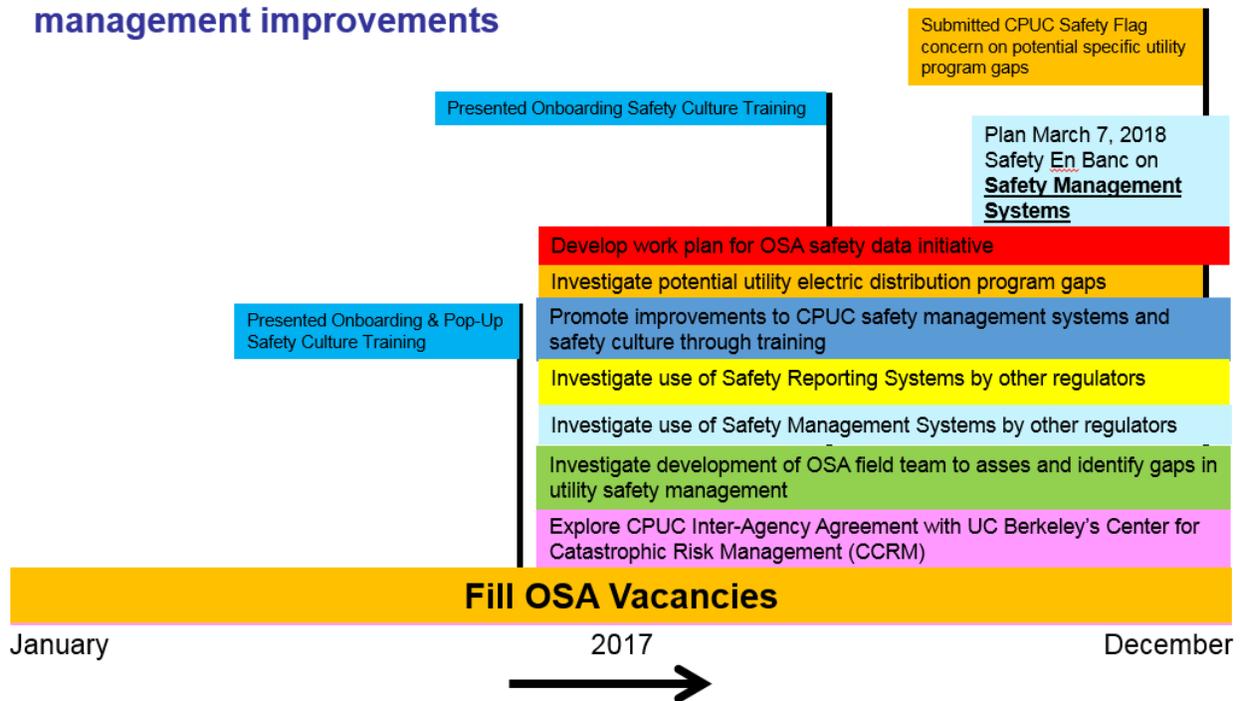
The Office of the Safety Advocate advocates for the continuous, cost-effective improvement of the safety management and safety performance of public utilities to prevent accidents, injuries, and to save lives.

OSA provides this report in fulfillment of the reporting requirements of the newly enacted Section 309.8.c and to report on its activities in 2017.

4 OSA 2017 ACTIVITIES OVERVIEW

The graphic below portrays some of OSA’s activities that are in addition to OSA participation in Commission proceedings. More details on some of these activities are provided in subsequent sections of this report.

2017 in Review: OSA activities to promote utility and CPUC safety management improvements



5 ACTIONS TAKEN BY OSA TO RECOMMEND IMPROVEMENTS TO PUBLIC UTILITY SAFETY MANAGEMENT POLICY AND PROCEDURES AND SAFETY CULTURE

In several industries a number of regulators and operators have moved towards development and employment of safety management system standards or regulations

to improve safety beyond compliance based regulation. Examples include the aviation, rail, maritime, process, gas pipeline, and other industries.

In 2017, OSA began collaborating with industry and academic experts, and other regulators to begin building a structured standards based framework that OSA could then leverage to drive safety management improvements and best practices within California's regulated utilities.

