BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Investigation on the Commission's Own Motion into the Operations and Practices of Pacific Gas and Electric Company with Respect to Facilities Records for its Natural Gas Transmission System Pipelines.	I.11-02-016 (Filed February 24, 2011)

OPENING BRIEF OF THE DIVISION OF RATEPAYER ADVOCATES

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Our investigators were told [by PG&E] that the pipe involved in the explosion was a seamless factory manufactured pipe.

But even a layperson could see the patchwork of welds marking the pipe.

This misinformation was not a minor record-keeping oversight.

In the years since the [San Bruno] pipe was put into service, decisions regarding inspections, operating pressures, and risk management plans were all based on facts that were just plain wrong.

Excerpt from the Keynote Remarks made by Deborah A.P. Hersman, Chairman, National Transportation Safety Board, to the Transportation Research Board, 90th Annual Meeting, Washington, D.C, January 26, 2011. Currently available at http://www.ntsb.gov/news/speeches/hersman/daph110126.html

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I. INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

At 6:11 p.m. on September 9, 2010, a 30-inch diameter natural gas transmission pipeline, owned and operated by Pacific Gas and Electric Company (PG&E) ruptured in a residential neighborhood in San Bruno, California. Gas escaping from the rupture ignited, causing an intense fire which killed eight people, injured 58 others, destroyed 38 homes, and damaged another 70.

The National Transportation Safety Board (NTSB), the Independent Review Panel (IRP), and the Commission's Consumer Protection and Safety Division (CPSD)[1] have all completed investigations into the causes of the incident. Each of these investigations has found PG&E responsible for the explosion on multiple levels, and every investigation has concluded that PG&E recordkeeping deficiencies contributed to that accident and have diminished the safety of PG&E's high pressure gas pipeline system.[2]

PG&E's recordkeeping failures, and their pivotal role in the San Bruno explosion, were quickly evident to the NTSB. In the immediate aftermath of the explosion, PG&E told the NTSB it was a seamless pipe that had failed. As the Commission's consultants summarized, this bad information, based on PG&E's electronic Geographic Information System (GIS) – the primary source of information about the design and construction of its pipeline system – was "only the tip of the iceberg."[3]

Within three months of the accident, in recognition of the dangers posed by PG&E's recordkeeping deficiencies, the NTSB issued an "urgent safety recommendation" that PG&E survey all of its gas transmission records to ensure that PG&E calculated maximum allowable operating pressure for a pipeline using only "traceable, verifiable, and complete" records.[4]

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[1] The Consumer Protection and Safety Division was renamed the Safety and Enforcement Division (SED) effective January 1, 2012. However, for clarity and consistency, we refer to SED as CPSD throughout this pleading.

[2] Ex. CPSD-6, Duller & North Report, p. 1-11, lines 13-17. The NTSB and Independent Review Panel Reports are available, respectively, at: http://www.ntsb.gov/doclib/reports/2011/PAR1101.pdf and http://www.cpuc.ca.gov/NR/rdonlyres/85E17CDA-7CE2-4D2D-93BA-B95D25CF98B2/0/cpucfinalreportrevised62411.pdf.

[3] Ex. CPSD-2, Felts Report, p. 1, lines 2-19.

[4] On January 3, 2011, the NTSB issued multiple "Safety Recommendations" to PG&E, this Commission, and the United States Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA). The Safety Recommendation to PHMSA, which summarizes all of the safety

(continued on next page)

In the NTSB's later report regarding the causes of the San Bruno explosion, PG&E's recordkeeping failures played a significant role. The NTSB concluded that the explosion was caused by a gas pipe that was defective when PG&E installed it in 1956, and that the defect "would have been visible when it was installed."[5] The NTSB identified two probable causes for the accident. The first was PG&E's "inadequate quality assurance and quality control" which allowed installation of the defective line in 1956.[6] The second was PG&E's "inadequate pipeline integrity management program" – a records-based program – which "failed to detect and repair or remove the defective pipe section."[7]

The NTSB found that PG&E's pipeline integrity management program, which should have ensured the safety of the system, was deficient and ineffective because its data was inaccurate and incomplete, it was missing mission critical information, and it was not designed to consider the most relevant information – such as pipeline design, materials, and repair history – when determining how to prioritize repairs and replacements.[8] As a result, the NTSB concluded that PG&E's integrity management program "led to internal assessments …. that were superficial and resulted in no improvements."[9]

