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**OFFICE OF THE SAFETY ADVOCATE
CALIFORNIA PUBLIC UTILITIES COMMISSION**

**OFFICE OF THE SAFETY ADVOCATE TESTIMONY ON THE
ORDER INSTITUTING INVESTIGATION ON THE
COMMISSION'S OWN MOTION TO DETERMINE
WHETHER PACIFIC GAS AND ELECTRIC COMPANY AND
PG&E CORPORATION'S ORGANIZATIONAL CULTURE
AND GOVERNANCE PRIORITIZE SAFETY**

I.15-08-019

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MEMORANDUM

1 This report was prepared by the Office of the Safety Advocate (OSA) of the
2 California Public Utilities Commission (Commission) in the *Pacific Gas and*
3 *Electric Company (PG&E) and PG&E Corporation (PG&E Corp.) Order*
4 *Instituting Investigation (OII) 15-08-019, on the Commission's Own Motion To*
5 *Determine Whether Pacific Gas and Electric Company and PG&E Corporation's*
6 *Organizational Culture and Governance Prioritize Safety.* OSA hereby presents
7 its analysis and recommendations on some issues raised in this OII.

8 Alex Pineda served as OSA's project coordinator and witness in this
9 review, and is responsible for the overall coordination and writing of this report.
10 His prepared qualifications are contained in Appendix A of this report.

1 **CHAPTER 1**

2 **OVERVIEW AND POLICY**

3 **I. INTRODUCTION**

4 On August 27, 2015, the Commission adopted this OII 15-08-019 to determine
5 whether Pacific Gas and Electric Company’s and PG&E Corp.’s (collectively “PG&E”)
6 organizational culture and governance prioritize safety and adequately directs resources,
7 exercises accountability, and overall to achieve safety goals and standards consistently at
8 a high level across the organization.¹

9 During Phase 1 of this proceeding, the Commission’s Safety Enforcement
10 Division (SED) with the aid of a consultant, NorthStar Consulting Group (NorthStar),
11 evaluated PG&E and PG&E Corp.’s organizational culture, governance, policies,
12 practices, and accountability metrics in relation to PG&E’s record of operations,
13 including safety incidents. On April 21, 2017, a report summarizing findings and
14 recommendations, *Assessment of Pacific Gas And Electric Corporation And Pacific Gas*
15 *And Electric Company’s Safety Culture Prepared For California Public Utilities*
16 *Commission*, was made available by NorthStar (hereafter “Report”).²

17 The Scoping Memo and Ruling of Assigned Commissioner (Scoping Memo),
18 issued May 8, 2017, identified five key questions to be resolved.³ On November 17,
19 2017, an Assigned Commissioner’s Ruling Setting Scope of Testimony and Schedule,
20 issued November 17, 2017, identified fourteen key question items in the Scope of
21 Testimony.⁴

¹ OII at 2.

² Scoping Memo and Ruling of Assigned Commissioner at 2.

³ Scoping Memo and Ruling of Assigned Commissioner at 4-5.

⁴ Assigned Commissioner’s Ruling Setting Scope of Testimony and Schedule at 3-7.

1 **II. SUMMARY OF RECOMMENDATIONS**

2 Conditions that promote improvement in PG&E’s management of safety, enhance
3 its commitment to safety, and improve its safety culture are necessary to mitigate its
4 historically inadequate safety performance. In turn, the Commission must remain
5 vigilant and continue to monitor PG&E’s safety culture implementation and execution to
6 help ensure that safety related incident occurrences are optimally reduced.

7 OSA submits this testimony to contribute to the discussion over the improvement
8 of PG&E’s safety culture. It does so knowing however, that there are few quick-fixes
9 and that changing a culture is not something that will work just by commanding or
10 regulating it into place. PG&E is faced with a challenging, ever-evolving cultural
11 dynamic that must be understood by the Commission and PG&E for this Investigation to
12 achieve its purpose.

