

CALIFORNIA PUBLIC UTILITIES COMMISSION

Office of the Safety Advocate

2019 Annual Report



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A digital copy of this report can be found at:

<https://www.cpuc.ca.gov/safetyadvocates/>

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1 BACKGROUND

Senate Bill 62 (Hill - Chapter 806, Stats. 2016) added Section 309.8 to the Public Utilities Code (PUC), which established the Office of the Safety Advocate (OSA) within the California Public Utilities Commission (CPUC) “to advocate for the continuous, cost effective improvement of the safety management and safety performance of public utilities.”

SB 62 also included a provision to sunset OSA effective January 1, 2020.

The mandates of PUC Section 309.8 required OSA to report on:

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

This is OSA’s 2019 annual report.

As of January 1, 2020, many of OSA’s areas of safety policy work will be integrated into ongoing CPUC safety policy and enforcement programs.

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2 EXECUTIVE SUMMARY

OVERVIEW

As directed by SB 62, OSA advocated and recommended improvements in utility safety management, safety culture, and utility infrastructure. The office was also involved in internal CPUC process-related safety efforts.

In 2019, led by director Christopher Parkes (christopher.parkes@cpuc.ca.gov), OSA staff actively participated in numerous CPUC proceedings in both an advisory and advocacy role. OSA recommended, advocated, and promoted safety management system improvements over a broad spectrum of utility programs including electric, wildfire, gas pipeline, and gas storage. In addition, OSA hosted and provided trainings regarding safety management and safety culture to CPUC employees.

OSA prioritized work by focusing on programs that staff assessed as presenting the greatest safety risks to the public. The division sought to identify gaps in best practices and programs, then recommend improvements to close those gaps. OSA reviewed utility programs as elements of a safety management system in which safety culture forms the foundation; its efforts complemented and augmented the CPUC's core safety work of conducting audits and inspections of utility compliance with general orders and regulations. Also, OSA worked with and leveraged audit and inspection data from the CPUC's Safety and Enforcement Division (SED) to support OSA's work.

OSA also provided and participated in CPUC safety trainings and internal safety-related processes to fulfill its mandate of improving the agency's safety management policy and procedures and safety culture.

Despite OSA's short-lived status, the record reflects its important contributions to safety culture and performance, both at the CPUC and within the state's regulated utilities. With its duties being integrated into other ongoing safety efforts and programs at the CPUC, OSA leaves a positive legacy of achievement in promoting safety.

3 HIGHLIGHTS OF OSA ACTIVITIES IN 2019

Some of OSA’s activities related to wildfire, gas pipeline, gas storage, and other risks are highlighted here. A more complete list of activities is provided later in this report.

3.1 WILDFIRE RISK

Wildfires ravaged California in 2018 and 2019. In response, Senate Bill (SB) 901¹ was adopted in September 2018, and among other requirements, it directs electric utilities to submit annual Wildfire Mitigation Plans (WMPs) to the CPUC beginning in 2019. The CPUC also initiated a rulemaking² in October 2018 to implement SB 901 wildfire programs.

OSA has been a party to this rulemaking and advocated for safety management improvements to mitigate wildfire and other electric infrastructure risks.

UTILITY WILDFIRE RISK MITIGATION PROGRAMS

In November 2018, OSA recommended³ that the scope of the SB 901 Electric Utility Wildfire Mitigation Plans Rulemaking include a survey of best practices and workshops to gather and share information on wildfire mitigation alternatives. Domestic and international experts including CAL FIRE, utilities, industry, regulators, and academia were invited to participate. OSA recommended that the proceeding consider a robust *root cause analysis* of ignitions, failures, and near misses to identify the most effective corrective actions and mitigations. OSA also recommended that metrics be developed on mitigation program effectiveness and consequences, including unintended consequences, of alternative mitigation measures such as shutting off electric power, referred to as De-

¹ SB 901 Wildfires (2018)

https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB901

² SB 901 Wildfire Mitigation Rulemaking R.18-10-007

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M235/K696/235696605.PDF>

³ OSA November 2018 Comments on SB 901 Electric Utility Wildfire Mitigation Plans Rulemaking

<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M238/K286/238286438.PDF>

Energization or Public Safety Power Shutoffs (PSPS)⁴. In December 2018, the CPUC initiated a separate rulemaking devoted specifically to Electric De-Energization.⁵

Also, in December 2018, OSA submitted recommended revisions to a proposed utility wildfire mitigation plan template⁶ to allow the scope of the proceeding to include:

- Ongoing workshops to share best practices
- Public safety and organizational metrics
- Effectiveness evaluation of mitigation proposals
- Explicit inclusion of utility safety culture assessments

WILDFIRE RISK: ELECTRIC DE-ENERGIZATION

As noted above, the CPUC initiated a separate rulemaking devoted to Electric De-Energization. In this proceeding OSA recommended that metrics and data be developed to assess the consequences and unintended consequences of such mitigations.

