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Safety Culture Assessments for SMJUs and Independent Gas Storage Operators

SAFETY POLICY DIVISION STAFF PROPOSAL

R.21-10-001, Phase 2

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California Public
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1 Executive Summary

This report presents the Safety Policy Division’s Staff (Staff) proposal for establishing a safety culture assessment framework for small multi-jurisdictional utilities (SMJUs) and independent gas storage operators (Storage Operators) (collectively, Phase 2 Utilities) in Rulemaking (R.) 21-10-001. The proposal considers the framework adopted in Decision (D.) 25-01-031 for large investor-owned utilities (IOUs) in Phase 1 of R.21-10-001 and the direction provided in the Assigned Commissioner’s Phase 2 Scoping Memo to develop an approach that reflects the unique characteristics of these utilities.

Staff developed this proposal based on the record of the proceeding, benchmarking of regulatory practices across high-hazard industries, consultation with safety culture subject matter experts, and lessons learned from the Phase 1 framework for large IOUs. The proposal also incorporates information submitted by Phase 2 Utilities in response to the Administrative Law Judge’s April 23, 2025, ruling, as well as insights from the February 6, 2026 Safety Policy Division workshop and stakeholder discussions conducted during Phase 2.

The record demonstrates that Phase 2 Utilities differ significantly from large investor-owned utilities in workforce size, organizational complexity, operational scope, capacity, and available resources. These differences can influence how safety culture manifests within the organizations and how it can be effectively assessed. Therefore, direct application of the Phase 1 framework—designed for large, complex utilities—could impose cost and administrative burdens that may outweigh the value gained from insights into safety culture performance.

Accordingly, Staff recommends a scaled safety culture assessment framework that maintains the core principles and objectives established in Phase 1 while aligning assessment expectations with the characteristics of smaller organizations. The proposal preserves the definitions and normative safety culture framework – specifically, the 10 traits of a healthy safety culture - adopted in Phase 1, and retains the emphasis on continuous improvement, while adapting assessment processes, tools, and implementation mechanisms to reflect the realities of smaller utilities.

The Staff proposal centers on several key principles:

- **Scalability and proportionality.** Assessment approaches should reflect organizational size, complexity, and inherent risk while maintaining consistent expectations for safety culture performance.
- **Learning-focused oversight.** Safety culture assessments should emphasize reflection, organizational learning, and continuous improvement rather than a compliance-oriented effort.
- **Practical and cost-conscious implementation.** The framework should enable credible assessments while minimizing unnecessary cost burdens on smaller utilities.
- **Coverage of organizational risk factors.** Assessments should explicitly consider contractor involvement and governance structures, including the potential influence of parent companies.

- **Consistency with Phase 1 objectives.** While scaled to organizational context, the framework should remain aligned with the Commission’s overall safety culture policy direction and maintain consistency across utilities where appropriate.

To operationalize these principles, Staff proposes a framework that combines internally led self-assessments and peer-review-based assessments based on workforce size as a proxy for organizational complexity, in addition to documentation of improvement efforts between assessments. This approach is intended to strike a balance between resource constraints and the value of safety culture assessments, while also building internal capability within smaller utilities to recognize and address the cultural drivers of safety performance.

Overall, the Staff proposal aims to establish a practical, scalable, and learning-oriented framework for safety culture assessments that strengthens oversight of SMJUs and Storage Operators while recognizing the operational realities of smaller organizations. By aligning regulatory expectations with organizational context, the framework seeks to ensure that safety culture assessments remain meaningful, cost-effective, and capable of supporting continuous improvement in safety performance across all regulated utilities.

2 Introduction

2.1 Purpose

This report presents the Safety Policy Division's Staff (Staff) recommendations regarding safety culture assessments for small multi-jurisdictional utilities (SMJUs) and independent storage operators (Storage Operators) – collectively referred to as the Phase 2 Utilities - subject to Phase 2 of Rulemaking (R.) 21-10-001.

To develop this proposal, Staff:

- Benchmarked safety culture oversight practices used by other national and international regulators in energy, rail, and nuclear industries.
- Consulted with safety culture researchers and practitioners.
- Leveraged lessons learned from safety culture initiatives in other regulated industries and prior safety culture efforts at the CPUC.
- Drew on Staff's experience through participation in the North American Regulators Working Group on Safety Culture and through implementation of Phase 1 of this proceeding to date, including Utility Safety Culture Working Group meetings.
- Considered the information and record developed in this proceeding.

2.2 Procedural Background

The California Public Utilities Commission (CPUC) opened R. 21-10-001 to implement statutory safety culture assessment requirements enacted by the legislature and codified in the Public Utilities Code (PU Code) Section 8386 (as added by SB 901 (2018))¹ mandating the CPUC to require independent third-party safety culture assessments of each electrical corporation and to set a schedule for those assessments with updates at least every five years. Section 8386 further disallows recovery of the cost of assessments from ratepayers.

Recognizing the importance of safety culture as a driver of safety performance, the rulemaking was established to develop and adopt a safety culture assessment framework for regulated investor-owned electric and natural gas utilities (IOUs), as well as Storage Operators serving California. The proceeding follows a series of catastrophic failures of utility infrastructure under the CPUC's jurisdiction and is grounded in the CPUC's authority and obligations under the PU Code, including its general jurisdiction to supervise and regulate public utilities and to ensure safe and reliable service (e.g., PU Code Sections 451 and 701).

¹ Stats. 2018, Ch. 626, codified in Public Utilities Code Section 8386.2.

Phase 1 of the proceeding focused on the large IOUs. Following extensive stakeholder engagement through technical working groups, Staff concept papers, and formal comments, the CPUC issued Decision (D.) 25-01-031 on January 23, 2025, adopting safety culture assessment framework for large IOUs. The decision expressly noted that issues concerning SMJUs and Storage Operators would be addressed in a second phase (Phase 2).

D.25-01-031 established a consistent, forward-looking framework for assessing safety culture across large IOUs and created a structured mechanism for ongoing assessment and continuous improvement.

A Prehearing Conference for Phase 2 was held on March 27, 2025, to consider scope and schedule for addressing SMJUs and Storage Operators. On April 23, 2025, an Administrative Law Judge (ALJ) ruling directed the SMJUs and Storage Operators—consisting of Liberty Utilities (Liberty), Bear Valley Electric Service (Bear Valley), PacifiCorp, Southwest Gas Company (Southwest Gas), Alpine Natural Gas (Alpine), West Coast Gas, Wild Goose Storage (Wild Goose), Lodi Gas Storage (Lodi), Gill Ranch Storage (Gill Ranch), and Central Valley Gas Storage (Central Valley)—to provide additional information regarding their operations and existing safety culture assessment and oversight practices. Responses were filed on May 5, 2025.

On August 26, 2025, the Assigned Commissioner issued the Phase 2 Scoping Memo and Ruling. The memo:

- Defined the scope of Phase 2 to focus on developing safety culture assessments for SMJUs and Storage Operators;
- Identified key policy questions, including whether to adopt or modify the Phase 1 framework for Phase 2 Utilities, how to scale assessments, cost recovery, contractor oversight, parent company roles, and coordination with the Office of Energy Infrastructure Safety (Energy Safety);
- Set the proceeding's schedule inclusive of a series of workshops, comments, party proposals, and a Staff proposal.

On November 18, 2025, Staff convened a workshop (Nov. 18 Workshop) to examine how the characteristics of Phase 2 Utilities affect the applicability of the safety culture framework developed for large IOUs.² The workshop included presentations by external safety culture expert Dr. Mark Fleming, Staff, as well as a roundtable discussion involving representatives from affected utilities, Commission staff, and other stakeholders.

The workshop sought to better understand the operational characteristics, organizational scale, existing safety oversight practices, and practical constraints facing these entities, and to inform the development of a proportionate and effective safety culture assessment framework. All Phase 2 Utilities, except for Southwest Gas, participated in the discussion forum. Post-workshop comments were filed by Small Business Utility

² Presentation slides and recording available at <https://www.cpuc.ca.gov/about-cpuc/divisions/safety-policy-division/safety-culture-and-governance>.

Advocates (SBUA) and Central Valley on December 22, 2025, and reply comments were filed by the same entities on January 9, 2026.

Discussion during the Nov. 18 Workshop and in subsequent written party comments focused on the challenges inherent in applying the Phase 1 framework to the Phase 2 entities, including relatively lower levels of funding or institutional support for many Phase 2 entities compared to Phase 1 utilities, the feasibility of various assessment methods for organizations with a much smaller workforce than the Phase 1 utilities, and considerations related to contractor oversight, parent-company structures, cost, and scalability. Written comments and workshop participants highlighted that Phase 2 entities and the public would still derive value from a defined safety culture assessment process notwithstanding these challenges. The workshop provided practical insights into how safety culture is currently evaluated and managed within smaller utilities and gas storage operators and informs the Staff Proposal set forth below.

Party proposals were filed on January 30, 2026, by seven of the Phase 2 Utilities: (Joint) Wild Goose and Lodi, (Joint) PacifiCorp, Bear Valley and Liberty, Central Valley Gas, and Alpine Gas – along with comments filed by SBUA. On February 6, 2026, Staff hosted a workshop for parties to present their proposals and engage in discussion.

Parties submitted opening comments on the party proposals and associated workshop on March 11, 2026 and reply comments on March 18, 2026. Nine parties submitted opening comments on party proposals (Southwest Gas, Wild Goose, Lodi, Cal Advocates, Bear Valley, PacifiCorp, Liberty, Central Valley, and SBUA), and two parties, SBUA and Central Valley, submitted reply comments.

Party comments highlighted the importance of adapting proposals for a safety culture assessment framework to the unique business characteristics of the Phase 2 entities, including practical differences in operational dynamics and challenges for Storage Operators compared to SMJUs and differences in organizational capacity and funding between different companies. For instance, Wild Goose and Lodi's comments recommended the Commission ensure that "any self-assessment framework be tailored to the individual small utility," and suggested that objectivity of a self-assessment framework could be built into scoring and verification systems.³ Gill Ranch⁴ and SBUA⁵ also supported the use of self-assessments for storage operators. In contrast, Cal Advocates argued that the Commission should require storage operators, as well as SMJUs, to obtain comprehensive third-party assessments, reasoning that self-assessments may fail to detect safety culture deficiencies.⁶

³ Joint Opening Comments of Wild Goose and Lodi on Phase 2 Party Proposals, at 2-3.

⁴ Opening Comments of Gill Ranch on Phase 2 Party Proposals at 3.

⁵ Opening Comments of SBUA on Phase 2 Party Proposals, , at 3.

⁶ Opening Comments of Cal Advocates on Phase 2 Party Proposals, filed March 11, 2026, at 5.

Southwest Gas⁷ and the joint comments of Bear Valley, Liberty , and PacifiCorp filed as the California Association of Small and Multi-Jurisdiction Utilities (CASMU)⁸ highlighted existing safety culture assessment requirements, particularly those established by Energy Safety as well as safety culture improvement initiatives conducted independent of mandatory requirements. Southwest Gas and CASMU encouraged the Commission to avoid new requirements that would be duplicative of existing requirements or initiatives and to minimize associated additional costs that could result from unnecessary duplication of requirements. Southwest Gas explicitly stated it does not view a third-party safety culture assessment framework as needed, while CASMU provided recommendations to enable a third party-led process to meet the unique needs of SMJUs and indicated it did not support a peer review model due to challenges related to confidentiality, excessive reliance on active participation of peers. Cal Advocates agreed with the value of reducing duplication, but argued that Energy Safety’s focus on wildfire mitigation for electrical corporations reflects a more narrow scope than the framework established in D. 25-01-031, which is intended to be complementary rather than duplicative of Energy Safety’s activities.⁹ In reply comments, SBUA disagreed with Southwest Gas that a third-party assessment was unnecessary due to existing activities related to safety culture assessment.¹⁰ All parties except Cal Advocates additionally provided recommendations for minimizing costs associated with safety culture assessments and appropriately allocating shared costs between entities, emphasizing that flexibility and relying on existing company resources would generally be most cost-effective.

In developing the Staff Proposal, staff were mindful of these significant organizational differences between Phase 2 entities and sought to craft an approach that appropriately balanced the potential value of safety culture assessments with the capacity constraints, divergent operational needs, and scalability concerns expressed throughout the Phase 2 workshops and written comments.

2.3 Safety Culture Assessment Framework for Large IOUs

D. 25-01-031 adopted a comprehensive Safety Culture Assessment Framework for California’s large electric and gas IOUs as part of Phase 1 of the proceeding. The framework is intended to move the industry beyond a compliance-focused approach and support sustained improvement in safety performance by anchoring on the principles of continuous improvement, cultural ownership, and collaboration. The decision establishes the following core elements:

⁷ Southwest Gas Responses to ALJ’s Ruling Seeking Comments on Phase 2 Party Proposals, filed March 11, 2026, at A-1 and A-2.