13 Safety has now become an integral part of many proceedings at the Commission.
14 Issues raised in this OII are also garnering attention in other rulemakings and
15 investigations, and there is a potential for redundancy or that some issues may not be
16 given the attention they deserve in the best forum available. Therefore, as a threshold
17 procedural matter, OSA submits that the Commission should decide which particular
18 safety issues, for example, the development of a particular safety accountability metric,
19 would be better served in a General Rate Case, (GRC) in the Safety Model Assessment
20 Proceeding (SMAP,) the Risk Assessment Mitigation Phase proceeding, (RAMP) or
21 whether they should be considered in this or some other proceeding. Should the
22 Commission consider adopting an accountability mechanism or requirement as part of
23 this proceeding, OSA believes the Commission would benefit from providing parties an
24 opportunity to provide additional testimony on that element in this proceeding.

25 The challenge of widely adopting and embracing a safety culture environment,
26 which PG&E faces in California, puts into question past efforts and organizational
27 effectiveness in its safety implementation. Past efforts were inadequate, causing
28 instances of severe harm to the public and company employees, and resulted in this
29 present OII.

1 Maintaining safety requires adequate funding and resources that may be
2 outweighed by a need to achieve financial performance goals. For example, cost-
3 reduction initiatives can increase the level of safety risk. Pressures of this kind are
4 recognized as a major threat to safety. Business decisions, especially those involving
5 cutting costs, should be made taking into account the potential safety risks involved. The
6 strength in leaderships' commitment to a widely embraced safety culture at PG&E and
7 PG&E Corp. will play a crucial role in ensuring that safety will not suffer as a result of
8 any current financial challenges.

9 It is sometimes assumed that an effective safety culture can be quickly established
10 by strong leadership, through communication campaigns and safety designated
11 expenditures. The Report appears to agree with this perspective, as items implemented
12 by PG&E are described within the Report as either "improving safety culture" or "laying
13 a good foundation for the improvement of safety culture." However, developing or
14 changing an existing culture into a desired safety culture is a gradual process that must
15 spread throughout an organization – at all levels.⁵ One or more generations of employees
16 and management may be required to accomplish this. However, if attention to safety as
17 an organizational issue is rapid, it may be short lived – rapid attention and adoption might
18 not lead to a successful and stable long-term safety culture.

19 While rapid progress may not be the best road to take, interim progress can be
20 made and should be evaluated. Organizational commitments must be long-term and
21 permeate throughout the company – from top-level managers and throughout their Lines
22 of Business (LOB). This includes department heads, supervisors, individual operators,
23 maintenance workers, and other employees. A successful safety culture must be
24 comprised of more than formal rules, roles, authority, and accountability assignments.
25 An internalized safety culture, through company training, socialization, and workplace
26 reinforcement, becoming a part of the identity of individuals throughout the organization

⁵ Institutional Organization for Safety and Health, "Promoting a Positive Culture"
(<https://www.iosh.co.uk/News/Promoting-a-positive-culture.aspx>)

1 is key. While safety culture may be partially regulated into place, other vital components
2 to its success are positive company pressures, support, encouragement, imagination, and
3 adjustments to the ways tasks are completed.⁶

4 It would be premature to conclude that the recent enterprise-wide deployment of
5 PG&E's corrective action program (CAP) across its lines of business (LOB) will have the
6 desired effect on safety culture and its ability to operate safely. The deployment's impact
7 on PG&E's safety culture is uncertain and must be monitored in the best interest of
8 public safety and the occupational safety of its employees.

⁶ James Reason, "Safety Paradoxes and Safety Culture"
(<https://pdfs.semanticscholar.org/2b44/75371e345293e26887133a5e5eebc563b3cb.pdf>)

1 **CHAPTER 2**

2 **OSA’S EVALUATION OF THE NORTHSTAR REPORT**

3 **I. INTRODUCTION**

4 The matters of safety culture and governance at PG&E and PG&E Corp.,
5 investigated per the OII and with findings provided in the Report, are complex. For all
6 parties involved, it is important to move forward with recommended paths to follow,
7 goals to accomplish, and knowledge of issues that may remain to be resolved due to what
8 may prove to be a perpetual iterative process during implementation in achieving the
9 desired result, as the target exists in a dynamic environment.