OSA also explored options to improve communications. Utility and community communications are essential and quite often a matter of life and death in mitigating the threat and consequences of wildfires. These communications play a critical role in the consequences and lives lost during utility related wildfire incidents.

WILDFIRE RISK: UTILITY SPECIFIC PROCEEDINGS

OSA critically reviewed new wildfire mitigation programs that utilities submitted in rate cases and other applications. PG&E filed its 2020 General Rate Case (GRC) in December 2018, including wildfire mitigation, electric, gas, and dam safety programs. OSA advocated for safety within this proceeding and sought to identify gaps and submit

⁴ CPUC De-Energization (PSPS), <https://www.cpuc.ca.gov/deenergization/>

⁵ Electric Utility De-Energization Rulemaking R.18-12-005
<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M251/K987/251987258.PDF>

⁶ OSA December 2018 Preliminary Comments to the Joint Utility proposed Wildfire Mitigation Plan Template
http://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/Safety_Advocates/OSA%20Preliminary%20Comments%20to%20the%20Joint%20Utility%20proposed%20Wildfire%20Mitigation%20Plan%20Template.pdf

recommendations. OSA's specific recommendations aimed at improving PG&E's safety performance include:

- Increasing the replacement rate of old and dangerous oil-filled switches compared to the replacement level in PG&E's application;
- A plan to remove all pre-1985 Aldyl A and other plastic pipes, as these pipes are susceptible to brittle-like failures under stress and pose a potential public safety risk;
- Implementation of a management of change software for PG&E's gas, electric, including hydroelectric facilities, operations;
- Requiring PG&E to include safety experience as a job requirement for safety leadership positions such as at the manager, director, and vice president levels and above in both PG&E's electric and gas divisions; and
- A safety management system framework for hydroelectric facilities by 2022.

Southern California Edison (SCE) proposed wildfire mitigation programs in its September 2018 Grid Safety and Resiliency Program (GSRP) Application. In its October 2018 response⁷, OSA recommended that specific issues be addressed within the scope of this proceeding, including evaluation of alternative mitigation programs, use of metrics to evaluate program effectiveness, reliability and uncertainty of data, and evaluation of any unintended consequences from programs such as the proposed PSPS program.

3.2 GAS PIPELINE RISK

OSA made a number of recommendations to improve gas pipeline safety in several gas utility proceedings.

⁷ OSA October 2018 response to SCE 2018 GSRP Application
<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M232/K379/232379761.PDF>



In October 2017, a gas transmission pipeline exploded in Southern California and ejected a large section of pipeline. OSA referenced this incident in its related testimony⁸ and brief⁹. OSA recommended that the CPUC conduct an investigation to evaluate the effectiveness of the utility’s safety culture to help identify corrective actions to prevent future safety incidents.

⁸ OSA A.17-10-007/ A.17-10-008 Testimony:
[http://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/Safety_Advocates/A.17-10-007%20and%20A.17-10-008%20\(PUBLIC\)%20OSA%20Prepared%20Testimony%20of%20Carolina%20Contreras%20and%20Jenny%20Aundacted\(1\).pdf](http://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/Safety_Advocates/A.17-10-007%20and%20A.17-10-008%20(PUBLIC)%20OSA%20Prepared%20Testimony%20of%20Carolina%20Contreras%20and%20Jenny%20Aundacted(1).pdf)

⁹ OSA A.17-10-007/A.17-10-008 Brief:
<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M248/K637/248637487.PDF>

Failure of this gas transmission line contributed to concerns of adequate electric and gas supply during the winter of 2018/2019 in Southern California.¹⁰ OSA submitted multiple recommendations for safety management system improvements.

In the Sempra GRC proceeding, OSA highlighted the rupture of SoCalGas' line 235 in October 2017. In June 2019, the CPUC opened an investigation into SoCalGas' safety culture due, in part, to its operation of Line 235.

GAS STORAGE RISK

In 2019, OSA advocated for safety improvements to utilities operations with specific recommendations for the implementation of safety management systems in all lines of business. As a result, the CPUC adopted safety management system conditions in approving these applications. Details are provided in sections below.

3.3 SAFETY CULTURE/SAFETY MANAGEMENT

In 2018, OSA collaborated with CPUC Electric Safety staff, sharing utility pole failure root cause analysis data. In 2019, OSA reviewed similar programs in utility rate case proceedings.