⁸ Joint Commentss of Bear Valley, Liberty, and PacifiCorp on Party Proposals for, filed March 11, 2026, at 1-2.

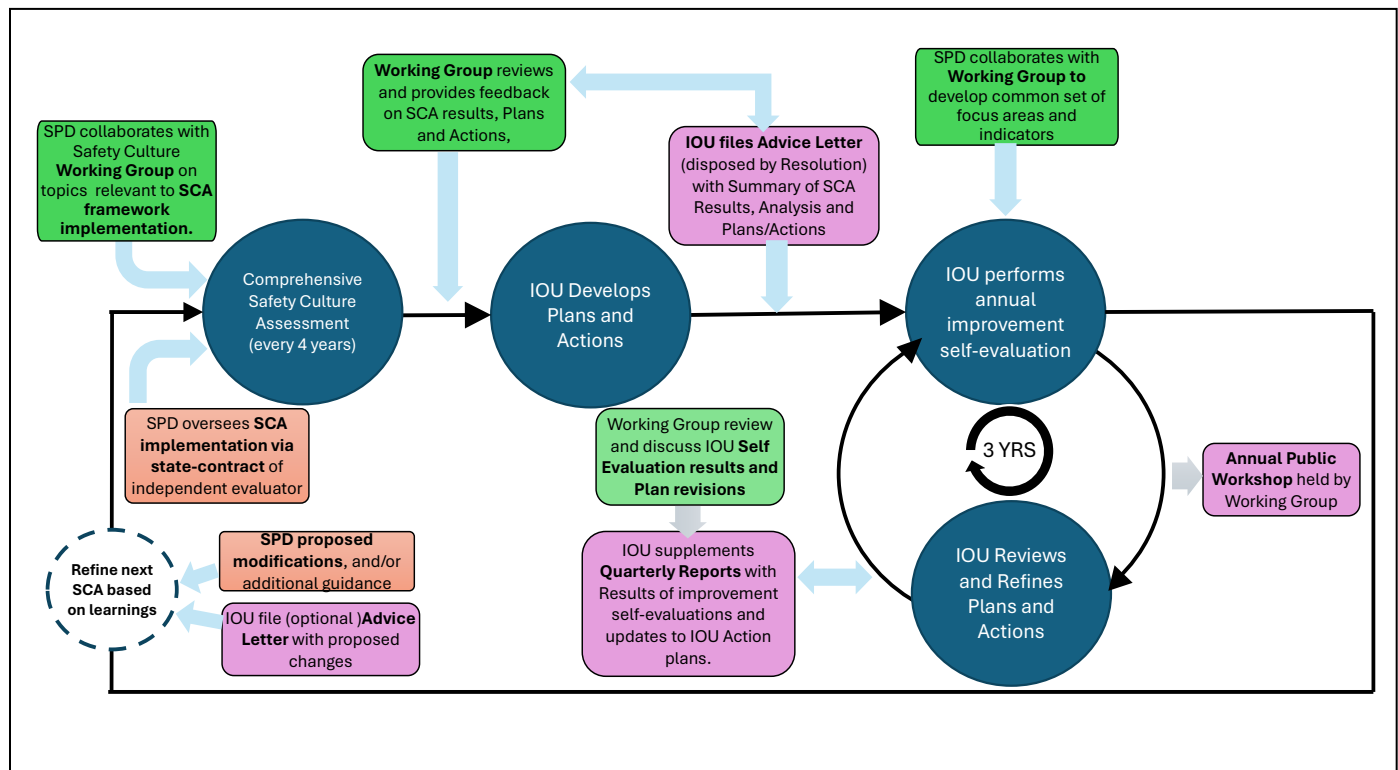
⁹ Opening Comments of Cal Advocates on Phase 2 Party Proposals, filed March 11, 2026, at 6.

¹⁰ Reply Commentss of SBUtilityA, filed March 18, 2026, at 1.

- **Goals and Guiding Principles** to inform the engagement effort and implementation of the framework.
- **Definitions** for safety and safety culture that inform scope of assessments.
- **Normative Framework** – 10 Safety Culture Traits which serve as the basis for evaluating organizational safety culture.
- **Comprehensive Safety Culture Assessments** using a systematic, multi-method approach designed to surface underlying organizational beliefs, behaviors, and practices related to safety.
- **Improvement Self-Evaluations** to monitor progress on improvement actions between formal safety culture assessments.
- **Staggered timing and quadrennial frequency** of assessments.
- **Safety Culture Working Group** (Working Group) to support collaborative implementation of the framework and facilitate ongoing learning and improvement.

The figure below depicts the safety culture assessment and monitoring process adopted for large IOUs.

Figure 1: Large IOU Safety Culture Assessment and Monitoring Process



3 Safety Culture in Small Organizations

This section identifies and examines the key characteristics of the Phase 2 Utilities that inform evaluation of the applicability of the Phase 1 safety culture assessment framework, based on:

- The proceeding record, with emphasis on the Nov. 18 Workshop.
- Input from independent, external safety culture experts.
- Research in academic literature and published practitioner guidance.
- Staff's experience with oversight of small utilities under the CPUC's jurisdiction.

3.1 SMJUs and Storage Operators

Phase 2 of this proceeding focuses on the SMJUs and Storage Operators that were not addressed in D.25-01-031. The utilities subject to Phase 2 include three electric utilities (Bear Valley, Liberty, and PacifiCorp), three natural gas utilities (Southwest Gas, Alpine, and West Coast Gas), and four independent gas storage operators (Gill Ranch, Wild Goose, Lodi, and Central Valley), for a total of ten entities.

3.1.1 Wide Variability Among SMJUs and Storage Operators

The Phase 2 Utilities vary significantly in size, organizational complexity, corporate structure, operations, and safety culture assessment practices, as evidenced by their reported characteristics summarized in [Appendix A](#) and discussed at the Nov. 18 Workshop.

Workforce size among the Phase 2 Utilities vary significantly, ranging from fewer than 10 employees (e.g., Alpine and West Coast Gas) to several thousand employees (e.g., PacifiCorp and Southwest Gas). The smallest entities operate as stand-alone utilities, while the rest function as subsidiaries of parent companies. In several instances, those parent companies are large organizations with established enterprise-wide health, safety, and environmental governance frameworks (e.g., the parent company of Lodi and Wild Goose).¹¹

The Storage Operators are generally owned by private infrastructure investment or energy asset management firms and are often integrated into a broader infrastructure portfolio, with some degree of structural integration that may leverage some centralized functions (i.e. health, safety and environmental frameworks). In contrast, certain small electric and gas utilities (e.g., BVES and Liberty) reported limited or no direct involvement of their holding companies – publicly traded utility holding companies – in safety culture development and assessment efforts. PacifiCorp and Southwest Gas, as larger multi-state utilities, described more formalized corporate safety governance structures – parents are large, diversified utility

¹¹ As explained by Wild Goose and Lodi's responses, these programs are aimed at protecting the health and safety of their workforce.

holding companies – with practices that include recurring surveys, executive oversight, and cross-company safety collaboratives.

Across Phase 2 Utilities, current safety culture practices range from structured, survey-based assessment instruments – either safety culture specific or integrated with safety management system assessments – to more informal, operations-focused review processes, audits, and behavior observations in the smallest organizations.

Most Phase 2 Utilities rely heavily on contractors to perform work. This reliance is more extensive amongst Storage Operators, with contractor personnel often outnumbering internal staff while performing safety-critical activities (e.g., well interventions). The larger of the Phase 2 Utilities still manages hundreds to thousands of contractors.

These differences reflect substantial variation in organizational scale, available resources, safety culture assessment practices, structural arrangements, and governance approaches. These distinctions were also highlighted during the Nov. 18 Workshop discussion.

3.1.2 Storage Operators vs Electric and Gas Utilities in Phase 2

Phase 2 also includes two distinct categories of entities: (1) independent underground gas storage operators (Gill Ranch, Wild Goose, Lodi, and Central Valley), and (2) electric and gas distribution (and some transmission) utilities (Bear Valley, Liberty, PacifiCorp, Alpine, Southwest Gas, and West Coast Gas). While all are subject to CPUC oversight, their operational characteristics and economic models differ. For reference, **Table 1** below contains some risk and operational characteristics of each category.

Table 1: Phase 2 Utilities Risk Profiles and Operational Context.

Storage Operators	Electric/Gas Utilities
Operate underground natural gas storage fields, wells, compressors, transmission pipeline and associated high-pressure facilities.	Operate distribution and (in some cases) transmission systems serving retail customers directly.
Serve wholesale customers.	Serve retail customers.
Risk profile is characterized by low-frequency, high-consequence events, including well integrity failures, gas migration, and large-scale releases. Wildfires are now considered a compounding risk, introducing new hazards. ¹²	The risk profile is broader and more geographically distributed, including wildfire ignition risk (electric), pipeline leaks, public safety incidents, and worker safety.

¹² Recent research finds that wildfires are increasingly overlapping with oil and gas infrastructure in the western United States, heightening the risk of fire-related damage to gas wells and associated facilities (including storage) and compounding potential public safety impacts; David J. X. González et al., *Wildfires increasingly threaten oil and gas wells in the western United States with disproportionate impacts on marginalized populations*, 7 *One Earth* 1044 (2024).

Storage Operators	Electric/Gas Utilities
Operate in a highly specialized technical environment with a relatively small workforce and concentrated asset base.	Safety exposure is continuous and operationally embedded in daily service delivery, geographically dispersed.
Subject to layered oversight, including CPUC safety rules and California Geologic Energy Management well integrity requirements.	Larger utilities (PacifiCorp, Southwest Gas) face multi-state regulatory oversight, electric utilities subject to layered oversight, including CPUC for economic and safety regulation, and Energy Safety for wildfire oversight.
Market-based rates.	Rate regulated.

Overall, both categories operate systems with safety-critical infrastructure and face operational complexity. Storage Operators oversee complex and highly technical, site-specific risks associated with underground facilities, while electric and gas utilities manage distributed operational risks across expansive, customer-facing systems. Despite these differences, both are responsible for managing catastrophic risk comparable in nature to that of the large IOUs—albeit with significantly smaller workforces and organizational capacity.¹³

3.2 Safety Culture Assessment of Small Organizations

3.2.1 Organizational complexity and the value of safety culture assessments

A key point emphasized by the subject matter expert at the Nov. 18 Workshop, and supported by the academic literature, is that the importance of safety culture increases with organizational and operational/technical complexity.¹⁴ This is due to the nature of risk management in larger organizations and the expanding distance between those who make risk-related decisions and those who implement them in frontline operations. Accordingly, while safety culture assessments can provide meaningful value, their utility is inherently context-dependent.

For smaller organizations operating at comparable levels of operational complexity, overall organizational complexity may be considered lower. In this context, safety culture continues to play an important role, and efforts to examine and strengthen it remain valuable. However, the utility derived from formal safety culture

¹³ In the last 15 years, California has experienced catastrophic events from utility infrastructure associated with underground gas storage facilities (Aliso Canyon), gas utility (San Bruno Explosion) and electric utility infrastructure.

¹⁴ Foundational work includes: Perrow, C. (1984) “Normal Accidents: Living with High-Risk Technologies”; Weick, K., & Sutcliffe, K. (2007) “Managing the Unexpected: Resilient Performance in an Age of Uncertainty”; Roberts, K. (1990). “Managing High Reliability Organizations.”; Reason, J. (1997) “Managing the Risks of Organizational Accidents”; Hopkins, A. (2005) “Safety, Culture and Risk: The Organizational Causes of Disasters”;

assessments may vary. In smaller entities, technical constraints, limited capacity, and resource availability may exert a greater influence on safety outcomes than cultural factors alone. Accordingly, the relevance of safety culture in small organizations may be most pronounced in how leadership and staff recognize and manage these limitations — particularly in the development of informal practices, adaptations, or workarounds that can either mitigate or inadvertently increase risk.

3.2.2 Considerations and challenges for small organizations

Beyond the question of the inherent value of safety culture assessments for small organizations, Nov. 18 Workshop discussions identified several additional considerations relevant to evaluating their applicability and design for Phase 2 Utilities. These considerations are discussed further below.

3.2.2.1 *Scale and Anonymity*

During the Nov. 18 Workshop, the safety culture expert cautioned participants about the limitations of survey-based methods in small organizations.¹⁵ Consistent with academic literature and practitioner guidance, survey instruments were described as having inherent limitations, particularly in organizations with small employee populations. First, positive survey results do not necessarily indicate low safety risk or a strong safety culture—a limitation that applies across organizations of all sizes. Second, when the workforce falls below a certain level (e.g., 50 employees) - survey reliability diminishes significantly due to statistical noise and reduced anonymity.¹⁶ In small organizations, the limited number of respondents can compromise the validity of aggregate results and may inhibit candid feedback, thereby reducing the overall utility of survey-based assessments.