10 Safety culture is recognized as affecting overall safety throughout PG&E. As
11 demonstrated by this OII, the safety performance of public utilities is highly dependent
12 on safety culture.⁷ In addition, as organizational changes are commonplace, it is
13 important to note that a factor affecting changes to safety culture is that of organizational
14 change.⁸ As changes to an organization can influence a company’s own policies,
15 governance, and attitudes of company employees, it can influence all aspects of safety.
16 That being said, failure to provide proper action to past incidents and to ignore the
17 importance of organizational changes may lead to unnecessary recurrences in the future.

18 Safety governance is “the relationship between board members and senior
19 executives in the safety leadership of an organization and provides the structure through
20 which the vision and commitment to safety is set, the means of attaining safety objectives
21 are agreed, the framework for monitoring performance is established and compliance
22 with the legislation is ensured.”⁹ As safety governance is a part of corporate governance,

⁷ I.15-08-019.

⁸ “*Strengthening Safety Culture of the Offshore Oil and Gas Industry*” (2016), Transportation Research Board Special Report 321, by The National Academies of Sciences, Engineering, and Medicine at p. 22.

⁹ *What is safety governance and why does it matter?* By Dr. Kirstin Ferguson for OrbitGroup.
<http://www.orbitasgroup.com/what-is-safety-governance-and-why-does-it-matter/>

1 note that corporate governance provides the strategic vision and direction to manage the
2 business, and safety must be inherent in that process.¹⁰ Per PG&E’s testimony, PG&E
3 recently rolled out their corrective action program (CAP) enterprise-wide. Proper
4 implementation across, or within each, LOB will determine if this enterprise-wide
5 deployment of CAP is successful in increasing safety.

6 How any changes instituted by the Commission will affect PG&E’s safety culture
7 and governance is uncertain. However, it is important to move forward with careful
8 planning to proceed in efforts to reduce or eliminate incidents of injuries, and to save
9 lives – of the public and those employed by PG&E. Having reviewed the Report and
10 PG&E’s testimony, the following are OSA’s recommendations and potential issues to
11 consider, which will enable the Commission in moving forward with aiding in enhancing
12 safety culture and governance at PG&E and PG&E Corp.

13 **II. NORTHSTAR REPORT RECOMMENDATIONS AND OSA’S**
14 **CONCERNS**

15
16 OSA has the following observations and concerns regarding the Report’s
17 recommendations:

18 **A. Use of Safety Management Systems to Enhance Safety Culture**

19 Implementing an effective safety management system (SMS) can enhance an
20 organization’s safety culture. The effectiveness of an SMS will depend on the strength of
21 that culture and leadership’s commitment to safety. This is recognized by American
22 Petroleum Institute Recommended Practice (API RP) 1173, standards for Pipeline Safety
23 Management Systems, which include elements encouraging companies to fully integrate
24 safety culture considerations into their management programs.

25 In OSA’s review of PG&E’s safety plan, it did notice a general reliance on having
26 a pipeline SMS as the company’s main effort to support its ongoing efforts to enhance its
27 present safety culture. PG&E is making an effort to improve safety; however, having a

¹⁰ *System Safety Engineering and Risk Assessment: A practical Approach*, by Nicholas J. Bahr at p. 130.

1 general reliance on a pipeline SMS is of concern, as doing so may not provide for safety
2 aspects that would be applicable to each LOB.

3 **B. Survey Employed in the NorthStar Report**

4 The Report heavily relies on its assessment on PG&E's own safety culture survey
5 instrument, the Premier Survey, which is conducted biennially.¹¹ The Report notes that
6 many of the questions have changed from survey to survey, making tracking changes
7 more difficult.¹² Additionally, the Premier survey is not close to state-of-the-art in
8 culture survey research. Its questions seem to consist only of positive and quite general
9 assertions of what should be the practice with which employees can only agree or
10 disagree. A multi-value Likert scale would allow stronger or weaker expression of
11 agreement or disagreement. More advanced surveys employ a mix of positive and
12 negative questions and more specific questions about actual behavior.¹³

13 However, the Report demonstrates that the Premier questionnaire contains a useful
14 narrative section for employee comments and these were factor analyzed for PG&E by a
15 consultant (Monitor 360) in 2014.¹⁴ This would be useful to do with every administration
16 of the Premier Survey.