In 2017, OSA engaged with:

- UC Berkeley's Center for Catastrophic Risk Management (CCRM)
- Canada's National Energy Board (NEB)
- California's Division of Oil, Gas, & Geothermal Resources (DOGGR)¹
- Several safety culture, safety management system, and industry experts, scholars, and regulators who participated in a 2017 North American Safety Culture Summit.²
- NASA's Ames Research Center. NASA operates:
 - The Federal Aviation Administration's (FAA) Aviation Safety Reporting System (ASRS)
 - The Federal Railroad Administration's (FRA) Confidential Close Call Reporting System (C3RS)
- The Bureau of Safety and Environmental Enforcement (BSEE) which regulates offshore oil and gas

As part of these efforts, OSA is seeking agreements with the CCRM and NASA's Ames Research Center.

OSA has scheduled a 2018 CPUC Safety En Banc focused on Safety Management Systems. The objective of this forum is to engage industry and academic experts, utilities, and regulators to share information and experience on the state of the art in application of standards based safety management systems to improve safety. OSA believes this safety en banc will help inform and define options for a path for OSA

¹ DOGGR is a Division of California's Department of Conservation

² 2nd International Safety Culture Summit held in Canada
<http://www.safetyculturesymposium.ca/speakers.html>

and the Commission to move forward in a structured way to apply standards to drive utility safety management policy and procedure and safety culture improvements.

OSA is exploring application of the Canadian regulator model system for standards based regulation of safety management systems to help uncover gaps and drive corrective actions to drive safety improvements in California.

In December 2017, OSA used the Commission’s safety flag system to submit a memo to the Commission’s Deputy Executive Director-Safety Ombudsperson. The memo summarized the findings of OSA’s investigation into three potential safety issues.

OSA made recommendations to the Deputy Executive Director as to how to proceed with further investigation.

6 ACTIONS TAKEN BY OSA TO RECOMMEND IMPROVEMENTS TO THE COMMISSION’S SAFETY MANAGEMENT POLICY AND PROCEDURES AND ITS SAFETY CULTURE RELATED TO ITS OVERSIGHT OF UTILITIES

Training is typically one important element of a safety management system. Training is also an important tool to improve safety management policies and culture.

In 2017, the Commission began ramping up a new onboarding program to train new Commission staff. The Commission’s Training Office developed a series of ten onboarding sessions, one of which is devoted to CPUC safety culture. OSA partnered with the Commission’s Deputy Executive Director-Safety Ombudsperson to develop and lead this session and conducted 2 of these sessions in 2017. The CPUC plans to offer approximately 3 of these onboarding training programs each year.

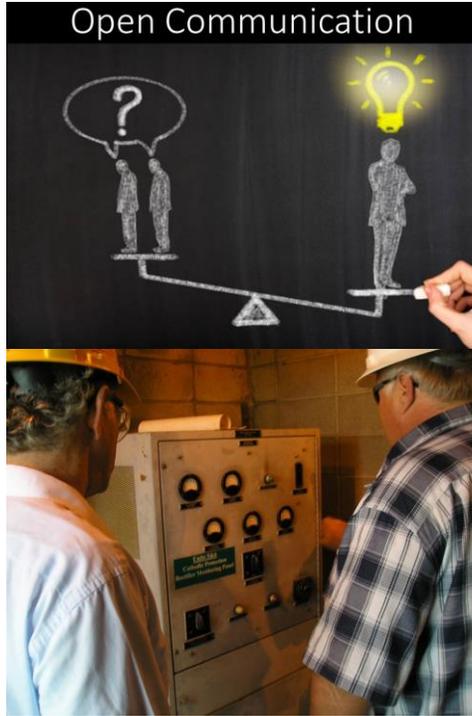
In 2017, OSA began collaborating with other CPUC Divisions to explore adoption of a CPUC “Safety Leadership Academy” to be comprised of a curriculum available to both Commission safety and non-safety staff. OSA believes formal structured

training programs are a proven and effective tool towards driving enduring culture change and safety expertise.

In September 2017, OSA wrote a memo to the Commission's Deputy Executive Director-Safety Ombudsperson in which OSA recommended that regular, in-depth gas and electric utility safety training be conducted for staff, particularly for those staff who are not in the CPUC's Safety and Enforcement Division but who need to have a good understanding of safety issues in their work. OSA noted that such training would not only enable staff to more competently perform their work in CPUC proceedings, but would also be a positive step in developing the CPUC's safety culture.