3.2.2.2 *Cost and Resource Constraints*

Concerns regarding cost and resource constraints were consistently raised by participants at the Nov. 18 Workshop and reflect genuine limitations faced by Phase 2 Utilities, and small organizations in general.

¹⁵ Dr. Mark Fleming also described complementary tools used in assessments, including: (1) employee perception surveys, which collect anonymous feedback on safety attitudes and behaviors across the workforce; (2) interviews and focus groups, which allow deeper exploration of employee experiences, leadership messaging, and organizational norms; (3) direct observations of work practices, which assess how safety is implemented in day-to-day operations; and (4) document and artifact review, including policies, procedures, training materials, and incident records; Dr. Fleming emphasized that effective safety culture assessments typically use a combination of these methods, as reliance on a single tool may provide an incomplete view of organizational safety culture.

¹⁶ While no universal threshold exists, regulatory guidance and academic literature on survey methodology consistently indicate that surveys are not useful as quantitative tools in small populations, due to three main constraints: minimum respondent counts needed for stable estimates (approx. 20), minimum group sizes needed for reliable group-level climate measures (approx. 20-30 per group), anonymity requirements in organizational surveys (approx. 5-10 per subgroup). Participation rates also need to be considered to ensure a representative view of the workforce is achieved, i.e. 70% or higher to support credible interpretation. Together means that surveys become increasingly difficult to interpret in organizations with fewer than roughly 40-50 personnel.

Third-party safety culture assessments as envisioned for large IOUs are generally designed for large, complex organizations and can be prohibitively expensive for smaller entities. While the models, in theory, may be scaled to reflect the size, structure, and resource constraints of Phase 2 Utilities, practical implementation presents challenges. Identifying qualified third parties willing to conduct smaller-scale assessments may prove difficult, and associated costs may remain prohibitive despite efforts to tailor scope. Accordingly, there is a reasonable basis for skepticism that simply adapting or downsizing frameworks developed for large IOUs will provide value that outweighs the cost.

3.2.2.3 *Contractors*

The Phase 2 Utilities report that contractors frequently perform safety-critical functions on behalf of utilities, including engineering, construction, maintenance, and inspection activities.

Nov. 18 Workshop discussions noted that capacity constraints are a common challenge for Phase 2 Utilities. Limited organizational capacity highlights the potential risk contractors present as capacity may constrain the ability to provide robust oversight of contractor performance. The subject-matter expert cautioned that contractor management can pose a material risk, especially when internal resources for supervision, verification, and quality assurance are limited.

Phase 2 Utilities may also experience limited leverage in their contracting relationships.¹⁷ In many cases, contractor availability is constrained, and contractors may hold greater bargaining power, which can reduce a small utility's ability to impose or enforce preferred safety practices and oversight expectations. Yet contractor personnel, in some cases, make up a large share of the Phase 2 Utilities' workforce while performing safety-critical work.

3.2.2.4 *Other relevant differences*

Small utilities may possess several strengths that support the development of a positive safety culture, as identified at the Nov. 18 Workshop; however, these same characteristics can also create vulnerabilities if not carefully managed.

Advantages commonly associated with small utilities include:

- More direct and faster communication channels;
- High visibility and accessibility of leadership; and
- The ability to adapt and implement changes more quickly due to fewer organizational layers.

¹⁷ While this dynamic is not unique to small organizations, it is often more pronounced. Over the last decade, large IOUs have faced contractor constraints due to increased demands for infrastructure and maintenance improvements following major incidents (e.g., San Bruno, Aliso Canyon, Paradise).

At the same time, these features can give rise to risks that are more pronounced in smaller organizations, including:

- Over-reliance on key individuals whose knowledge or judgment may not be easily replaced;
- Limited redundancy in staffing, systems, and expertise; and
- Challenges in addressing performance or safety concerns where close personal relationships may complicate accountability.

This final point underscores the significant role interpersonal dynamics play in shaping safety culture in small organizations. Strong personalities, close working relationships, and long-standing ties may inadvertently suppress dissenting views or discourage employees from raising concerns, particularly where formal reporting structures are limited or where roles overlap.

Accordingly, while small organizational scale can facilitate agility and cohesion, it can also concentrate risk in ways that require deliberate management attention.

3.2.3 Key Considerations for Staff Proposal

Workshop discussions, formal written stakeholder input, subject matter expert insights, and relevant academic and practitioner literature provided theoretical and empirical context supporting a proportional, complexity-sensitive approach to safety culture assessments in Phase 2.

The proceeding's engagement has underscored several principles that guide the development of the Staff's proposal, as follows:

1. While safety culture remains relevant across all organizational sizes, the mechanisms through which it influences risk—and the methods appropriate for assessing it—differ meaningfully between large IOUs and the Phase 2 Utilities.
2. Phase 2 Utilities should still meaningfully consider how their organizational cultures influence risk management—both in terms of effectiveness and operational efficiency. Even where formal structures are limited, cultural factors shape decision-making, prioritization, and the handling of constraints.
3. A one size-fits all approach is not appropriate for the Phase 2 Utilities. Assessment approaches for small utilities must be flexible and scalable. A uniform model designed for large, complex organizations is unlikely to be proportionate or effective without adaptation.
4. The variation amongst Phase 2 Utilities highlights the importance of a scalable safety culture assessment framework that accounts for differences in organizational complexity.
5. While external expertise can provide valuable perspective and credibility, assessment processes for Phase 2 Utilities should be simplified, tailored to organizational context, and proportionate to available resources and risk exposure.

6. The regulatory approach should emphasize influence, organizational learning, and accountability for continuous improvement, rather than relying solely on prescriptive requirements for compliance or certification.

Consistent with these principles, the proposal discussed in this report is designed to balance:

- Value and flexibility, ensuring that assessments are meaningful without being burdensome;
- Resource availability, recognizing the technical, staffing, and financial constraints of small entities; and
- Risk and safety considerations, maintaining focus on the prevention of catastrophic events and the protection of the public.

As a result, Staff proposes adapting the framework adopted in Phase 1 for application to Phase 2 Utilities. Section 4 discusses the elements to be preserved, and Section 5 discusses the modifications.

4 Components of the Large IOU Framework to Retain for Small SMJUs and Storage Operators

Staff propose adopting the following components from the Safety Culture Assessment Framework adopted in Phase 1:

- Objectives (with reframing)
- Goals and Guiding Principles
- Definitions
- 10 Traits Normative Framework

4.1 Objective of Assessments

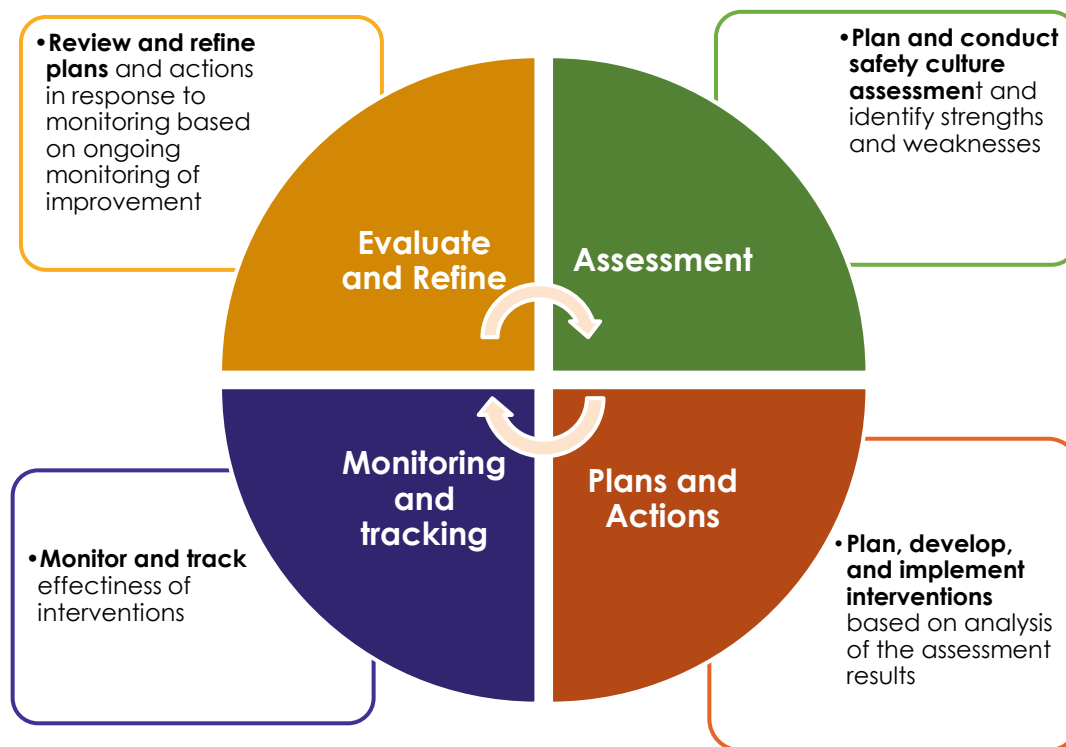
The objective of assessments for Phase 2 Utilities should be to enable each utility to understand why certain patterns exist and how its organizational culture influences risk management. Doing so should support utilities in taking informed, intentional actions to continuously improve safety and culture within their specific operating context. The objective would be achieved through deliberate leadership reflection, with particular emphasis on identifying and examining the underlying assumptions that shape behaviors and decision-making.¹⁸

Although this objective is not fundamentally different from that of assessments conducted for large IOUs, this framing is intended to better contextualize the effort within the day-to-day work and operational realities of small utilities.

Creating and sustaining a positive safety culture requires continuous and intentional effort. Similar to large IOU expectations, the purpose of Phase 2 utility assessments should be viewed not as an end in itself, but as a means to guide an improvement process.¹⁹ Likewise, the process proposed here should not be viewed solely as a compliance exercise that will ensure a positive safety culture, but rather a part of a safety culture toolkit utilities should employ in the continued improvement process, as promoted by D.25-01-031 and illustrated in **Figure 2** below:

¹⁸ Edgar Schein’s model of organizational culture highlights that the most influential drivers of behavior are “underlying basic assumptions”—deeply embedded, often unconscious beliefs about how work is done and what is prioritized—which shape decisions and practices beyond formal policies or stated values. See Dr. Mark Fleming’s presentation at Nov 18 Workshop https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-policy-division/meeting-documents/fleming-safety-culture-small-organizations-slidedeck_111825.pdf

¹⁹ Phase 1 Staff Proposal at 18.

Figure 2: Utility Safety Culture Continuous Improvement Cycle²⁰

4.2 Safety Culture Assessment Goals and Guiding Principles

Staff proposes that the Commission adopt, for SMJUs and Storage Operators, the same safety culture assessment goals and guiding principles established in D.25-01-031 for the large IOUs, as included in Appendix B.

In Phase 1, the Commission adopted safety culture assessment goals and guiding principles to serve as parameters for collaborative engagement and implementation of the Safety Culture Assessment Framework. These are intended to promote systemic, organization-wide, continued improvement in utility safety culture, moving beyond compliance to drive improvements in safety performance. The overarching goal is to ensure that safety is embedded as a core organizational value—reflected not only in policies and procedures, but in leadership behavior, governance practices, risk management decisions, and day-to-day operations. Additionally, multiple parties agreed that the goals and guiding principles established in D. 25-01-031 were

²⁰ See D.25-01-031, Appendix A.

appropriate to apply to Phase 2 entities as long as the underlying process was adapted to account for differences in organizational characteristics compared to the large IOUs addressed in Phase 1.²¹

These goals and principles align with the vision and principles laid out in the Commission’s Safety Policy²² and are grounded in established safety culture research and regulatory practice. Maintaining the same goals and guiding principles in Phase 2 will:

- Ensure consistency in expectations across all jurisdictional utilities;
- Promote alignment among large IOUs, SMJUs, storage operators, the CPUC and other stakeholders in their understanding of what constitutes effective engagement with respect to implementation of the Safety Culture Assessment Framework;
- Facilitate building shared understanding and purpose across entities, while still allowing proportional scaling of assessment tools; and
- Reinforce that the emphasis on safety culture is directed toward preventing catastrophic events affecting the public—not solely occupational safety incidents²³—and toward driving continuous safety improvement beyond regulatory compliance. This includes affirming utility ownership and leadership accountability, supported by ongoing learning and collaboration, irrespective of the utility’s size.

4.3 Definitions

Staff recommends that the definitions adopted in D.25-01-031 for large IOUs apply equally in Phase 2 to SMJUs and Storage Operators.

D.25-01-031 established foundational definitions to ensure a common understanding of safety culture across regulated entities and to provide clarity regarding assessment expectations. These definitions reflect established literature and regulatory practice, including stakeholder engagement during Phase 1.