17 OSA recommends further investigation into metrics and survey methodologies
18 that would be beneficial to evaluating, enhancing, and having a long lasting positive
19 effect on safety culture and governance at PG&E and PG&E Corp.

20 In Attachment X, attached to this testimony, OSA provides “Comments on
21 Performance Metrics” submitted in 2013 in R.11-02-019. “Appendix A” of those
22 comments provides examples of safety culture survey questions used in other industries.
23 Repeated use of a common subset of questions in safety culture assessments, can provide

¹¹ NorthStar Report at IX-5.

¹² NorthStar Report at IX-29.

¹³ The Culture of Safety: Results of an Organization-Wide Survey in 15 California Hospitals
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1743680/pdf/v012p00112.pdf>

¹⁴ NorthStar Report at IX-24.

1 additional insight into trends in the effectiveness of safety culture program initiatives, and
2 may also be helpful to identify regional or organizational gaps in employee safety culture
3 program performance.

4 **C. OSA’s Evaluation of the NorthStar Report Recommendations to**
5 **the Commission**

6
7 **1. Recommendation 1– Utility sharing of a safety incident**
8 **reporting system.**
9

10 The Report recommends that the Commission “implement a system that
11 encourages reporting of actual and potential safety incidents to be shared among the
12 utilities in order to identify best practices and share lessons learned.”¹⁵ This aligns with
13 the Commission’s 2017 Safety Action Plan, where Action Item 4 of the Safety Action
14 Plan directs OSA to report on recommendations regarding application of a pilot Safety
15 Reporting System for California Utilities.¹⁶ Similar safety reporting systems have been
16 used by regulators to improve safety in the airline, rail, and offshore oil and gas
17 industries.

18 OSA supports recommendation 1.

19 **2. Recommendation 2– Develop a listing and consistent**
20 **definitions of key safety-related metrics.**
21

22 The Report recommends that the Commission, “working with all California
23 IOUs, develop a listing and consistent definitions of key safety-related metrics to be
24 tracked on a monthly basis and reported to the CPUC at an agreed upon frequency.
25 Performance reporting should be handled in a non-punitive manner, but subject to audit
26 by the CPUC.”¹⁷ Metrics played a role in justifying answers to many of the issue
27 questions in the Scoping Memo. OSA is concerned, however, that the information
28 obtained via metrics in the Report demonstrated a general lack of adequate leading

¹⁵ NorthStar Report at I-16.

¹⁶ 2017 Update - Safety Action Plan and Regulatory Strategy at 6.

¹⁷ NorthStar Report at I-17.

1 indicator organizational metrics, including safety culture assessments. Safety failures can
2 be a result of organizational failures. Additionally, OSA is concerned that utilities
3 typically track employee lagging indicator safety metrics, such as fatalities and serious
4 injuries, but generally fail to track and report on public safety metrics. For instance, eight
5 members of the public died in the San Bruno pipeline explosion, but those fatalities
6 would not have shown up in an Occupational Safety and Health Administration (OSHA)
7 report. Thousands of residents and two schools were relocated as a result of the Aliso
8 Canyon gas storage leak, but those again, would have not have shown up in an OSHA
9 report. OSA is currently actively seeking to address these metrics concerns in the
10 Commission’s SMAP Proceeding (A.15-05-002) Metrics Working Group.

11 The outcome of OSA efforts in that proceeding are uncertain, however, and since
12 this proceeding, I.15-08-019, is focused on organizational culture at PG&E, this
13 proceeding may be the most appropriate proceeding to address organizational, safety
14 culture, and public safety metrics at PG&E, particularly if they are not adopted in the
15 SMAP proceeding.