OSA implemented a looping message display in the lobby of the CPUC's San Francisco office to promote:

- greater awareness of the behind the scenes work that safety staff conduct daily in the field
- the inter-related role that all staff play in supporting the Commission's mission
- reinforcement of Commission values and initiatives
- communication of Commission events and trainings
- reinforcement of positive and inspirational Commission cultural messages



Working Together to Serve California



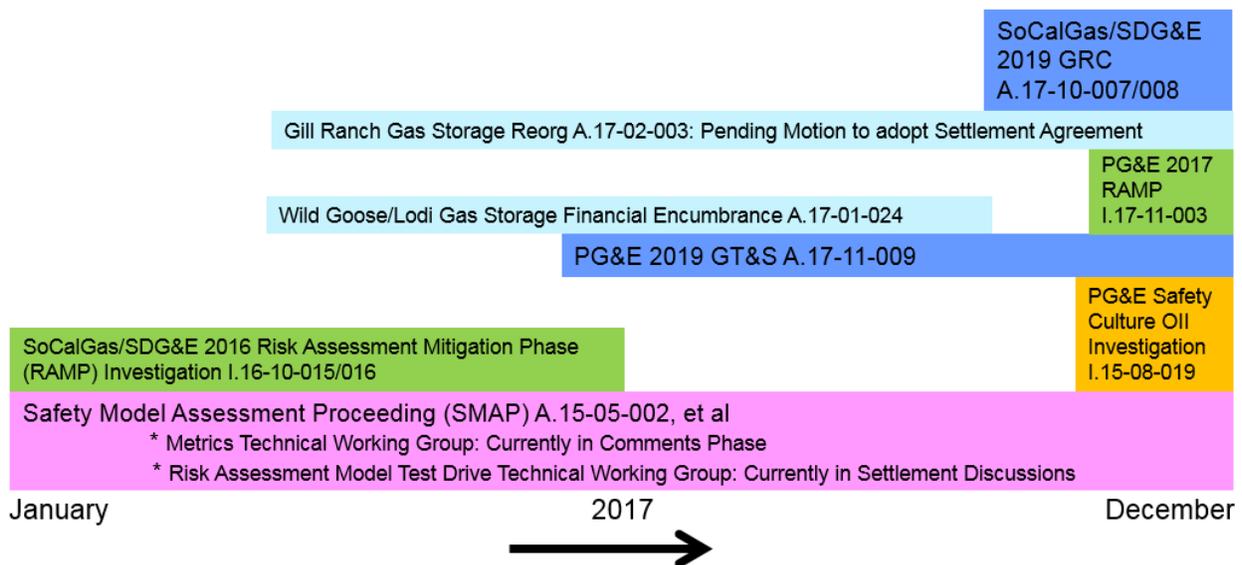
Going forward, OSA Plans to

- Continue to improve OSA Safety Culture onboarding trainings
- Use CPUC Adaptive Leadership approach to propose expanded Safety Leadership Training for CPUC staff
- Expand use of CPUC lobby displays to promote safety and staff collaboration.

7 OSA ADVOCACY AND PARTICIPATION IN COMMISSION PROCEEDINGS

OSA participated in several Commission proceedings in 2017. The graphic below portrays some of these proceedings:

2017 in Review: Proceedings



OSA had or has become a party to the following cases:

- Joint Application of Gill Ranch Storage (GRS), LLC, Northwest Natural Gas Company, NW Natural Energy, LLC, and NW Natural Gas Storage, LLC for Change of Legal Ownership and Control of Gill Ranch Storage, LLC Through a Corporate Reorganization (A.17-02-003): OSA filed testimony on the application, arguing that the application failed to assess and identify all relevant safety impacts implicated by the application and did not ensure that the new holding company will prioritize safety investments in Gill Ranch over competing economic priorities. Additionally, OSA urged the Commission to establish conditions to ensure that funding to comply with pending new safety regulations by the Department of Conservation’s Division of Oil, Gas and Geothermal Resources were not negatively impacted by the Reorganization. In

November 2017, OSA and the Joint Applicants filed a motion with the Commission for approval of a settlement agreement. Under the proposed settlement agreement, Gill Ranch is 1) to designate a Chief Safety Accountability Officer to establish and maintain a safety management system and to ensure that GRS meets its safety obligations, 2) expand its Pipeline Safety Management System, 3) create a comprehensive Safety Management System for the entire GRS facility that encompasses all its operations, assets, and personnel, among other settlement terms.