²¹ See CASMU Opening Comments on Party Proposals at 2-3; Cal Advocates Opening Comments on Party Proposals at 1; SBUA Opening Comments on Party Proposals at 2; Central Valley Comments on Phase 2 Workshop on Safety Culture Assessments at 3.

²² Safety Policy Statement of the California Public Utilities Commission: [visionzero4final621014-5-2.pdf](#); “achieve a goal of zero accidents and injuries across all the utilities and businesses we regulate”, “Promote a culture of safety vigilance by CPUC staff, and in the industries we regulate”, and “Learn from experience and continuously improve safety oversight and outcomes”.

²³ Historically the utility sector has focused on occupational or personal safety, which does not necessarily correlate with preventing low-probability, high consequence operational events. Since the adoption of the Phase 1 framework, additional work has continued to support the importance of strengthening California utility safety culture efforts with respect to preventing low-probability high consequence events. See Gridworks Consulting, *Beyond Fire Hardening: A Framework for Utility Wildfire Safety Culture*, prepared for the California energy sector (2023) at 6-8.

The Commission adopted definitions include:

- Safety – the prevention of harm to people, the environment, and assets, encompassing the safety of workers, members of the public, and operational process safety.
- Safety culture – the collective set of values, principles, beliefs, norms, attitudes, behaviors, and practices that an organization’s leadership, employees, and contractor personnel share with respect to risk and safety.

These definitions ensure that:

- Safety is considered in its broadest sense, extending beyond occupational health and safety to encompass all dimensions relevant to safety, including public safety.²⁴
- Contractor personnel are explicitly recognized as part of the workforce, acknowledging their contribution to overall risk and safety outcomes.
- Safety culture is clearly defined as the collective intangible elements shared across the workforce—such as values, principles, beliefs, and norms—distinct from the tangible safety practices, policies, and procedures that are often mistakenly equated with safety culture.

Maintaining these same definitions in Phase 2 will promote consistency and coherence of the Commission’s objectives to further safety culture across the regulated entities.

4.4 Normative Framework: the 10 Traits

Staff proposes applying the same safety culture normative framework established in D.25-01-031 - included as Appendix C in this report – for Phase 2 Utility assessments, with proportional scaling of assessment methods as appropriate to organizational complexity as discussed in Section 5.1.

The normative framework adopted in Phase 1 is based on the United States Nuclear Regulatory Commission (USNRC) Safety Culture Common Language. This framework consists of ten traits that serve as the structured basis for assessing a utility’s safety culture. The CPUC determined that this framework provides overarching principles and attributes that characterize organizations with a healthy safety culture and that it supports systematic, consistent evaluation across entities.

²⁴ Similar distinctions between occupational safety and process or operational safety have long been recognized in high-hazard industries. See U.S. Chemical Safety Board, Investigation Report: BP Texas City Refinery Explosion and Fire (2007) (“Baker Panel Report”), noting that strong personal safety performance can coexist with significant process safety risk; see also Center for Chemical Process Safety (CCPS), Guidelines for Risk Based Process Safety (2007), describing process safety as focused on preventing catastrophic releases or system failures rather than individual injuries. These recognitions coupled with the California utility industry’s historical focus on occupational safety (see previous footnote) demand safety culture assessment scopes be explicitly broadened beyond occupational safety for all utilities, including Phase 2 Utilities.

The normative framework consists of traits and attributes. The ten traits—such as Leadership Safety Values and Actions, Problem Identification and Resolution, Personal Accountability, Continuous Learning, and Decision Making—describe high level organizational characteristics that are equally relevant in small, medium, and large utilities. Organizational scale may influence how these traits manifest, but it does not alter whether they are foundational to a healthy safety culture. The attributes under each trait contain operational language describing how the trait manifests. While the attributes are still broadly applicable to organizations of any size, they should be interpreted in ways that reflect the organization’s scale and governance structure. For example, interpreting them in a manner that is aligned with the level of system formality that is commensurate with the organization’s size.²⁵ This means that the examples associated with each trait may differ for smaller organizations, and that a separate, focused effort to develop examples specific to SMJUs and Storage Operators may be beneficial.²⁶

Applying the same normative framework in Phase 2 will:

- Promote consistency in regulatory expectations across all jurisdictional entities;
- Avoid fragmentation or the creation of multiple conceptual standards for safety culture;
- Reinforce a shared understanding of safety culture regardless of organizational size;

While Staff proposes using the same normative framework, this does not require identical implementation approaches, as outlined in Section 5.1. However, the underlying traits and expectations should remain consistent.

²⁵ For small utilities the same attributes may need to be interpreted through simpler or less formal organizational arrangements where responsibilities, oversight, and decision-making are carried out by a small number of individuals rather than specialized functions or multiple management layers.

²⁶ D.25-01-031 tasked the Utility Safety Culture Working Group with developing examples of the 10 traits for the large IOUs.

5 Framework Modifications for SMJUs and Storage Operators

Staff propose using a scalability framework to tailor safety culture assessments to the complexity and risk context of the utilities subject to Phase 2 of this proceeding, and simplified reporting.

5.1 Scaling of Assessments for Small Utilities

While safety culture is still relevant in small organizations, small utilities differ materially from large IOUs in organizational structure and size, staffing capacity, and available resources (see Section 3). Therefore, the mechanisms (how culture forms, how safety is managed day to day, and what tends to fail) can look different because many small organizations run on informality, tight resources, and concentrated leadership influence. This directly affects the nature of the role of safety culture and how it can be effectively assessed and improved.

Accordingly, any safety culture assessment framework for small entities must be scalable to organizational size, capacity, and risk. To remain meaningful, the framework should emphasize learning, reflection, and continuous improvement rather than compliance; and rely on low-cost, capacity-building tools that are feasible for small-utility implementation.

5.1.1 Scaling Based on Organizational Complexity using Workforce Size Thresholds

Staff propose scaling safety culture assessments based on each entity's workforce size as a proxy for organizational complexity, thereby more closely tailoring assessments for each entity's context.²⁷ Staff recognize that small entities face particular constraints related to capacity and resources compared to larger, more organizationally complex entities for whom culture may exert a greater influence on safety practices and outcomes than for the entities considered in Phase 2. For instance, Central Valley notes that its facility has only 13 onsite employees and an additional 3 employees at its corporate office, far fewer than even the "over 700 people" directly engaged for the SoCalGas and Semptra Energy Independent Safety Culture Assessment, which itself equates to approximately 10 percent of the underlying employee population being assessed.²⁸ **Figure 3** below depicts the proposed scaling mechanism, which is further described and summarized under **Table 2**. Because organizational complexity, and the corresponding influence of safety culture may be represented as varying along a continuum, the size thresholds should serve as guidance rather

²⁷ While organizational complexity is multi-dimensional, Workforce size provides a practical starting-point proxy for the purpose of determining assessment tools.

²⁸ Opening Comments of Central Valley on Party Proposals at 8.

than strict prescriptive requirements, with flexibility retained to address other relevant, context-specific factors as they may arise. The thresholds represent approximations intended to guide.

Figure 3: Safety Culture Assessment Scaling for Small Utilities

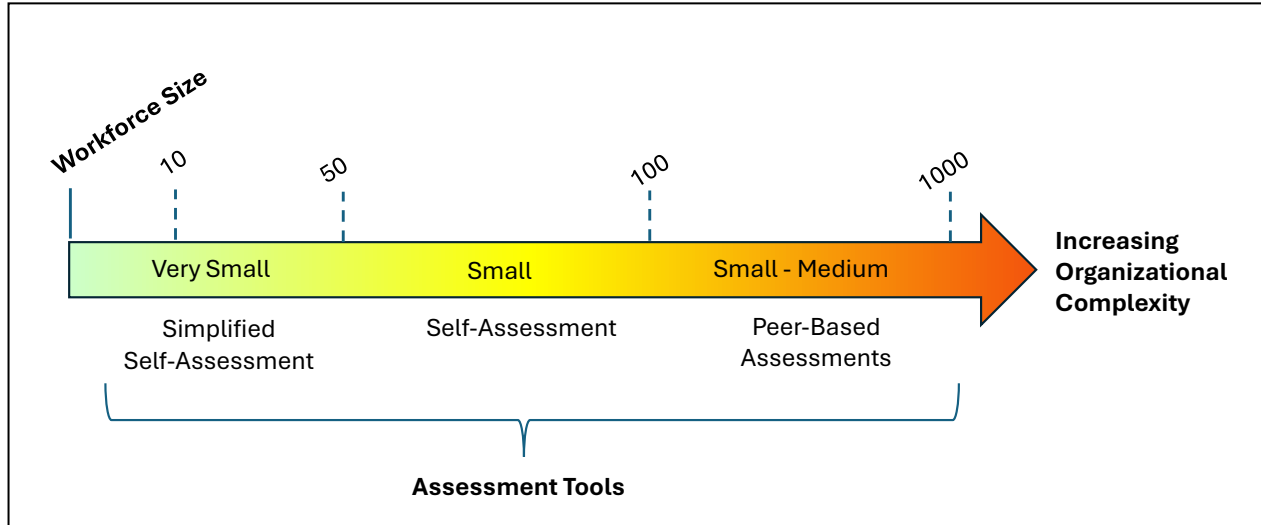


Table 2 below summarizes the assessment parameters for Phase 2 based on the scaling proposed for SMJUs and Storage Operators. For the smaller entities – i.e. a workforce of under 100 – Staff proposes using self-assessments with varying levels of rigor and tools. For small to medium utilities - i.e. 100 or more - a peer-assessment approach is proposed. As described in Section 5.1.2, these thresholds include an estimate of the number of contractors utilized by an entity.

Table 2: Summary of Safety Culture Assessment Scaling for SMJUs and Storage Operators

Effective Workforce Size	Very Small		Small	Small-Medium	
	< 10	Approx. 10 - 50	Approx. 50 - 100	Approx. 100 +	
Assessment Objective	The objective of the assessment is to evaluate how safety culture influences safety risk management, using structured leadership reflection to examine underlying assumptions.				
Observations on Cultural Relevance	Culture still has impact on risk, but risk is likely largely driven by capacity, technology, and resources.			Culture begins to influence risk management more clearly.	
Relevant Characteristics	Decision-makers are likely familiar with most individuals in the workforce.		Decision -makers may increase reliance on “filtered” views as supervisory roles increase.	- Distance between decision-makers and frontline workers increases with heavier reliance on middle management, yet informal norms potentially still compensate for lack of resources and capacity. - Large enough for culture to materially impact risk, but possibly too resource-constrained to effectively implement a full-scale external assessment, particularly at the lower end category.	
Data Collection	Ideally one method from each of the three categories (Table 3), but of minimum two methods total (Categories 2 and 3 in Table 3). No surveys recommended.		At least one method from each of the three categories (Table 3). Surveys viable.	Ideally all five methods, but at least one from each of the three categories (Table 3).	
Assessment Tools	Simplified self-assessment.	Simplified self-assessment. Surveys not recommended or strictly limited to gathering qualitative insights.	Self-assessment + confidentiality-capable feedback collection (survey).	Peer-Based Reviews	
Frequency	Annually; assess all 10 cultural traits within a five-year period (i.e. 2 per year).			Every 3-4 yrs.	Every 3-4 yrs
Reporting	Annual information-only filing				

5.1.2 Effective Workforce Size

To account for the potential contractor dependence that was identified as a cross-cutting cultural risk (see Section 3.2.2.3), the effective workforce (EW)²⁹ size would consist of a compound sum of two variables:

²⁹ For SMJUs operating across states, the workforce headcount should include personnel whose decisions, behaviors, or organizational influence or can affect the safety performance of California-regulated operations. This includes California-based

1. Core headcount (CH): direct employee headcount, and
2. Average number of contractor personnel (CP) engaged over a year (or peak season average, whichever is greater) performing work with potential to impact safety, over a three-year period.

5.1.3 Data Collection Methods

Data collection methods for safety culture assessments can be grouped into three broad categories, as shown in **Table 3**. The methods identified in Phase 1 included:

- Interviews
- Focus Groups
- Surveys
- Worksite/Meeting observations
- Review of documentation, policies, procedures, processes, and system outputs

Because each individual method has inherent limitations, the comprehensive assessment for large IOUs applies all five methods. This allows the strengths of one method to compensate for the weaknesses of another and enables comparison of findings across methods to identify areas of convergence and divergence. The combined use of methods provides a more accurate and balanced understanding of the organization's safety culture.