Safety Culture

In 2015, the CPUC initiated a multi-year, multi-phase safety culture investigation of PG&E. In 2017, the CPUC engaged NorthStar Consulting Group to assess safety culture at the utility, subsequently identifying numerous corrective actions that the CPUC ordered the utility to implement. OSA participated in this proceeding, recommending that in the next phase of the proceeding in 2019, the CPUC develop metrics to evaluate the effectiveness of those corrective actions. In particular, OSA recommended that the CPUC adopt organizational metrics - a leading indicator that can assist utilities and regulators in

¹⁰ California Public Utilities Commission, Aliso Canyon Risk Assessment Technical Report Summer 2018
http://cpuc.ca.gov/uploadedFiles/CPUC_Website/Content/About_Us/Organization/Divisions/News_and_Outreach_Office/Aliso%20Canyon%20Summer%202018%20Technical%20Assessment.pdf

“looking under the hood” to identify organizational program gaps and subsequently correct them to prevent or reduce safety incidents.

In December 2018, the CPUC initiated an investigation into PG&E’s Pipeline Locate and Mark practices. The CPUC’s Safety and Enforcement Division (SED) staff investigation reports that PG&E falsified locate and mark records from 2012 to 2017. OSA engaged in this proceeding and identified corrective actions in safety culture and organizational structure and metrics.

3.4 PG&E 2020 GENERAL RATE CASE

OSA was a party to PG&E’s 2020 general rate case proceeding and raised multiple safety related issues. OSA focused on PG&E’s safety policy, natural gas distribution asset, and electric distribution, spread across programs that included maintenance, underground asset management, and community wildfire safety program.

In safety policy matters, OSA recommended the CPUC require PG&E to:

- Have at least one Board of Directors member with extensive safety experience;
- Employ adequately qualified and trained safety work leaders;
- Develop a safety management system framework to address electric, dam, and underground gas storage assets and/or operations, and present its proposal and/or progress during its next rate case application; and
- Obtain a “management of change” software program and develop a management of change program for electric and dam operations.

Finally, OSA recommended that the CPUC should verify the implementation of PG&E’s Natural Gas Safety Plan before submittal of the next rate case application.

For gas distribution, OSA recommended that the CPUC require PG&E to replace pre-1985 Aldyl-A and similar plastic pipeline at a rate of 139 miles per year for 2020, 2021, and 2022, and develop a replacement plan beyond the current rate case period. OSA

made the recommendation to replace these plastic pipes because they are susceptible to brittle-like cracking failures under stress and pose a potential public safety risk.

For electric distribution, including PG&E's community wildfire safety program, maintenance, and underground asset management, OSA recommended that the CPUC:

- Require PG&E to maintain and operate its outdated three-wire 3-phase ungrounded distribution system to minimize safety and fire risks.
- Require PG&E to conduct a separate risk analysis for PSPS and address these risks in the next rate application.
- Require PG&E to report on its replacement effort of Transfer Ground Arm Main/Transfer Ground Rocker Arm switches during the next rate proceeding.
- CPUC should allocate funds to PG&E for the replacement of oil-filled transformers to a rate of 676 annually.

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

Utility Safety Management Systems

After a pipeline failure in 2010, the National Transportation Safety Board (NTSB) recommended that the American Petroleum Institute (API) develop a Pipeline Safety Management Systems standard for gas pipeline operators (API RP 1173).¹¹

The electric utility industry has not developed a corresponding safety management system standard or practice for electric utilities.

In several industries, regulators and operators have moved toward development and employment of a more formalized set of safety management system standards or regulations to improve safety beyond compliance-based regulation. Examples include aviation, rail, maritime, process, gas pipeline, and other industries.

In June 2019, OSA facilitated a 3-day course on Safety Management Systems and Safety Culture for CPUC staff. A senior consultant from DNV-GL, an industry leader in this area, conducted training on topics including safety management system framework, elements and improvements, risk management, operation controls, emergency preparedness and response, system auditing, and implementation costs. Approximately 45 staff from different divisions including OSA, Legal, Public Advocates Office, Safety and Enforcement Division, and the Office of Governmental Affairs attended the class. Staff learned the principles and application of safety management systems in utility operations, to further CPUC staff knowledge and more effectively evaluate and advocate for implementation of safety management systems and audit regulated utilities.

¹¹ ANSI/API Recommended Practice 1173 Pipeline Safety Management Systems
https://www.api.org/~media/files/publications/whats%20new/1173_e1%20pa.pdf

Throughout 2019, OSA also collaborated with industry and academic experts, and other regulators to continue building a structured standards-based framework that could be leveraged to drive safety management improvements and best practices within California's regulated utilities.