- Joint Application of Wild Goose Storage, LLC and Lodi Gas Storage, LLC for an Order Pursuant to Sections 829 and 853 of the Public Utilities Code to Exempt from Commission Authorization the Encumbrance of the Assets of Wild Good Storage, LLC and Lodi Gas Storage, LLC and the Issuance of a Corporate Guarantee to Secure the Financing of certain Affiliates of the Utilities or in the Alternative for Authorization for the Same Relief under Sections 830 and 851 (A.17-01-024): OSA protested against the application, arguing that the applicant failed to address whether the requested financing terms would allow the joint applicants to maintain safety standards or to sufficiently respond to unexpected safety concerns. OSA requested that the Commission deny the application. Alternatively, OSA recommended that the Commission, if it were to approve the application, establish certain conditions that provide more assurances that the utility has sufficient funds to address safety issues, such as dedicating a specified amount of money to address safety concerns.

- Order Instituting Investigation into the November 2016 Submission of San Diego Gas & Electric Company's (SDG&E)'s and Southern California Gas' (SoCalGas) Risk Assessment and Mitigation Phase (RAMP) (I.16-10-015): OSA filed comments to SDG&E's and SoCalGas' RAMP reports, identifying several deficiencies, such as 1) that utilities' risk scoring systems could not be used to compare risks across each utility or between the utilities, and 2) that the utilities did not sufficiently explain how they manage their safety risks. OSA, in agreement with other parties, argued that SDG&E's and SoCalGas' RAMP reports did not provide sufficient information to allow the

Commission to determine the reasonableness of the utilities' cost forecasts in their upcoming General Rate Case proceedings.

- Safety Model Assessment Proceeding (SMAP) (A.15-05-002). OSA filed comments recommending the addition of a number of safety metrics, including safety metrics to expand serious injury and fatality metrics beyond employee and contractor incidents to include risks to the general public. Further, OSA filed comments recommending addition of organizational and safety culture metrics as leading indicator metrics to uncover deficiencies to prevent accidents.

OSA is currently attending confidential settlement discussions among parties in the SMAP test drive working group.