Table 3: Safety Culture Assessment Data Collection Categories and Methods

1. Perceptual = "What people think"	2. Observation = "How work is actually done" or "safety culture in action"	3. Documentation Analysis = "Work as imagined/planned"
• Interviews • Focus Groups • Surveys	• Worksite/Meeting observations	• Review of documentation, policies, procedures, processes, system outputs (i.e. events, near-misses etc.), etc.

operational personnel and non-California personnel who exercise engineering, operational, managerial, or executive authority over activities impacting California infrastructure (e.g. system operations centers, corporate engineering groups, risk management and safety departments, asset management groups, executive leadership, and shared service groups).

5.1.3.1 Different Mix of Data Collection Methods for SMJUs and Storage Operators

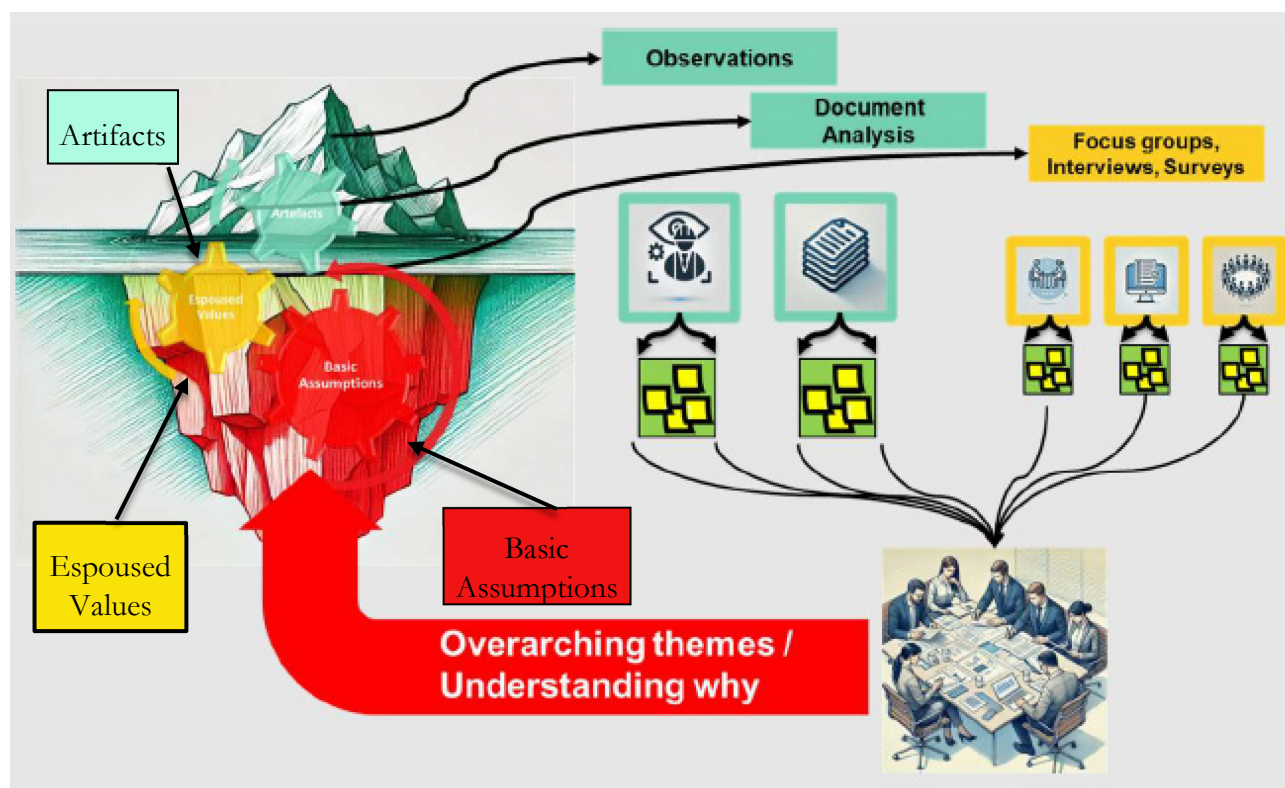
The relative size and operational scale of Phase 2 Utilities support a more proportionate approach with a different mix of data collection methods. For these entities, Staff proposes application of at least one method from each category, for a minimum of three total methods, rather than the full five adopted for large IOUs. Specifically, this would entail conducting at least one of the three items categorized as “Perceptual,” meaning interviews, focus groups, or surveys, as well as conducting worksite/meeting observations and documentation analysis. This approach balances methodological rigor with resource efficiency while preserving the overall integrity and usefulness of the assessment.

Additional flexibility may be appropriate for the smallest Phase 2 Utilities (i.e., those with fewer than 50 workers). For these organizations, Staff proposes application of at least two methods, selected based on organizational context and structure. In such cases, direct observation of work (Category 2) and documentation analysis (Category 3) should be prioritized over perceptual methods, as smaller workforce sizes may limit the reliability and added value of perception-based data.

Medium-sized utilities (i.e., with a workforce greater than 100 employees) should make reasonable efforts to implement all five methods, particularly those at the upper end of the size range, to ensure sufficient breadth and depth of evaluation proportionate to the increased organizational complexity.

The proposed approach would retain the same data collection structure used for large IOU assessments, as illustrated in **Figure 4** below. Similarly, assessments should not rely primarily on perception-based or survey-led methods, regardless of workforce size.³⁰

³⁰ As cautioned in the Nov. 18 Workshop perception-based assessments rely on perceptions which only capture expressed views rather than underlying assumptions. These deeper cultural drivers may not be visible through perception surveys or self-reported attitudes explaining why surveys can create a misleading impression of safety performance (i.e. an organization receiving overly positive scores even where significant risks remain). Quantitative scores from surveys can also oversimplify complex cultural dynamics and should not be interpreted as “how strong” a safety culture is. Cultural characteristics are multifaceted and cannot be reliably reduced to a single index or score, relying on quantifications can result in a false sense of security and complacency.

Figure 4: Safety Culture Assessments for Phase 2 Utilities; Source, Dr. Mark Fleming Nov 18 Workshop³¹.

5.1.4 Self-Assessments

Across high-hazard industries—including nuclear, aviation, oil and gas, rail, and healthcare—self-assessment is recognized as a legitimate tool for effective safety management.³² In self-assessments, the organization evaluates itself rather than relying on an external team to do so. This enables continuous monitoring rather than infrequent external reviews, supports organizational learning and ownership of safety improvement, and is cost-effective, especially for smaller organizations. Their use is supported primarily for learning and early identification of risk factors, rather than as a standalone assurance or certification mechanism. In the context of safety culture, the value of insights from assessments depends on the level of openness and reflection; if participants withhold concerns or hesitate to speak openly, important risks may remain hidden.

³¹ Available at [Microsoft PowerPoint - Safety culture assessment in small organizations](#)

³² Example organizations include the Federal Aviation Authority, International Atomic Energy Agency, the UK's Rail Safety and Standards Board and Standards, Organization for Economic Co-operation and Development, the UK's Health and Safety Executive, amongst others. In most high-risk industries, Safety Management System frameworks explicitly require organizations to periodically evaluate the effectiveness of their safety management practices through internal reviews or self-assessments.

While both internally and externally led assessments have their own advantages and disadvantages³³, some key considerations regarding the potential value of safety culture self-assessments include:

- They are generally well-suited to smaller or less complex organizations where leadership maintains close engagement with day-to-day operations.
- When properly implemented, self-assessments can strengthen internal ownership and organizational capability, reduce reliance on external consultants, and support long-term cost sustainability.
- Self-assessments are most effective when conducted in a non-punitive, learning-oriented environment; if perceived as evaluative or disciplinary, the quality and reliability of information obtained may be reduced.

5.1.4.1 Safety Culture Self-Assessments for SMJUs and Storage Operators with a Workforce fewer than 100.

Staff proposes using self-assessments as the assessment tool for Phase 2 Utilities with a workforce of fewer than 100.³⁴ For small organizations where leadership remains close to day-to-day operations, self-assessments provide a proportionate and scalable alternative to external assessments which can be cost-prohibitive for small utilities.

Very Small Utilities (Workforce <50)

At the smaller end of the spectrum, leadership is close to operations, yet capacity is limited. Smaller organizations may use simplified methods while still achieving meaningful reflection. For instance, Gill Ranch emphasizes that it has an existing self-assessment process that can provide an objective and effective evaluation of safety culture while allowing the process to be tailored to the company's unique characteristics.³⁵ Data collection primarily relies on targeted interviews or conversations, observation of work practices, and review of indicators such as incidents, near misses, and corrective actions, amongst others. Surveys are to be strictly avoided due to their decreased reliability at this scale.

- **For the smallest utilities (workforce fewer than 10)**, a self-assessment at this scale relies on a more limited set of qualitative data sources. In practice, this may resemble a structured self-reflection conducted by the most senior leader, informed by discussions with employees, direct observation of work activities, and review of events and near-misses. While it is appropriate to leverage existing organizational activities and information, i.e. management reviews, the

³³ See the Canadian Energy Regulator's Safety Culture Assessment Guidance for advantages and disadvantages external and internal assessments, available at [Safety Culture Assessment Guidance](#)

³⁴ Based on Appendix A, we estimate that all Storage Operators and the two smallest gas utilities – Alpine and West Coast Gas – would fall under this category.

³⁵ See Opening Comments of Gill Ranch Storage on Party Proposals at page 3.

assessment must retain a structured approach. For example, the cultural traits identified in the normative framework should be used as intentional prompts to guide discussion and reflection.

- **For utilities with 10–50 employees,** the volume and diversity of qualitative inputs are expected to increase. Although administering a formal survey for purposes of this assessment should still be avoided, existing surveys conducted for other purposes (e.g., a parent company employee survey) may be considered. In such cases, only the qualitative components (i.e. open responses)—and only to the extent that the content is relevant to cultural reflection on safety—should be used to inform the assessment.

Small Utilities (50-100)

At this scale, data collection is larger, and leadership distance from the frontline increases. Leadership familiarity with all workforce individuals is reduced. Utilizing surveys as one of the multi-method data inputs is viable, in addition to the other methods listed in **Table 3**. External support, such as dialogue facilitation, is strongly encouraged.

Frequency and Scope

Given the small organizational size of these utilities, safety culture self-assessments can be conducted as a proportionately simplified effort, even when multiple qualitative data collection methods are expected. At this scale, a lightweight but regular and frequent cadence is likely to provide greater overall benefit than infrequent, more resource-intensive reviews. Regular structured reflection is considered to support continuous improvement and reduce the risk that cultural issues remain unexamined for extended periods.

Accordingly, Staff recommends that the small utilities conduct simplified self-assessments as follows:

- on an annual basis;
- with a reduced scope to minimize burden; and
- focused on a limited subset of traits annually (e.g., two traits per year), provided that all ten traits are evaluated over a cycle not to exceed five years, rather than assessing all ten safety culture traits each year.

This approach is intended to balance consistency, regularity, and proportionality while ensuring comprehensive coverage over time.

Initial Process Support:

Additional safety culture self-assessment guidance and outreach activities would be necessary to support implementation and internal capacity-building at the SMJUs and Storage Operators. The International Atomic Energy Agency's (IAEA's) self-assessment guidance methodology can be used as a starting point for adapting to small utilities; its principles are broadly applicable to other high-reliability and safety-sensitive

industries, while remaining aligned with the systemic, learning, and continued improvement emphasis of the goals and principles adopted for the large IOUs and recommended for SMJUs and Storage Operators.³⁶

At least initially, utilities performing self-assessments would benefit most from a hybrid approach, by supplementing the internally led assessment with an external resource that is not embedded in the existing culture, such as an external subject matter expert, that can offer a neutral perspective.³⁷ This approach can also mitigate the risks identified by Cal Advocates that self-assessments may fail to detect safety culture deficiencies by incorporating a neutral external viewpoint to challenge potential cultural blind spots that develop over time as member of the community.

Ongoing Monitoring

Given the proposed annual cadence of self-assessments, a separate monitoring mechanism in between assessments—such as the interim improvement self-evaluations required of large IOUs—would not be necessary, provided that each self-assessment includes evaluation of implemented improvement actions against their stated objectives.

5.1.5 Peer-Review Model

Peer-based review models generally refer to evaluation processes in which professionals from comparable organizations collaboratively assess each other's practices, systems, and performance to identify strengths, risks, and opportunities for improvement. Peer-reviews are used in several high-risk industries, including nuclear, railways, healthcare, highways, and gas, amongst others. Within the natural gas industry, the American Gas Association, has promoted peer-based learning and review through initiatives supporting implementation of API Recommended Practice 1173 Pipeline Safety Management Systems (PSMS), where participating operators review each other and exchange best practices to enhance safety, security, and operational efficiency. Over 160 peer reviews and virtual assessments covering over 385 topics have been conducted, focusing on safety culture, infrastructure, and cyber/physical security. The program acts as a continuous improvement mechanism, with the peer-to-peer structure designed to help gas operators improve upon "check the box" compliance.