Safety Reporting Systems

In 2019, OSA also engaged with experts on the application of safety reporting systems as a tool to improve utility safety reporting practices. A safety reporting system collects information on close-call/near-miss incidents and situations that may be precursors to larger events, identifies and analyzes hazards and risks, then puts forward corrective actions to mitigate risks and prevent incidents.

The safety reporting system now used by the Federal Aviation Administration (FAA), which is administered by NASA, has proven to be one successful example of this approach. Safety reporting systems are also in use by the Federal Rail Administration (FRA), the international Association of Fire Chiefs (IAFC), and the Bureau of Safety and Environmental Enforcement (BSEE) – Offshore Oil and Gas. A formalized safety reporting system could improve safety for California energy utilities by preventing accidents, improving safety and safety culture, uncovering and mitigating unidentified or underestimated risks, promoting root cause analyses and corrective actions, disseminating lessons learned, and disseminating and evaluating implementation of best practices.

Advisory Role in Proceedings

Part of OSA's mandate required it to advise and advocate as a party in proceedings on specific topics of safety. Proceedings and related matters that OSA participated in an advisory capacity are provided here. Proceedings and related matters that OSA participated in an advocacy capacity are provided in chapters 3 and 6.

Advising in Utility Safety

- | | |
|--|---|
| <ul style="list-style-type: none">• I.19-06-014• R. _____ | <ul style="list-style-type: none">○ So. Cal Gas Safety Culture○ Forthcoming Rulemaking Addressing Safety Management Systems/Safety Reporting Systems |
|--|---|

- (I.19-06-014) Order Instituting Investigation on the CPUC’s Own Motion to Determine Whether Southern California Gas Company’s and Sempra Energy’s Organizational Culture and Governance Prioritize Safety:
 - OSA led a selection process to retain a qualified expert firm to evaluate the companies’ safety culture and corporate governance.
 - OSA actively participated in an advisory role within this proceeding.
- (R. _____) Safety Management Systems / Safety Reporting Systems Rulemaking:
 - OSA worked on developing a new two-phase Order Instituting Rulemaking (OIR) for CPUC consideration. The OIR would develop rules and guidelines for a utility Safety Management System (SMS), prescribe a process to track and monitor utility safety culture, and establish a Safety Reporting System (SRS) for regulated gas and electric utilities, including gas storage operators.

5 ACTIONS TAKEN BY OSA TO RECOMMEND IMPROVEMENTS TO THE CPUC'S SAFETY MANAGEMENT POLICY AND PROCEDURES AND ITS SAFETY CULTURE RELATED TO ITS OVERSIGHT OF UTILITIES

Safety Training for CPUC Staff

As noted earlier, OSA recommended and implemented a safety training program for staff to improve safety management policies and safety culture at the CPUC.

In 2019, the CPUC continued its onboarding program to train new CPUC staff. New staff participated in an introductory series of courses, comprised of seven onboarding sessions that are offered twice per year. OSA partnered with the CPUC's Deputy Executive Director-Safety Ombudsperson to develop and lead two CPUC Safety Culture sessions. These training sessions were devoted to the CPUC's safety culture and provided to 89 new staff.

CPUC safety culture session trainings were intended to address topics related to:

- What is Safety Culture?
- Importance of Utility Safety
- Reporting Safety Concerns
- CPUC Safety Documents
- Case Studies
- Discussion on how safety practices are observed through the work of various CPUC divisions.

CPUC Safety Policies

In 2019, OSA added to and improved its existing efforts in recommending improvements to the CPUC's own safety management policies and procedures and its safety culture related to its oversight of utilities by:

- Working with the CPUC’s Training Office and Safety Ombudsperson in the continuing development of the CPUC On-Boarding training process.
- Requesting new safety training opportunities for all employees as part of OSA’s participation in the CPUC’s training advisory committee.
- Submitting CPUC safety flag items on potential utility program gaps.
- Promoting improvements to CPUC safety management systems and safety culture through OSA hosted training.
- Attended the 3rd International Safety Culture Summit and participated in regulator roundtables to further develop OSA’s ability to affect and enhance Safety Culture.¹²
- Contributing to ongoing development and revision to the CPUC’s Strategic Plan/Strategic Directive on Safety.¹³¹⁴¹⁵

¹² American Petroleum Institute, 3rd International Safety Culture Summit,

<https://www.api.org/products-and-services/events/calendar/2019/safetyculturesummit>