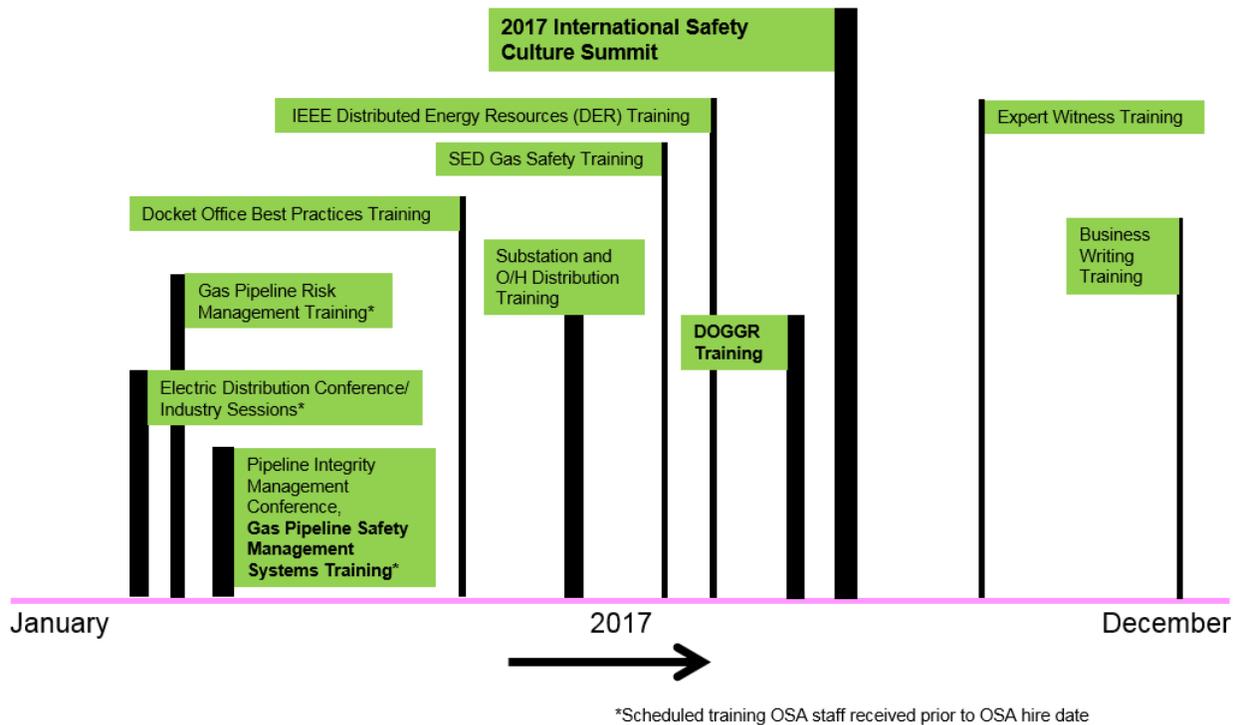
- Application of Pacific Gas and Electric Company Proposing Cost of Service and Rates for Gas Transmission and Storage Services for the Period 2019-2021 (A.17-11-009): OSA filed a protest on this application, indicating that it intends to explore, among other issues, 1) how will the risks, costs, and benefits associated with PG&E's proposed natural gas storage plans affect the continued provision of safe and reliable service and the promotion of public safety, 2) how has PG&E used safety management system standards and best practices in developing its rate case programs to effectively manage safety, 3) how has PG&E complied with safety-related requirements and Commission orders, and 4) how are PG&E's requests informed by its past safety performance.
- Order Instituting Investigation into the November 2017 Submission of Pacific Gas and Electric Company's Risk Assessment and Mitigation Phase. (I.17-11-003)
- PG&E's Safety Culture OII Investigation (I.15-08-019). Testimony is planned for the end of January, 2018
- Application of San Diego Gas & Electric Company (A.17-10-007) and Southern California Gas Company (A.17-10-008) for Authority to Update its Electric and Gas Revenue Requirement and Base Rates Effective on January 1, 2019: OSA filed a protest on this application, indicating that it intends to explore, among other issues, 1) how do

the applications incorporate risks identified in Risk Assessment and Mitigation Phase (RAMP) reports to develop their GRC projects and programs, 2) how the applicants assess safety culture, management, organization, and incorporation of best practices, 3) how do the applications address high-risk safety issues, and 4) how both utilities plan to effectively mitigate the existing risk to the adequacy of California's gas supply to Southern California posed by simultaneous outages of major pipelines in their service territory while ensuring that the safety and integrity of their systems are continuously maintained.

8 OSA TRAINING

OSA recognizes that training and attending conferences are important prerequisites towards building and maintaining an effective organization that is needed to meet the safety expectations that the legislature envisioned for OSA. The graphic below portrays some of the OSA's training activities in 2017.

2017 in Review: Conferences/Training



OSA staff attended a number of industry and regulator trainings, including:

- Pipeline Safety Management Systems Training
- A 2017 North American Safety Culture Summit
- Electric Distribution Conference and Industry Sessions
- Expert Witness Training
- California Division of Oil, Gas, & Geothermal Resources (DOGGR) Training
- IEEE Distributed Energy Resources (DER) Training
- Gas Safety 101 Training
- Substation and Overhead Distribution Training
- CPUC Docket Office Best Practices Training

9 LONG TERM ROADMAP

OSA's Roadmap for 2018 is depicted below:

Roadmap: 2018 & Beyond

CPUC Proceedings:

Maintain and expand involvement in CPUC Proceedings.

Hire additional staff and expand training for new and existing staff to stay current with evolving technology and industry practices.

Compare and contrast utility programs to identify best practices, gaps, and corrective actions

Develop OSA safety data database to support prioritization of OSA work and to support OSA testimony and effectiveness in proceedings.

Utility Safety Management, Culture, Infrastructure:

Explore adoption of Canadian regulator Safety Management System model.

Assess utility Safety Management Systems to identify gaps & corrective actions



2018

CPUC Safety Management, Culture:

Continue to improve OSA Safety Culture onboarding trainings

Use CPUC Adaptive Leadership approach to propose expanded Safety Leadership Training for CPUC staff

Expand use of CPUC lobby displays to promote safety and staff collaboration.

Propose pilot program for CPUC safety culture assessment