With respect to safety culture assessments, peer-based models can help evaluate the cultural patterns and organizational norms that influence safety outcomes. By incorporating experienced peers who understand operational realities, these reviews can generate more practical, trusted insights and encourage openness, learning, capacity building, and continuous improvement across organizations and industries. To prioritize continued improvement, these peer reviews emphasize shared learning and non-punitive feedback.

³⁶ "Performing Safety Culture Self-Assessments" by IAEA, [STI/PUB/1682](#).

³⁷ Canadian Energy Regulator's Safety Culture Assessment Guidance [Safety Culture Assessment Guidance](#) at 7.

5.1.5.1 Peer-Review Process in Railways

The European Union Agency for Railways (ERA) Safety Culture Peer Review program is a voluntary initiative designed to support the evaluation and development of safety culture across European railway organizations.³⁸ Developed by ERA and coordinated by the International Union of Railways (UIC), the program is based on the ERA Safety Culture Model and uses peer reviewers from other railway organizations to conduct structured reviews. The program was informed in part by peer-review approaches used in other high-hazard industries, including the World Association of Nuclear Operators (WANO) peer review program.³⁹

Under the ERA program, reviews are conducted by trained peer reviewers drawn from other railway organizations who participate in formal training to support consistent application of the methodology. The program operates on a voluntary, non-regulatory basis. UIC coordinates participation and logistics, while ERA maintains the methodology and supports training. Reviews typically involve a structured, multi-day on-site engagement during which the peer team conducts interviews, observations, and discussions focused on leadership practices, organizational behaviors, and the functioning of safety management systems. The process does not include scoring, grading, or compliance determinations.

Following the review, the assessment team prepares a report that is provided confidentially to the host organization. Since pilot reviews began in 2019, the program has been applied to multiple railway organizations with differing sizes and organizational structures. Publicly available program information indicates that at least nine European railway organizations have undergone peer reviews to date.

5.1.5.2 Peer-Review Process for Medium sized Utilities (Workforce 100+)

As complexity increases, safety culture plays a more significant role in shaping risk. With increased structural layers, the distance between decision-makers and frontline personnel also increases, reducing direct visibility into day-to-day operations. At certain scales, however, utilities may not yet have sufficient internal resources, capacity or formal systems to manage these risks comprehensively. At this “transition” zone, cultural blind-spots become a greater threat than in smaller/less complex utilities, yet resources and capacity are still

³⁸ Additional information available at: [*Safety Culture Assessment & Peer Review | European Union Agency for Railways*](#).

³⁹ WANO operates a global peer review program in which nuclear power plant operators participate as a condition of WANO membership. Established in 1989 following the Chernobyl accident, WANO was created to promote nuclear safety through industry-led collaboration and mutual accountability. Under the programme, nuclear plants undergo comprehensive peer reviews approximately every four years conducted by multidisciplinary teams of experienced professionals drawn from other nuclear operating organizations worldwide. Because the global nuclear operating community participates collectively in WANO, reviewers may come from companies that operate plants in different markets and, possibly compete in electricity generation. Reviews are non-regulatory and confidential, and participants are bound by strict confidentiality requirements. Participation in the review cycle and follow-up activities is expected for WANO members as part of the organization’s peer accountability framework.

limitations at this scale. Southwest Gas in particular highlighted in comments the value of an existing voluntary peer review program for gas utilities.⁴⁰

Recognizing the importance of this transitional stage, Staff recommends implementing peer-review assessments for SMJUs with a workforce of 100 or more.⁴¹ At this scale, structured input from external sources —i.e. peers who are not embedded in the host organization’s culture as is done with the ERA Peer-review program — can provide meaningful challenge to potential cultural blind spots while remaining proportionate to organizational resources and capacity. By leveraging peers, this approach can:

- Reduce reliance on external consultants and limit direct cost impacts; by enabling utilities to build internal capability through participation in peer reviews, reliance on consultants will be reduced both for conducting assessments and designing, implementing, and monitoring meaningful safety improvement initiatives over time.
- Strengthen internal capability and support long-term sustainability of safety culture efforts; and
- Promote shared learning and collaboration among similarly situated utilities.

Staff recommends developing a peer assessment review program for SMJUs with a workforce size of 100 or more. The proposed program would include the following key features:

- **Participation:** mandatory; due to the limited number of SMJU’s with workforce of 100 or more,⁴² the program would require mandatory participation to ensure sufficient participants.⁴³
- **Coordination:** CPUC and SMJUs. In the absence of an industry or professional organization that represents the SMJUs, the CPUC and the SMJUs would need to coordinate directly timing and logistics for the assessments.
- **Delivery mechanism:** host utility receives team of assessors to conduct assessments, over a period of a few days to a week.
- **Peer-review team composition:** manager/professional in utility safety; peer reviewers would be multidisciplinary team of safety, operations, engineering and/or management professionals selected to provide complementary expertise (e.g. operations, maintenance, leadership, SMS). Methodology support, as necessary by CPUC Staff alongside external partner (see training, below).
- **Output:** assessment report of host utility with findings and recommendations available to CPUC Staff upon request; summary of report filed with the CPUC (see Section 5.3).

⁴⁰ See Opening Comments of Southwest Gas on Party Proposals at A-4.

⁴¹ Storage Operators are not mentioned since their Effective Workforce Size is unlikely to reach a headcount of over 100.

⁴² Based on the Appendix A Staff estimates four SMJUs consisting of three electric – Bear Valley, Liberty and PacifiCorp – and one gas – Southwest Gas – may be eligible for peer-reviews.

⁴³ Although ERA program is voluntary, the WANO program is mandatory as a condition of membership.

- **Training:** supported by CPUC, ideally in partnership with a third-party organization for deeper subject matter expertise.
- **Independence:** maintains functional independence through peer reviewers that are external to the organization -i.e. do not report to or have operational authority within the host organization, and findings are not controlled by host organization. Independence of process strengthened through program safeguards like consistent training and clear methodological guidance.

Initial Process Support

Initially, the process would require direct CPUC support to develop basic assessment guidance, training, and guided practice⁴⁴ with active involvement from the Phase 2 Utilities in question. If necessary, additional support could be offered in partnership with an academic institution and/or expert practitioner. While the financial cost for the partnership contract would represent an initial start-up cost, the investment in expertise would ultimately reside within each utility thereby obviating ongoing fixed costs from reliance on external consultants for assessments and ongoing improvement support in between assessments.

The functional independence of peer-reviews is strengthened through consistent training of professionals from the utilities and using a clear methodology across assessments.

Initially, the peer review process may draw on existing processes such as the ERA's Peer Review, including the ERA Peer Review Handbook,⁴⁵ as a foundational resource, with appropriate modifications to ensure alignment with the safety culture traits adopted in the normative model and for application to small utilities.

This initial startup and implementation could be considered a "pilot" to be re-assessed following the first cycle of implementation.

Confidentiality

CASMU notes in its opening comments on party proposals that peer review could raise confidentiality concerns.⁴⁶ Staff agree that it would be necessary for the Phase 2 Utilities to adopt measures that ensure confidential information arising during the peer review process is appropriately protected from unauthorized disclosure. Such measures may take the form of Non-Disclosure Agreements (NDAs) between the participating utilities.

Frequency and Schedule

To balance level of effort with depth of insights, peer-reviews are proposed to be conducted every three to four years, depending on the number of Phase 2 Utilities eligible for peer-based assessments, resulting in a

⁴⁴ This training would include education on the 10 trait normative framework, which can be leveraged by all the Phase 2 Utilities as it is also necessary for utilities performing self-assessments.

⁴⁵ <https://www.era.europa.eu/system/files/2023-09/Safety%20Peer%20Review%20Handbook.pdf?t=1737098650>

⁴⁶ See CASMU Opening Commentss on Party Proposals at 13-14.

total of one peer-review conducted per year.⁴⁷ Final schedule would be based on conducting a maximum of one peer-review assessment per year, in collaboration with the respective group of SMJUs.

Ongoing Monitoring

With an extended cadence of peer-reviews, SMJUs should be evaluating their improvement efforts in between assessments. These efforts may be simplified versions of the large IOU improvement self-evaluations, with evaluation of focus areas and indicators that are specific to each SMJU based on its assessment results, and indicators and focus areas that are common across IOUs – as will be developed for large IOUs – remaining optional.⁴⁸

Staff recognize the potential logistical challenges associated with peer review that were identified by CASMU.⁴⁹ However, limiting the peer review process to the utilities falling within the “medium” size category would avoid CASMU’s concerns regarding the challenges of SMJUs assessing safety culture for Storage Operators and vice versa, since staff’s analysis indicates that there are no storage operators with enough employees to fall into this category. Establishing the mandatory participation of applicable utilities would also resolve CASMU’s concerns about peer participation. While CASMU indicates that it does not believe it is appropriate to mandate participation, CASMU’s comments also highlight that SMJUs already frequently collaborate and engage in peer review to employ best practices in the safety culture assessment context and elsewhere, and it is unclear how establishing a mandatory framework for conducting peer review for safety culture assessments would compare unfavorably to these existing models for successful peer review between the very same entities.

5.1.6 Alternative: Centralized Independent Assessor Model for Phase 2 Utilities with workforce over 100

An alternative to the structured peer-review model is the use of a centralized third-party independent assessor funded collectively by Phase 2 Utilities with workforce over 100 to conduct all the respective assessments.

Under this model, the CPUC would retain a single qualified entity—selected through a competitive solicitation process—to conduct the required independent safety culture assessments for eligible Phase 2

⁴⁷ Based on the data presented in Appendix A, all Phase 2 electric utilities (Bear Valley, Liberty, PacifiCorp) and one gas utility (Southwest Gas) would fall within the proposed peer-review category. All four Storage Operators (Gill Ranch, Wild Goose, Lodi and Central Valley) and the two remaining gas utilities (Alpine and West Coast) would fall under the category for self-assessments.

⁴⁸ These focus areas and indicators that are common across large IOUs for interim improvement self-evaluations are yet to be developed.

⁴⁹ See Opening Comments of CASMU on Party Proposals at 13.

Utilities on a staggered basis. The costs of retaining this assessor would be allocated among participating utilities based on workforce size,⁵⁰ if direct labor-based cost attribution is not feasible.

This model assumes that certain efficiencies could be realized by engaging a single consultant across multiple utilities, thereby creating a project of sufficient scale to attract qualified assessors with appropriate expertise. The CPUC may also be better positioned—particularly during the initial implementation period—to support procurement of assessors that ensures consistency and alignment with the adopted framework and methodology.

At the same time, this approach would likely result in higher direct costs for Phase 2 Utilities, increase reliance on external consultants, and provide fewer opportunities for internal capacity-building that would support the continuous improvement phase. For these reasons, the primary recommendation remains the peer-review model. Nevertheless, the centralized assessor model may offer advantages in terms of near-term implementation.

5.2 Utility Safety Culture Working Group

Staff proposes that participation by SMJUs and Storage Operators in the Utility Safety Culture Working Group remain voluntary. This proposal reflects the recommendations of multiple parties, who indicate that the Working Group's sessions and outputs may inform and support their safety culture assessment and improvement efforts, but participation may require a level of time and resource commitment that might be burdensome for some SMJUs and Storage Operators.

Staff recommends that:

- SMJUs and Storage Operators monitor the Working Group activities for sessions and materials most relevant to their organizational context, with Working Group leads flagging such efforts to the SMJUs and Storage Operators.
- The Working Group should establish a dedicated track to address issues specific to SMJUs and Storage Operators as they arise, including collaboration on the development of guidance and supporting materials for implementation of the applicable self-assessment and peer-review processes. This track would be led and facilitated by SPD Staff and serve as a structured platform for ongoing coordination and engagement with SMJUs and Storage Operators.

⁵⁰ Workforce size is a primary cost driver for safety culture assessments,

5.3 Simplified Reporting

For smaller utilities, reporting requirements should be simplified, while ensuring core components—assessment report with methodology, evidence-based findings, and reflection, with a concrete improvement plan—remain available upon request to preserve rigor and credibility.

Staff recommends simplified reporting for each SMJU and Storage Operator as follows:

- Annual informational-only filing to include:
 - summary of safety culture assessment findings and recommendations;
 - summary of improvement efforts in response to assessment results, with approach to monitoring progress, and results of progress monitoring, as appropriate.

In addition, documentation expectations, to be made available to CPUC staff upon request, should include:

- Assessment reports outlining organizational context, methodology, findings, and recommendations.
- Improvement plan and documentation of improvement actions and their progress to support external verification.

5.4 Start-Up Cost

While the SMJUs and Storage Operators can leverage some of the efforts required for large IOU assessment implementation, such as efforts in building shared understanding of safety culture, relevant concepts, and development of safety culture trait examples that are part of the Working Group’s objectives, implementing their assessments will require an initial start-up effort to create guidance, education, and training specific to their Self-Assessments and Peer-Reviews.