16 To the extent that organizational, cultural, and public safety metrics are included
17 in adoption of a full complement of safety metrics, and not skewed or vulnerable to
18 gaming, underreporting, or bias, or misplaced incentives, OSA supports recommendation
19 2. OSA would, however, be opposed to an inadequate set of metrics that do not capture
20 organizational culture, or metrics that are vulnerable to driving underreporting or
21 unintended behavior, or that fail to capture public safety.

22 **3. Recommendation 3 - Performance-Based**
23 **Ratemaking Mechanism.**
24

25 The Report recommends that the Commission employ “a Performance-Based
26 Ratemaking (PBR) mechanism that includes a safety element to be considered in the rate
27 design phase of the TY2017 PG&E General Rate Case (A.15-09-011)... [and the]

1 mechanism should include a traditional rate of return component and a variable safety-
2 related component based on pre-defined criteria and the discretion of the CPUC.”¹⁸

3 Although OSA supports accountability and generally supports the motive behind
4 incentivizing safety, the Commission should keep in mind that it has experienced several
5 instances in which well-intended performance-based ratemaking initiatives resulted in
6 unintended or undesired behaviors and outcomes. Several examples are described in the
7 Commission’s Safety and Enforcement Division’s (SED) reports on this subject matter.

8 One of SED’s reports describes how metrics, including safety metrics, associated
9 with “explicit or implicit financial incentives may drive unintended or undesirable
10 behaviors that are detrimental to safety.”¹⁹ Please see Attachment Y, which is an excerpt
11 from Section 9.2 of that report, entitled “Risks Associated with Metrics.” Section 9.2
12 describes a number of prior Commission attempts to provide performance incentives in
13 which the outcome was not what was intended. One quote from the attachment states:
14 “In a number of interviews, employees and supervisors stated that safety incentive
15 programs acted as a disincentive for injury reporting.”

16 Furthermore, SED’s June 2017 Monthly Performance Report recommended that
17 “the Commission should hold the utilities accountable in some way for determining
18 whether the compensation incentive programs are effective at improving safety.
19 Currently, there does not appear to be any tracking or benchmarking process to determine
20 effectiveness.”²⁰

21 A GRC is a limited format for regulating safety. It comes on a three-year cycle
22 and is driven by cost projections, demand forecasts and rates of return arguments, which
23 can outweigh safety considerations. A PBR mechanism may suffer from use of lagging
24 metrics of incidents and accidents to define performance. The “safety-related

¹⁸ NorthStar Report at pp. I-10 and I-17.

¹⁹ Risk and Safety Aspects of Southern California Edison’s 2018-2020 General Rate Case, at 66.
http://cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Safety/Risk_Assessment/SCE%202018%20GRC%20Report%20Final%20with%20Appendix%20A.pdf

²⁰ Safety and Enforcement Division Monthly Performance Report – June 2017, at 12.

1 component” should promote safety management metrics as leading indicators. Otherwise
2 the PBR will likely be only retrospective and not be targeted enough to drive the
3 development of a mature SMS at PG&E. SMS metrics, once developed, could be applied
4 to PG&E investment proposals such as those for risk mitigation. These should be
5 analyzed and potentially discounted in relation to their promised risk reduction based on
6 the Commission’s assessment of the current state of a utility's SMS and safety culture.

7 This is an opportunity for the Commission to specify clearly that as part of a PBR
8 development process that PG&E, along with other utility analysts and subject matter
9 experts (SMEs), should participate in a set of workshops with the Commission to design
10 and develop a set of safety management metrics which can be used for assessment of the
11 current state of SMS and safety culture of each utility prior to its participation in a
12 general rate case (GRC) proceeding.

13 OSA therefore has concerns about recommendation 3. Any adoption of such a
14 mechanism should be explicit about the metrics and formula to be employed so that it
15 may be properly vetted in this proceeding. OSA believes the Commission should not
16 adopt such a mechanism without being explicit in this proceeding about the metrics and
17 formula that would be applied.