The IRP Report found similar problems with PG&E's integrity management program. Based on discussions with PG&E staff, the Panel found that "experienced piping engineers were well aware" of the characteristics of the San Bruno segment, and that it was not a seamless pipe.[10] On this basis, the IRP Report concludes that "[t]here is a lack of coordination between field resources and engineering management regarding which data are to be collected and where and how records are to be preserved."[11] The IRP Report recognized the pipeline industry "challenges" to digitize and systematize pipeline data, but concluded: "[W]e find PG&E's efforts

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(continued from previous page)
recommendations made that day, formed the basis for this proceeding and is attached to I.11-02-016 at Appendix B.

[5] NTSB Report, p. x.

[6] NTSB Report, p. xii.

[7] NTSB Report, p. xii.

[8] NTSB Report, p. xi.

[9] NTSB Report, p. xi.

[10] IRP Report, p. 7.

[11] IRP Report, p. 7.

inchoate."[12] It further explained the impacts of PG&E's data management failures on its ability to use its integrity management program to identify threats and possible failures to its gas system:

> The lack of an overarching effort to centralize diffuse sources of data hinders the collection, quality assurance and analysis of data to characterize threats to pipelines as well as to assess the risk posed by the threats on the likelihood of a pipeline's failure and consequences.[13]

The IRP Report concludes that PG&E's integrity management program *"is not identifying all threats, as required by regulation; is not identifying the segments of highest risk and remediating significant anomalies; and hence is not taking programmatic actions to prevent or mitigate threats."*[14]

PG&E does not have a defense for its decades of records mismanagement, or the impact that it clearly had on the reliability of its integrity management program – the program PG&E relies upon to determine which gas pipelines are most at risk. The evidence is overwhelming, and PG&E's defenses do not withstand scrutiny. PG&E argues that:

- Its policies complied with industry standards and applicable regulations;
- Accurate records are not required to run a functional integrity management program; and
- Regulations did not require retention of certain records that CPSD claims are missing and should have been retained.

PG&E hired former regulators and industry lobbyists to make these arguments for it, and they did. However, it is important to note what arguments PG&E's experts did not make. While PG&E's experts testify that PG&E's policies complied with requirements, they never testify that PG&E *was actually complying* with its policies.[15] While PG&E's experts state that accurate data is not necessary, they qualified that assertion by clarifying that it is not necessary *at the beginning* of an integrity management program. They repeatedly emphasize throughout their

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[12] IRP Report, p. 8.

[13] IRP Report, p. 8.

[14] IRP Report, p. 8 (*emphases added*).

[15] *See* Section V.B.1.c, below.

testimony that an iterative process of data collection and integration to fill in missing data, or to correct inaccurate data, is key to complying with the regulations.[16] And they do not testify that PG&E was *actually performing* the iterative process envisioned by the regulations. In fact, as the NTSB found, PG&E was *not* updating its integrity management database with new information to correct the errors and omissions in that database.[17] PG&E did not dispute this finding.

Similarly, while PG&E's experts argue that regulations did not require retention of certain records – and that therefore there is no violation – they also note, with approval, the fact that the regulations are not "prescriptive" and that regulators have properly "resisted writing rules that specify, or tell an operator 'how to do it.'"[18] They emphasize that an operator is free to determine which records are necessary to run a safe system, but that an operator must retain such documents, regardless of what the regulations specifically provide.[19] And they do *not* argue that PG&E should *not* have retained the records that CPSD is claiming they should have.

In sum, PG&E *cannot and has not* defended its *actual* recordkeeping practices and the impacts they had on its integrity management program – because it has no defense. The evidence is clear that regardless of the protocols PG&E claims were in place – and which PG&E's experts rely upon to find PG&E met requirements – PG&E's records are a mess and have been for years, this failed recordkeeping compromised the integrity management program that PG&E has relied upon for over 30 years, and it contributed to the San Bruno explosion.

As all of the reports on the San Bruno explosion recognize, the safety of PG&E's high pressure gas transmission system starts and ends with accurate records and a functional integrity management system. *Thus, PG&E cannot be left to move forward on its own. Oversight is critical.* To ensure that PG&E *actually* gets it right this time, the Commission must put in place an independent third party monitor to oversee PG&E's records validation, database integration, and integrity management modifications. This requires someone on the ground actually

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[16] *See* Section V.B.1.c, below.