In addition to leveraging CPUC internal expertise, initial implementation may benefit from targeted engagement of external expertise to develop tailored assessment guidance, training materials, and structured onboarding support for SMJUs and Storage Operators. These costs are expected to be transitional—a limited, upfront investment to establish the practices—rather than an ongoing reliance on external consultants. Multiple comments by Storage Operators indicate that these companies can support these internal costs, as with other compliance-related costs.⁵¹ The objective is to build internal capacity within SMJUs and Storage Operators over time while strengthening assessment independence through consistent training of professionals from the utilities and using a clear methodology across assessments. Building their internal capacity will not only limit direct costs attributed to external consultant led assessments, but also embed the capacity and skills needed to identify, implement, and monitor successful improvement initiatives following assessments.

⁵¹ See Opening Comments of Wild Goose and Lodi on Party Proposals at 5; Opening Comments of Central Valley on Party Proposals at 7.

5.5 Contractors

Phase 2 also sought to address whether contractors performing work for small utilities and gas storage operators should be subject to the same safety, training, and oversight requirements as utility employees, and if so, how those expectations should be reflected in the safety culture assessment framework.⁵²

Staff recommends that:

- contractors remain fully integrated into Phase 2 safety culture assessments; and
- the CPUC avoid specific prescriptive mandates for equal contractor safety, training, and oversight mandates as utility employees within the safety culture assessment framework.

This preserves the distinction between evaluating safety culture and establishing safety management system requirements.

Contractors and Safety Culture Assessments

It is well established in both academic research and practitioner guidance that safety culture encompasses all individuals who influence safety outcomes, including contractors. In high-hazard industries, contractors often perform safety-critical functions. For some Phase 2 entities—particularly storage operators—contractors comprise a significant portion of the operational workforce.⁵³ Excluding contractors from the assessment would therefore provide an incomplete and potentially misleading view of how safety is actually practiced.

The Phase 1 definition of safety culture, which staff recommends applying in Phase 2 (see Section 4.3), explicitly includes contractors as part of the workforce. Similarly, the ten traits of a healthy safety culture adopted in Phase 1 (see Section 4.4) apply to “individuals,” including contractor personnel performing safety-impacting work. These definitions and inclusions appropriately inform the scope of assessment.

It is worth noting that including contractors in the assessment does not mean evaluating each contractor’s standalone safety culture. Rather, it ensures that the assessment examines whether contractors’ experiences systematically differ from those of the rest of the utility, which is informative about how consistently the utility’s culture is reflected in the contractor’s work. It means assessing whether the utility’s safety values and expectations are consistently applied across all workers impacting safety.

Safety Culture vs Safety Management System Frameworks.

From a safety management perspective, individuals performing the same safety-critical tasks should meet equivalent competency and safety expectations, regardless of employment status. Safety management system (SMS) frameworks, including API Recommended Practice 1173 – applicable to CPUC regulated gas utilities

⁵² Phase 2 Scoping Memo item 12.

⁵³ See Cal Advocates Opening Comments on Party Proposals at 4.

– require operators to integrate contractors into their safety management systems and retain ultimate accountability for safety performance.⁵⁴

However, requiring equivalent competency and oversight is not the same as mandating identical training programs or internal procedures. Competency may be achieved through different pathways. Prescribing identical inputs for all utilities—particularly smaller utilities with differing operational structures—may impose rigidity without improving safety outcomes, as further explained below.

Over time, safety regulation in high-hazard industries have evolved in response to increasing system complexity. Early regulatory models relied heavily on specifying technical requirements and procedural compliance. Over time, regulators recognized that in highly complex operations, risk cannot be fully controlled through detailed rulemaking alone.⁵⁵ This led to the adoption of process- and outcome-based requirements, such as safety management system (SMS) requirements. SMS require organizations to establish structured processes for hazard identification, risk management, accountability, monitoring, and continuous improvement—while allowing flexibility in how those processes are implemented. More recently, attention has turned to safety culture as a means of explaining effectiveness of the SMS in practice. A safety culture assessment does not prescribe technical standards or mandate specific organizational procedures; rather, it examines whether leadership commitment, decision-making norms, and shared assumptions support the effective operation of the safety management system. Maintaining this distinction ensures that prescriptive rules, management system requirements, and cultural assessment each serve their distinct function.

Safety culture assessments are not compliance audits; they should not be used to mandate identical training programs or detailed oversight procedures, including contractors. That would shift the assessment from cultural inquiry into prescriptive rulemaking.

While it may be appropriate for the CPUC to require that contractors performing safety-critical work must meet equivalent competency, qualification, and safety expectations as utility employees performing comparable tasks, it would be more coherent to consider contractor equivalency expectations within a broader Safety Management System (SMS) framework rather than as a standalone or piecemeal mandate alongside a safety culture assessment framework. Maintaining the distinction is important to ensure the integrity and objectivity of safety culture assessments without conflating them with management system audits.

⁵⁴ API RP 1173 reflects a core principle: operators remain accountable for safety outcomes for work performed on their behalf, and therefore contractor personnel performing safety-impacting work are subject to the same safety management expectations as direct employees. Adoption of API Recommended Practice 1173 is currently voluntary; however, it is strongly encouraged by the federal regulator, the Pipeline and Hazardous Materials Safety Administration (PHMSA). In some instances, state commission enforcement actions or settlement agreements have required its implementation as part of corrective or compliance obligations. Southwest Gas in particular emphasized the role of API RP 1173 in its safety culture processes in its Opening Comments on Party Proposals.

⁵⁵ *Designing Safety Regulations for High-Hazard Industries* by the National Academies of Sciences, Engineering, and Medicine. [Designing Safety Regulations for High-Hazard Industries](#)

5.6 Role of Parent Companies in Safety Culture Assessments

Staff recommends safety culture assessments of Phase 2 Utilities operating within a holding company or affiliate structure explicitly identify and evaluate the parent-utility interfaces that shape safety-related decision-making.

This includes the influence of parent-level governance, resource allocation, incentives, and oversight on safety-related decision-making.

5.6.1 Parent Companies and Small Utilities

While parent companies play a role in the safety culture of their subsidiaries, as recognized by the CPUC in D.23-12-034,⁵⁶ several characteristics of SMJUs and Storage Operators make this role even more prominent in shaping the subsidiaries' safety culture, including:⁵⁷

- Reliance on parent-level functions.
- Parent control over capital and staffing.
- Corporate level incentives.
- Holding company level safety governance oversight rather than within an independent utility board.
- Centralized policies and management systems designed by the parent that define the utility's safety framework.
- Decision-making authority that may reside at the parent level enabling corporate priorities to more directly influence frontline safety conditions.

Although some of these characteristics are not all unique to the Phase 2 Utilities in holding company structures, they can be magnified for the Phase 2 Utilities. In large IOUs, parent influence might be balanced by substantial internal safety departments, independent audit functions, and dedicated capital planning teams. Small utilities may not have that buffering capacity. Consequently, parent-level governance mechanisms can become more directly determinative of the operating environment in which safety behaviors occur. Cal Advocates notes in its opening comments on party proposals that parent companies have the ability to redirect resources, set expectations, and guide their companies as necessary, making it

⁵⁶ In the case Southern California Gas Company (SoCalGas), the CPUC asserted the role of the parent company – Sempra – in its investigation of SoCalGas' safety culture as one of 1) influencer on SoCalGas through its own safety culture; and 2) as provider of corporate governance ensuring and supporting progress and improvement of SoCalGas.

⁵⁷ The Phase 2 Utility responses summarized in Appendix A and the Nov. 18 Workshop highlighted examples for these characteristics.

necessary for a safety culture assessment process to include analysis of a parent company's role in safety culture.⁵⁸

5.6.2 Addressing Parent Company Influence in Safety Culture Assessments of Small Utilities

To recognize the potential influence that parent companies may exert on smaller utilities, as discussed in the previous section, Staff recommends that, in assessing the safety culture of Phase 2 Utilities, the influence of their parent companies be explicitly examined where the parent materially shapes leadership messaging, resource allocation, governance, oversight, or shared services impacting safety. The assessment should seek to understand how safety-related meanings, priorities, and assumptions are formed across organizational interfaces—not solely within the operating utility.⁵⁹

5.7 Implementation Timing

As proposed, the scaling framework components for Phase 2 Utilities are not contingent upon the implementation of the large IOU assessments. The primary prerequisite for implementation is the development of appropriate assessment guidelines, along with training and educational support, to enable Phase 2 Utilities to proceed with their respective assessments (see section 5.4).

Accordingly, Staff does not recommend delaying implementation of the scaling framework presented in this proposal pending completion or implementation of the Phase 1 assessments.

⁵⁸ See Cal Advocates Opening Comments on Party Proposals at 4-5.

⁵⁹ Consistent with the methodology for large IOUs, this reflects the IAEA view that culture exists at multiple levels, and understanding requires “unearthing” deeper assumptions, not just observing surface artefacts.

Appendix A: Summary Phase 2 Utility Characteristics⁶⁰

	Organization	Organization Size	Contractors	Formal Safety Culture Assessments?	Assessment Methodology	Scope	Anonymity	Operates Under Parent Company Structure?	Parent Company Involvement in Safety Culture?
Electric Utilities	Bear Valley Electric Service (BVES)	49 (1 exec, 1 mgr, 4 supervisors, 43 frontline).	3 main firms (≈57) + specialists.	Yes	Survey (Annual, OEIS).	10% Employees & contractors engaged in wildfire mitigation.	Anonymous via OEIS survey.	Parent: American States Water Co.	None
	Liberty Utilities (CalPeco Electric)	≈ 130 (1 exec, 27 management).	≈ 100 across engineering, operations.	Yes	Survey followed by focus groups, timed with annual planning efforts.*	Field operations focus; topics: employee engagement, communication, stop work, leadership	Confidential; de-identified responses.	Parent: Liberty Utilities Co. (Algonquin).	None
	PacifiCorp	≈ 4,700 (350 management, 2,000 field).	≈ 2,000 across 35 ops contracts.	Yes	- Survey (Annual, OEIS) - Safety Climate/Perception Surveys (all holding companies and company-wide, HSE Tool)	- Entire organization; topics: leadership, trust, engagement, procedures, reporting.	Anonymous and administered by external entity.	Parent: Berkshire Hathaway Energy (BHE)	BHE Safety Collaborative oversees improvement for all subsidiaries.
Gas Utilities	Alpine Natural Gas	9 (1 exec, 1 mgr, 7 frontline).	None	No formal assessment.	Annual review of incident types and other quantifiable trends.	Operations, emergency response and office	N/A – small team.	No parent	N/A
	Southwest Gas Corporation (SWG)	≈ 2,427 (21 exec, 456 mgmt, 1,950 staff).	≈ 276 in CA (85% pipeline construction).	Yes	Survey (triennial changing to 1.5 yrs)	Whole Organization; SMS topics.	Fully anonymous; aggregate only.	Parent: Southwest Gas Holdings (SWX)	Board receives reports.
	West Coast Gas Company (WCG)	7 (2 exec, 2 mgmt, 3 field techs).	None	No formal assessment.	Annual reviews of leak survey and maintenance reports.	N/A	N/A	No parent.	N/A
Independent Gas Storage	Gill Ranch Storage LLC	≈ 15 employees.	45–50 vendors for engineering/maintenance.	Yes	Survey (every 2 years)	All employees & contractors directly involved with field operations; SMS topics.	Anonymous.	Sensa Holdings LLC (PG&E minority stake);	On-site eCORP employees participate in survey.
	Wild Goose & Lodi Gas Storage LLCs	≈ 18 (Wild Goose), 23 (Lodi), 57 HQ (Calgary)	≈ 62 across drilling & maintenance	Yes	Surveys (Annual).	All employees + contractors; topics: leadership, trust, procedures, communication.	Responses anonymous.	Parent: Rockpoint Gas Storage Ltd. administers plan;	HSE policy set by Rockpoint.
	Central Valley Gas Storage (CVGS)	20 (Plant Mgr, Asst Mgr, 12 line staff). 59 execs/ management (reside at parent, Caliche)	20–30 on-site for well work.	No formal assessment (currently).	Observation cards (18 topics) + plans for future safety audits with component for safety culture.	All staff & contractors; topics include training, management commitment, PPE, stop-work authority.	Anonymous via optional names; audits recorded without IDs.	Parent: Caliche Development Partners III, LLC	Caliche oversees policies and audits; supported by Sixth Street Fund.

⁶⁰ Based on information submitted by Phase 2 Utilities in response to ALJ Ruling issued on April 23, 2025 and presented on by Staff at SPD's Phase 2 Workshop held on November 18, 2025.