18 **4. Recommendation 4 – Perform periodic audits of**
19 **PG&E’s safety programs and culture.**
20

21 The Report recommends that the Commission “perform periodic audits of the
22 safety programs and culture of PG&E, and potentially the other major California
23 investor-owned utilities.”²¹ The Report found that “PG&E is currently developing a
24 Safety Management System (SMS) to enhance its ability to monitor and assess safety
25 performance and culture. As the SMS is in the early stages of development, NorthStar
26 cannot assess it or its ability to measure culture change.”²²
27

²¹ NorthStar Report at I-17.

²² NorthStar Report at VII-10

1 OSA believes utility safety and safety culture would directly benefit from
2 implementation of a comprehensive SMS across PG&E’s enterprise, including but not
3 limited to gas transmission, distribution, and storage; and electric transmission,
4 generation, distribution, and hydro, and PGE enterprise functions. Additionally, OSA
5 believes the effectiveness of such a system would be highly dependent upon whether the
6 Commission implemented a program to audit or assess utility SMS component
7 implementation and performance.

8 **5. Reporting of Safety Performance and**
9 **Metrics**

10 The Report also recommends that the Commission “have meaningful, consistent
11 routine reporting of safety performance and metrics to the CPUC (all major California
12 Investor-Owned Utilities (IOUs)).”²³ This cannot be done with current metrics and
13 surveys demonstrated by the Report. These do not appear to address organizational and
14 managerial elements that must be a part of SMSs.

15 OSA recommends the Commission organize ongoing SMS metric workshops to
16 facilitate implementing this safety recommendation.

17 **6. Cost-Benefit Analyses**

18 The Report recommends that PG&E clearly define and articulate any new
19 initiatives to improve safety culture, and perform cost-benefit analyses of these initiatives
20 and identify performance measures.”²⁴

21 A cost-benefit (CB) analysis of safety culture initiatives may be an invitation to
22 error, based on a false precision about an uncertain process. How will interim and long-
23 term benefits be measured? What constitutes a safety culture development cost?

24 The hope in the Report’s recommendation is that the CB initiative will ultimately
25 improve safety culture and, ultimately, safety outcomes. OSA has concern that this CB
26 effort could subsequently lead to biased performance measures and assessments.

²³ NorthStar at I-10

²⁴ NorthStar at III-22

1 OSA recommends the Commission allow the safety culture development process
2 to proceed for several years before looking at any formal CB analysis of the process.

3 **7. Appointing a Corporate Safety Officer**

4 The Report recommends that PG&E “[a]ppoint a Corporate Safety Officer who
5 has both operations and professional safety experience.”

6 The appointment of a safety officer as an instrument of managerial purpose is
7 neither a necessary nor sufficient driver for the emergence of organizational culture. The
8 existence of a specific safety officer may relieve leaders and managers of a sense of
9 responsibility for safety, since another party is delegated that task and therefore the
10 responsibility.

11 Neither Institute of Nuclear Power Operations (INPO), the Federal Aviation
12 Administration (FAA) nor OSHA, nor API RP 1173 suggest the need for a safety officer
13 in their guidelines for SMS and safety culture development.²⁵ Higher level commitment
14 and accountability are discussed, but they do not specifically advocate a single safety
15 officer. Safety commitment and responsibility should be integrated into the other
16 activities and responsibilities of higher level executives and managers, rather than have to
17 compete from a separate position for the attention of highest level executives.²⁶

18 One safety culture model proposed by the North American Regulators Working
19 Group on Safety Culture (NARWGSC) asserts that “there [should be] an accountable
20 officer (AO) designated. This delegation is appropriate based upon the organizational

²⁵ INPO, “Principles for a Strong Safety Culture”
<https://www.nrc.gov/docs/ML0534/ML053410342.pdf>

FAA, “Safety Management Systems for Aviation Service Providers”
https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_120-92B.pdf

OSHA, “Safety and Health Program Management Guidelines”
https://www.osha.gov/shpmguidelines/SHPM_guidelines.pdf