[17] NTSB Report, p. 108.

[18] Ex. PG&E-61, pp. 1B-7 and 1B-8.

[19] Ex. PG&E-61, p. 1B-8 (PG&E's expert quotes the Office of Pipeline Safety: "If an operator requires maps as records to properly administer the operating and maintenance plan to meet the Federal safety requirements, then these maps must be maintained by the operators.")

watching what PG&E is doing. Only this kind of an independent third party monitor will be able to ensure that PG&E develops functional recordkeeping and integrity management programs going forward. Further, to the extent this proceeding finds that PG&E has committed unreasonable errors or omissions, additional findings should be made to facilitate disallowance of both direct and indirect costs associated with correcting those errors or omissions to the extent they add $50 million or more to the cost of providing service.

II. BACKGROUND (PROCEDURE/ FACTS)

III. LEGAL ISSUES OF GENERAL APPLICABILITY[20]

A. The Commission Is Responsible For Enforcing the Utilities' Obligation To Provide Safe Service As Required By Public Utilities Code § 451

The Commission is responsible for ensuring that all public utilities subject to its jurisdiction comply with all applicable laws:

> The commission shall see that the provisions of the Constitution and statutes of this State affecting public utilities … are enforced and obeyed, *and that violations thereof are promptly prosecuted and penalties due the State therefor recovered and collected,* and to this end it may sue in the name of the people of the State of California.[21]

Public utilities must comply with many legal requirements, but the obligation to operate their systems safely, as set forth in § 451, is the most fundamental legal requirement of all.

The Commission has articulated the prominent role of § 451 in multiple safety enforcement cases. In ruling on PG&E's liability for the 2008 Rancho Cordova gas explosion the Commission, citing to prior decisions, emphasized that PG&E's obligation to operate its system safely pursuant to § 451 should be its "primary objective":

> A basic principle of public utility service is for the public utility to provide safe and reliable service. …PG&E's underlying public utility service is to

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[20] There are a number of legal issues of general applicability to this investigation. Most of them will likely be briefed by the other parties to this proceeding. For efficiency, DRA focuses on those legal issues which may potentially be overlooked or are relevant to ratemaking issues implicated by this investigation. DRA does not intend this to be a comprehensive or exclusive discussion of the issues and may supplement this discussion in its later pleadings in this proceeding.

[21] California Public Utilities Code § 2101 (*emphases added*). Unless otherwise stated, all further section references are to the California Public Utilities Code.

> provide safe and reliable gas service, and the safety and reliability of its gas system must be PG&E's primary objective.[22]

Similarly, D.11-06-017, issued in response to the San Bruno explosion, found that "[t]he duty to furnish and maintain safe equipment and facilities is *paramount* for all California public utilities."[23]

This principle was again reiterated in the order opening this investigation, I.11-02-016 (OII):

> California law requires Commission-regulated utilities to operate safely. Section 451 of the Public Utilities Code in part reads: "Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities…..as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public."[24]

The Commission commenced this investigation, in part, because it could not "assure the public … that PG&E has … accurate and up-to-date knowledge of critical aspects of its transmission pipeline system."[25] The OII put PG&E on notice that the Commission's safety expectations extended to "design, construction, operations, testing, maintenance, inspection, risk assessment, and pipe replacement."[26] "… [W]e will review evidence to determine whether deficient recordkeeping may adversely affect and reduce safety in design, construction, operations, testing, maintenance, inspection, risk assessment, and pipe replacement."[27]

B. Section 451 Does Not Violate Due Process and Is Enforceable As A Stand-Alone Offense

PG&E has suggested that CPSD's reliance on § 451 as a stand-alone violation violates its due process rights because the law is unreasonably vague. PG&E is wrong. The language of § 451 is broadly written, but is both constitutional and enforceable as a "stand-alone" statute.

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[22] D.11-11-001, Rancho Cordova, p. 37 (*citations omitted*). *See also,* COL 5, p. 47: "A basic principle of public utility service is for the public utility to provide safe and reliable service, and PG&E is required to provide such service pursuant to Pub. Util. Code §451."