Appendix B: Safety Culture Assessment Framework Goals and Guiding Principles

To guide and support the collaborative safety culture efforts between the large IOUs, the Commission, and interested entities, as well as encourage continuous improvement of IOU safety culture, D.25-01-031 adopted the following goals and guiding principles:

Goals

1. Institutionalize safety as an intrinsic core value beyond regulatory compliance.
2. Develop means for collaborative information-sharing and coordination among all interested entities to recognize risk.
3. Integrate operational safety into safety culture to help prevent catastrophic events.
4. Promote and adopt a systemic approach to safety culture improvement that encompasses each organization's workplace system (i.e. unique interactions between human, technical, and organizational factors).
5. Develop methods and tools to monitor and assess IOU safety culture to facilitate early observation, detection, and mitigation.

Principles

1. All interested entities should have a shared understanding of safety culture.
2. All processes should prioritize engagement and collaboration from the IOU's workforce including contractors; local, Tribal, State, and Federal government entities; environmental and social justice and access and functional needs communities; public interest groups; industry associations; and other key interested entities, as appropriate.
3. Safety culture assessment methods should protect privacy, data confidentiality, and anonymity of individual workers.
4. Open communication, questioning, and reporting should be encouraged for all workers, including contractors.
5. All interested entities should integrate learning and continuous improvement, including learning from and trending of past safety incidents, near-misses, and reported hazard.
6. The Commission recognizes that it can impact, influence, and support the culture of the entities it regulates.
7. Non-punitive engagement and collaboration supports developing and maintaining healthy safety cultures that improve outcomes.

8. The IOUs are owners of, and have full responsibility for, the safety culture of their organizations.

Appendix C: Normative Safety Culture Framework for California's Investor-Owned Utilities

1 Overview

This normative framework is based on the framework developed by the U.S. Nuclear Regulatory Commission (U.S. NRC) and Institute for Nuclear Power Operations (INPO)⁶¹ and adapted for California's IOUs. It consists of 10 traits, each with a set of attributes, and explanation of terms used.

2 Explanation of Terms

Organizations have different structures and terms for organizational roles and positions. Each organization can determine how these terms apply to its unique organizational structure.

Organization: The collective group of all individuals, the reporting structure, and the procedures, policies, and practices that individuals use to set goals and make decisions, to accomplish tasks, and to implement and maintain a healthy utility safety culture.

Individuals: All people at all levels of the organization; individuals include all leaders, individual contributors, and contractors.

Leaders: Individuals who influence, coach, or lead others within the organization and determine the vision, goals, or objectives of their teams; leaders include executives, managers, supervisors, and others who influence individuals in the organization.

Executives: Corporate decision makers who are responsible for setting the long-term strategic goals for the organization; executives develop and implement corporate policies.

Managers: Individuals assigned to managerial positions who control, direct, guide, advise, set priorities, and monitor the performance of the organization; includes senior managers and supervisors.

Work Groups: Groups of individuals who work collaboratively to accomplish tasks; work groups may exist at any level of the organization.

Individual Contributors: Individuals who operate individually or as members of work groups to accomplish tasks; individual contributors may include leaders when leaders are acting in a nonsupervisory capacity or are accomplishing tasks as members of a work group.

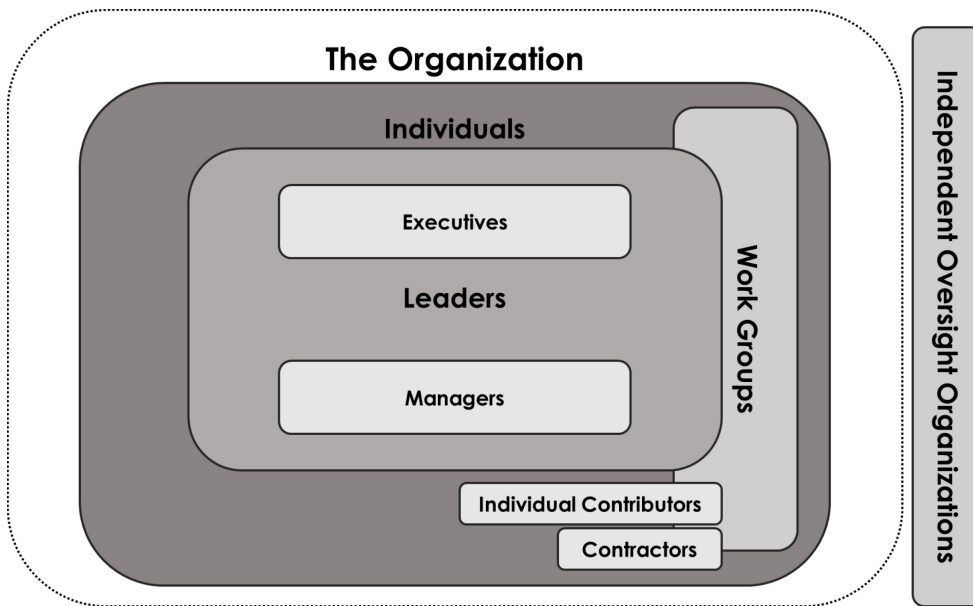
⁶¹ USNRC's NUREG-2165, Safety Culture Common Language. (INPO has also published this common language in INPO 12-012, "Traits of a Healthy Nuclear Safety Culture").

Contractors: Individuals who accomplish work for but are not employees of the organization; including short- and long-term contractors and individuals who are not employed by the organization but occasionally perform work related to utility safety.

Independent Oversight Organizations: Groups that independently review the performance and direction of the organization.

3 Relationships Among Roles

The Figure below is a visualized graphical representation of the interrelationships among the terms defined above:



4 Traits and Attributes

1. Leadership Safety Values and Actions (LA)

Leaders demonstrate a commitment to safety in their decisions and behaviors.

LA.1 Resources: Leaders ensure that personnel, equipment, procedures, and other resources are available and adequate to support utility safety.

LA.2 Field Presence: Leaders are commonly seen in all areas of the organization, observing work, coaching, and reinforcing standards and expectations. Deviations from standards and expectations are corrected promptly.

LA.3 Incentives, Consequences, and Rewards: Leaders ensure incentives, consequences, and rewards are aligned with utility safety policies and reinforce behaviors and outcomes that reflect safety as the overriding priority.

LA.4 Strategic Commitment to Safety: Leaders ensure utility priorities are aligned to reflect utility safety as the overriding priority.

LA.5 Management of Change⁶²: Leaders use a systematic process for evaluating and implementing change so that utility safety remains the overriding priority.

LA.6 Roles, Responsibilities, and Authorities: Leaders ensure that roles, responsibilities, and authorities are clearly defined and understood to ensure utility safety.

LA.7 Constant Examination: Leaders ensure that utility safety is constantly scrutinized through a variety of monitoring techniques, including assessments of utility safety culture.

LA.8 Leader Behaviors: Leaders exhibit behaviors that set the standard for safety.

2. Problem Identification and Resolution (PI)

Issues potentially impacting safety are systematically identified, fully evaluated, and promptly addressed and corrected commensurate with their significance.

PI.1 Identification: The organization implements a corrective action program with a low threshold for identifying minor and major issues. Individuals identify issues completely, accurately, and in a timely manner in accordance with the program.⁶³ Self-reporting is expected and valued by the organization.

⁶² Management of Change (MOC) refers to the approach used to ensure that changes do not inadvertently introduce new hazards or unknowingly increase risk of existing hazards. This includes changes to any aspect of operating the utility, i.e., technical, physical, procedural, operational, or organizational changes. For purposes of this document, and consistent with management system practices, we differentiate MOC from the term “Change Management.” Change Management refers to one aspect of the MOC process – dealing with the people side of change, or changing people’s behavior to bring them through a change (i.e., training, tools, communication) – while MOC is the entire life cycle of the change process, from identifying the need for a change, all the way through its implementation, monitoring and learning from the change experience.

⁶³ API 1173 defines Corrective Actions as the steps established to either correct nonconforming aspects of the Pipeline Safety Management System (PSMS) identified during an audit or evaluation, or actions taken to manage threats recognized during day-to-day activities.

PI.2 Evaluation: The organization thoroughly evaluates problems to ensure that resolutions address causes and extent of conditions, commensurate with their safety significance.

PI.3 Resolution: The organization takes effective corrective actions to address issues in a timely manner, commensurate with their safety significance.

PI.4 Trending: The organization periodically analyzes information from the corrective action program and other assessments in the aggregate to identify programmatic and common cause issues.

3. **Personal Accountability (PA)**

All individuals take personal responsibility for safety.

PA.1 Standards: Individuals understand the importance of adherence to utility standards. All levels of the organization exercise accountability for shortfalls in meeting standards.

PA.2 Job Ownership: Individuals understand and demonstrate personal responsibility for the behaviors and work practices that support utility safety.

PA.3 Collaboration: Individuals and workgroups communicate and coordinate their activities within and across organizational boundaries to ensure utility safety is maintained.

4. **Work Processes (WP)**

The process of planning and controlling work activities is implemented so that safety is maintained.

WP.1 Work Management: The organization implements a process of planning, controlling, and executing work activities such that utility safety is the overriding priority. The work process includes the identification and management of risk commensurate to the work.

WP.2 Design Margins: The organization operates and maintains infrastructure within design standards. Margins are carefully guarded and changed only through a systematic and rigorous process.

WP.3 Documentation: Documentation, including procedures, is complete, accurate, accessible, user-friendly, understandable, and current. Changes are tracked.

WP.4 Procedure Adherence: Individuals follow processes, procedures, and work instructions.

5. **Continuous Learning (CL)**

Opportunities to learn about ways to ensure safety are sought out and implemented.

CL.1 Operating Experience: The organization systematically and effectively collects, evaluates, and implements relevant internal and external operating experience in a timely manner.

CL.2 Self-Assessment: The organization routinely conducts self-critical and objective assessments of its programs and practices.

CL.3 Benchmarking: The organization learns from other organizations to continuously improve knowledge, skills, and safety performance.

CL.4 Training: The organization provides training and ensures knowledge transfer to maintain a knowledgeable, technically competent workforce and instill utility safety values.

6. Environment for Raising Concerns (RC)

A safety-conscious work environment (SCWE) is maintained where personnel feel free to raise safety concerns without fear of retaliation, intimidation, harassment, or discrimination.

RC.1 Safety-Conscious Work Environment Policy: The organization effectively implements a policy that supports individuals' rights and responsibilities to raise safety concerns, and does not tolerate harassment, intimidation, retaliation, or discrimination for doing so.

RC.2 Alternate Process for Raising Concerns: The organization effectively implements a process for raising and resolving concerns that is independent of line-management influence. Safety issues may be raised in confidence and are resolved in a timely and effective manner.

7. Effective Safety Communication (CO)

Communications maintain a focus on safety.

CO.1 Work Process Communications: Individuals incorporate safety communications in work activities.

CO.2 Basis for Decisions: Leaders ensure that the basis for operational and organizational decisions is communicated in a timely manner.

CO.3 Free Flow of Information: Individuals communicate openly and candidly, vertically (up and down) and horizontally (across the organization), as well with oversight, audit, and regulatory organizations.

CO.4 Expectations: Leaders frequently communicate and reinforce the expectation that utility safety is the organization's overriding priority.

8. Respectful Work Environment (WE)

Trust and respect permeate the organization.

WE.1 Respect is Evident: Everyone is treated with dignity and respect.

WE.2 Opinions are Valued: Individuals are encouraged to voice concerns, provide suggestions, and offer questions. Differing opinions are respected.

WE.3 High Level of Trust: Trust is fostered among individuals and workgroups throughout the organization.

WE.4 Conflict Resolution: Fair and objective methods are used to resolve conflict.

9. Questioning Attitude (QA)

Individuals avoid complacency and continuously challenge existing conditions and activities in order to identify discrepancies that might result in error or inappropriate action.

QA.1 Recognize Unique Risks: Individuals understand the unique risks associated with electric power and gas utility systems. Individuals understand that utility systems are complex and may fail in unforeseen ways with significant consequences.

QA.2 Challenge the Unknown: Individuals stop when faced with uncertain conditions. Risks are evaluated and managed before proceeding.

QA.3 Challenge Assumptions: Individuals challenge assumptions and offer opposing views when they think something is not correct.

QA.4 Avoid Complacency: Individuals recognize and plan for the possibility of mistakes, latent problems, or inherent risk, even while expecting successful outcomes.

10. Decision making (DM)

Decisions that support or affect utility safety are systematic, rigorous, and thorough.

DM.1 Consistent Process: Individuals use a consistent, systematic approach to make decisions. Risk insights are incorporated as appropriate.

DM.2 Conservative Bias: Individuals use decision making practices that emphasize prudent choices over those that are simply allowable. A proposed action is determined to be safe to proceed, rather than unsafe in order to stop.

DM.3 Accountability for Decisions: Single-point accountability is maintained for utility safety decisions.