American Petroleum Institute, “Pipeline Safety Management System Requirements”
<https://www.pipelinelaw.com/wp-content/uploads/sites/19/2014/09/API-RP-1173.pdf>

²⁶ What are the Greatest Challenges for Aviation Safety Officers?
<http://aviationsafetyblog.asms-pro.com/blog/greatest-challenges-for-aviation-safety-officers>

1 structure (i.e. the correct person is delegated with the authority and control for human and
2 financial resources). The AO demonstrates understanding of and commitment to the role
3 and responsibilities. There [should be] evidence of the AO taking action to resolve
4 issues.”²⁷ But at the same time the NARWGSC report also stresses that “all leaders are
5 knowledgeable about the regulations, their own procedures and current safety activities,
6 issues and challenges, such as causes of recent incidents, results of previous audits and
7 ongoing or new safety programs. All leaders routinely dedicate significant time to safety,
8 which includes talking to frontline staff about safety concerns and potential solutions and
9 leaders are routinely involved in incident investigations/reviews and in resolving safety
10 issues.”²⁸

11 Safety culture creates a stable bias in values and practices widely distributed
12 throughout an organization. It should be enduring beyond the role of any particular
13 person. A safety culture and its development should be “person-proof” -- it should not
14 depend on the skills of a specific culture “czar” nor be undermined by the deficiencies or
15 disinterest of a single individual.²⁹ The urge to impose accountability on this process is
16 understandable. However, this accountability should be shared throughout an
17 organization.

18 OSA recommends the Commission allow PG&E discretion whether it wants, as it
19 has had, a single safety officer. However, the Commission may want to ensure that if
20 there is only one, in future PG&E safety assessments, surveys and interviews include
21 questions pertaining to the functions and role of the safety officer.

²⁷ North American Regulators Working Group on Safety Culture (NARWGSC), “Safety Culture Indicators Research Project: A Regulatory Perspective”.

²⁸ Id.

²⁹ The Negotiated Order of Organizational Reliability
<https://www.researchgate.net/publication/249625140> The Negotiated Order of Organizational Reliability

1 **8. Safety Model Assessment Proceeding (SMAP)**

2 In line with the Safety Model Assessment Proceeding (SMAP) Scoping Memo and
3 the “Safety and Enforcement Division Evaluation Report on the Risk Evaluation Models
4 and Risk-based Decision Frameworks in A.15-05-002, et al.,” as well as the results of the
5 Southern California Edison (SCE) SMAP Technical Working Group on SMAP Metrics
6 in its Master List, OSA recommends that the Commission consider having the SED
7 Technical Working Group to continue its meetings and deliberations.³⁰

8 These meetings and deliberations should continue for the purpose of developing
9 clearly described and defined metrics pertaining to the measurement of the existence and
10 effectiveness of SMSs within the utilities. The metrics should address recognized
11 elements of safety management systems as described in reference documents and
12 guidelines offered by the FAA, INPO, and API RP 1173.

13 The SMAP proceeding is directed toward the identification of a standardized risk
14 assessment methodology for use in Risk Assessment Mitigation Phase (RAMP) filings
15 and GRCs, which would allow all of the major utilities to offer comparable analyses of
16 risk mitigation strategies proposed in connection with rate cases. Additionally, per SED,
17 it is too early to recommend a common risk evaluation methodology in the first S-MAP.
18 Among the reasons that SED came to this conclusion was that model granularity should
19 be improved. The utilities should consider having two parallel risk assessment models,
20 with one having high granularity and another having low granularity to compare the
21 results obtained from both methods.³¹ SED also asserted that RAMP filings should
22 describe the company’s safety culture, executive engagement, and compensation policies.