[23] D.11-06-017, p. 16 (*emphases added*).

[24] I.11-02-016, p. 10.

[25] I.11-02-016, p. 10.

[26] I.11-02-016, p. 10.

[27] I.11-02-016, pp. 9-10.

The Commission has held,[28] and the *Cingular Appeal* affirms, that to sanction a utility for violating § 451 does not violate due process and that a violation of § 451 is a separate offense for which a fine may be imposed, regardless of whether the conduct in question also violates a more specific regulatory requirement.[29]

In the underlying *Cingular Investigation* the Commission succinctly rejected similar due process arguments made by Cingular in that case:

> Cingular and the aligned amici curiae base their primary challenge on the POD's allegedly unprecedented reliance upon § 451 as a basis for levying penalties and ordering reparations. Cingular and these amici contend that § 451's just and reasonable service mandate is constitutionally too vague to support such remedies or reparations unless linked to violation of other, more specific law, whether statute, rule or tariff. … They also argue that Cingular had no notice, actual or constructive, that its behavior might run afoul of § 451.[30]

The *Cingular Investigation* decision notes that "the void for vagueness argument appears to conflict with the position Cingular and other wireless carriers have advanced in … the pending Consumer Bill of Rights and Consumer Protection Rules proceeding. *In that rulemaking, they have opposed the adoption of detailed consumer protection rules, arguing that existing general rules provide sufficient regulatory control, in conjunction with market forces and voluntary efforts by the wireless industry.*"[31]

Ironically, PG&E and the other gas utilities made similar arguments against the Commission's adoption of General Order 112 – the prescriptive gas safety regulations that PG&E now claims are the only rules that apply. PG&E urged the Commission that adoption of General Order 112 was unnecessary because it voluntarily complied with industry standards.[32]

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[28] *See, e.g., Carey v. Pacific Gas & Elec.,* D.99-04-029 (*Carey*).

[29] *Pacific Bell Wireless, LLC v. Public Utilities Commission,* 140 Cal. App. 4th 718, 741-742 (2006) (*Cingular Appeal*). The parties' recommendations for fines and other penalties are to be addressed in separate briefs. Accordingly, regarding fines, DRA limits its comments here to the point that the Commission may impose fines for violations of § 451.

[30] *Cingular Investigation*, D.04-09-062, pp. 72-73.

[31] *Cingular Investigation*, D.04-09-062, p. 73 (*emphases added*).

[32] Ex. PG&E-4, Commission Decision 61269, issued December 28, 1960 and effective July 1, 1961, p. 4, describes the position of the respondents, PG&E and others: "… the gas utilities in California voluntarily follow the American Standards Association (ASA) code for gas transmission and distribution piping systems."

Similarly, one of PG&E's witnesses in this proceeding has described, with approval, Office of Pipeline Safety's "flexible regulatory philosophy" which eschews prescriptive regulations and "detailed specifications" in favor of "performance terms."[33] PG&E cannot have it both ways – it cannot argue for general regulations, and then claim that it can only be fined for violations of prescriptive rules.

Relevant here, the Commission in the *Cingular Investigation* found Cingular's "void for vagueness" challenge "without merit."[34] The Commission explained that the rational it adopted in *Carey,* a previous Commission decision, was applicable to the *Cingular Investigation*:

> The Commission rejected a similar challenge in *Carey*... In that case, a complaint filed after an explosion at a multi-unit apartment building, the Commission found the utility had violated § 451's safe service obligation by following an internal company policy of authorizing fumigation contractors, rather than trained utility employees, to terminate natural gas service as part of building fumigation projects. The Commission's rationale in *Carey* is apt here and we quote it in pertinent part:
>
> > Section 451's mandate that a utility provide "reasonable service, instrumentalities, equipment and facilities" as necessary to promote the public safety is constitutional and not violative of due process. … [35]

The *Cingular Investigation* decision continued to quote from *Carey,* explaining that while there are no court cases addressing the constitutionality of § 451, California courts "have found similar terms under comparable statutory schemes constitutional."[36] The *Carey* decision explained that analogous statutes were found constitutional based on a "common understanding" of the terms in the statute:

> The instant case is analogous to Chodur v. Edmonds (1995) 174 Cal. App. 2d 565. In Chodur, the Court of Appeal held that the term "dishonest dealing" in Bus. & Prof. Code 10177(j) was not unconstitutionally vague. *Id.* at 570. While lacking an exact definition to cover every circumstance, the Court of Appeal explained that the term "dishonest dealing" still possessed "a common understanding." *Id.* The Court of Appeal also noted that "'[i]t would be almost impossible to draft a statute which would

[33] Ex. PG&E-61, pp. 1B-7 to 1B-8.