¹³ CPUC’s Strategic Planning Initiative, <http://www.cpuc.ca.gov/strategicplanninginitiative/>

¹⁴ Commissioner Committee Meeting on Finance and Administration, May 29, 2019,

<https://www.cpuc.ca.gov/calEvent.aspx?id=6442461361>

¹⁵ CPUC Strategic Directive SD02: Safety, Office of the Safety Advocate, May 29, 2019,

https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2019/SD02_OSA_Chris_Parkes.pdf

6 OSA ADVOCACY AND PARTICIPATION IN CPUC PROCEEDINGS

OSA participated in the following proceedings in 2019. The tables below categorize and summarize proceeding descriptions.¹⁶

Table 1: OSA Active in Proceedings Related to Wildfires and Electric Utility Safety

Wildfire and Electric Utility Safety Advocacy	
• R.18-12-005	○ Electric Utility De-Energization Rulemaking
• R.18-10-007	○ Rulemaking to Implement Utility Wildfire Mitigation Plans (WMPs) Pursuant to Senate Bill 901 (2018)
• A.18-09-002	○ Application of Southern California Edison (SCE) for Approval of Grid Safety and Reliability Program – Wildfire Mitigation
• R.17-07-007	○ Rulemaking to Consider Streamlining Interconnection of Distributed Energy Resources – Rule 21

Table 2: OSA Active in Proceedings Related to Gas Safety

Gas Safety Advocacy	
• I.18-12-007	○ PG&E Locate and Mark Practices Investigation
• A.17-11-009	○ PG&E 2019 Gas Transmission & Storage (GT&S) Rate Case
• A.18-07-019	○ Gill Ranch Gas Storage – Transfer Control

¹⁶ The Commission numbers its decisions and proceedings. Decisions begin with the letter D, and proceedings begin with either the letter A for application, C for complaint case, I for investigation, or R for rulemaking. The letters are followed by a series of numbers, which is read as the first two digits representing the year a decision or proceeding was issued or opened, the next two digits are for the month, and the last three digits are the sequential order an item was opened or filed during the month.

Table 3: OSA Active in Proceedings Related to Gas and Electric Utility Safety

Gas and Electric Safety Advocacy	
<ul style="list-style-type: none"> • A.18-12-009 • I.18-11-006 • I.17-11-003 • A.17-10-007 & A.17-10-008 • I.15-08-019 • A.15-05-002, et al • R.14-05-013 	<ul style="list-style-type: none"> ○ PG&E 2020 General Rate Case (GRC) ○ SCE RAMP ○ PG&E 2017 Risk Assessment Mitigation Phase (RAMP) ○ SDG&E and SoCalGas (Sempra) GRC ○ PG&E Safety Culture Investigation ○ Safety Model Assessment Proceeding (SMAP) <ul style="list-style-type: none"> ▪ SMAP Metrics Technical Working Group ○ CPUC’s Safety Citation Programs Rulemaking

7 OSA TRAINING

In 2019, OSA staff attended industry and regulator trainings, and continued to expand OSA’s staff knowledge, build additional expertise, and develop its skills. Adequate and effective training and ongoing engagement with regulators, and industry and academic experts were necessary to provide knowledge for advocating and advising in the capacities required of the office.

The information below provides some of OSA’s training-related activities in 2019.

Table 4: OSA Training Items During 2018

Month	Training Item
March	<ul style="list-style-type: none">• Safety Culture Training for New CPUC Staff
June	<ul style="list-style-type: none">• Safety Management Systems Standards and Requirements training to CPUC Staff• 3rd International Safety Culture Summit¹⁷
August	<ul style="list-style-type: none">• Safety Culture Training for New CPUC Staff

¹⁷ American Petroleum Institute, 3rd International Safety Culture Summit, <https://www.api.org/products-and-services/events/calendar/2019/safetyculturesummit>

8 CONCLUSION

From the time of OSA's inception, the division was involved in activities affecting highly specific facets of safety within new and existing CPUC proceedings affecting regulated utilities, as well as efforts to affect the agency's safety management and culture, as mandated by PUC Section 309.8.

In 2019, OSA advocated in CPUC proceedings as an intervenor, engaged in safety issues across a broad spectrum of utility programs including electric, wildfire, gas pipeline, and gas storage. In addition, OSA explored opportunities to support safety improvements through utility investment, adoption, and implementation of comprehensive safety management systems. OSA also furthered efforts toward improving CPUC's own agency-wide safety management and culture.

As noted in the Background section, with the sunset of OSA on January 1, 2020, much of the office's role and duties will be integrated into CPUC safety policy and enforcement programs.