23 In the SMAP Metrics Master List, developed by the SMAP Technical Working
24 Group, there are no metrics that address SMSs provided by the utilities other than

³⁰ Safety Model Assessment Proceeding (SMAP) – A.15-05-002 et al.
<http://www.cpuc.ca.gov/General.aspx?id=9099>

³¹ Safety and Enforcement Division Evaluation Report on the Risk Evaluation Models and Risk-based
Decision Frameworks in A.15-05-002 et al.
<http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=10483>

1 Records and Information Management training metrics. In their joint response to SMS
2 metrics for possible development proposed by the OSA, the utilities dismissed them as
3 vague, subjective and some as unrelated to safety. Their response indicated they did not
4 realize these were proposed for development by the working group and, more
5 importantly, it indicated a lack of understanding of safety management systems -- their
6 design and strategy.³²

7 For these reasons, OSA recommends that the Commission consider having the
8 SED Technical Working Group continue its meetings and deliberations, and concludes
9 that SMS metrics are needed to:

- 10 1. Make sure that risk assessments used in RAMP and GRC
11 filings address important managerial and organizational
12 factors that are leading indicators of risk and that can
13 significantly improve the understanding and measurement of
14 risk in these models,
15
- 16 2. Significantly increase the granularity of those models,
17
- 18 3. Provide information to significantly improve safety
19 management in the utilities, and
20
- 21 4. Allow the Commission to be better informed about utility
22 safety in both its GRC proceedings and its general oversight
23 of safety in the utilities.

24 OSA believes the best path to the development of these metrics is to continue the
25 work of the Technical Working Group under a clarified guidance of the SMAP Scoping
26 Memo, with participation of both CPUC and utility staff.

³² Safety and Enforcement Technical Working Group SMAP Metrics Master List
http://www.cpuc.ca.gov/uploadedFiles/CPUC_Website/Content/Safety/Risk_Assessment/SMAP/Staff%20Proposal%20SMAP%20Metrics.xlsx

APPENDIX A
Qualifications of Witnesses

1 **QUALIFICATIONS AND PREPARED TESTIMONY**
2 **OF**
3 **Alex Pineda**

4 **Q1.** Please state your name and business address.

5 **A1.** My name is Alex Pineda. My business address is 300 Capitol Mall, Sacramento.

6 **Q2.** By whom are you employed and in what capacity?

7 **A2.** I am employed by the California Public Utilities Commission as a Public Utilities
8 Regulatory Analyst V in the Office of the Safety Advocate (OSA).

9
10 **Q3.** Please describe your educational and professional experience

11 **A3.** I hold a Bachelor of Science degree in Mechanical Engineering from the
12 University of California, Davis, (UC Davis) and a Master of Science degree in
13 Civil and Environmental Engineering from UC Davis. I joined OSA in 2018 and
14 have over seven years of experience in the utility and related industries. More than
15 three of those years were with the California Energy Commission (Energy
16 Commission), and four years were with Clean Energy Assets, LLC. At the Energy
17 Commission, I worked as an Energy Specialist and Mechanical Engineer on a
18 broad spectrum of topics, including natural gas, renewable energy, and Building
19 Energy Efficiency Standards (Energy Standards) issues, ranging from natural gas
20 pipeline infrastructure analysis, ensuring applicants' compliance with the New
21 Solar Homes Partnership (NSHP) Program in solar photovoltaic installations on
22 qualifying homes, and analyzing regulatory language to manage contracts and
23 confirm compliance requirements of the Energy Standards were met in high-rise
24 residential multifamily building ventilation systems to provide intended outside air
25 for the safety and wellbeing of occupants. Additional past experience includes
26 engineering and management work for Clean Energy Assets, LLC, where I
27 completed National Fire Protection Agency (NFPA) 70E training, which is a
28 Standard for Electrical Safety in the Workplace, and was responsible for
29 workplace safety of renewable energy generation facilities.

30
31 **Q4.** What is the scope of your responsibility in this proceeding?

32 **A4.** I am the sponsor of Chapters 1-2 of prepared testimony regarding the Pacific Gas
33 and Electric Company and PG&E Corporation Order Instituting Investigation
34 (investigation) 15-08-019, for the Commission's Own Motion To Determine
35 Whether Pacific Gas and Electric Company and PG&E Corporation
36 Organizational Culture and Governance Prioritize Safety.

37
38 **Q5.** Does this complete your testimony?

39 **A5.** Yes