[34] *Cingular Investigation*, D.04-09-062, p. 73.

[35] *Cingular Investigation*, D.04-09-062, p. 73, *quoting Carey*, Slip. Op., pp. 13-14.

[36] *Cingular Investigation*, D.04-09-062, p. 73, *quoting Carey*, Slip. Op., pp. 13-14

> specifically set forth every conceivable act which might be defined as being dishonest." *Id.*; quoting Wayne v. Bureau of Private Investigators and Adjusters (1972) 201 Cal.App.2d 427, 440.[37]

In *Carey,* which was a gas safety case, the Commission accurately observed that it would be "virtually impossible to draft Section 451 to specifically set forth every conceivable service, instrumentality and facility which might be defined as 'reasonable' and necessary to promote the public safety."[38] It concluded that just because "the terms are incapable of precise definition … does not make Section 451 void for vagueness, either on its face or [as applied]."[39] *Carey* recognized that "[t]he terms 'reasonable service, instrumentalities, equipment and facilities' are not without a definition, standard or common understanding among utilities."[40]

On rehearing of the *Cingular Investigation,* the Commission reconsidered Cingular's argument that § 451 was unconstitutionally vague. The Commission analyzed the cases cited by Cingular and found that they supported the Commission's determination that § 451 was *not* unconstitutionally vague and that "reasonable certainty is all that is required." The Commission explained:

> … These cases [cited by Cingular] stand for the general, and uncontroversial, proposition that statutes must be definite and specific enough to provide an intelligible standard of conduct for activities that are required or proscribed by law. In *Valiyee* … the court found that the statute in question "easily" passed constitutional muster. The court noted that "[r]easonable certainty is all that is required," and stated that a statute is not vague if "any reasonable and practical construction can be given to its language." [*Valiyee v. Department of Motor Vehicles* (1999) 74 Cal.App.4th 1026, 1032 (citations omitted)] …
>
> In the present case, the Commission was amply justified in determining that Cingular's conduct violated sections 451 and 2896, and its interpretation of these statutes in D.04-09-062 was not impermissibly vague. It is well-settled that there is a strong presumption of the validity of Commission decisions, and the Commission's interpretation of the Public Utilities Code should not be disturbed unless it fails to bear a reasonable

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[37] *Cingular Investigation*, D.04-09-062, pp. 73-74 *quoting Carey*, Slip. Op., pp. 13-14.

[38] *Cingular Investigation*, D.04-09-062, p. 74, *quoting Carey*, Slip. Op., pp. 13-14.

[39] *Cingular Investigation*, D.04-09-062, p. 74, *quoting Carey*, Slip. Op., pp. 13-14.

[40] *Cingular Investigation*, D.04-09-062, p. 74, *quoting Carey*, Slip. Op., pp. 13-14.

> relation to statutory purposes. (*Greyhound Lines, Inc. v. Public Utilities Commission* (1968) 68 Cal.2d 406, 410.) …[41]

Cingular appealed this determination and the Appellate Court upheld the Commission's decisions, finding that they did not violate Cingular's constitutional right to due process. While PG&E may argue that the *Cingular* decisions are irrelevant because they did not address safety issues, PG&E is wrong. The *Cingular* decisions relied heavily on *Carey*, which was a gas safety case, and the logic of the *Cingular* decisions – which required the provision of just and reasonable *service* – applies equally to the provision of *safe* service and the obligation to maintain safe facilities. Applying the logic of the *Cingular Appeal* demonstrates that PG&E was *on notice* that the Commission has interpreted § 451 in the past to fine utilities for similar failures to safely maintain and operate their facilities and that its right to due process was not violated.

The *Cingular Appeal* found that Cingular's conduct did not need to be expressly prohibited by statute or regulation. The Appellate Court applied common sense to find that Cingular's marketing conduct was "unreasonable" and therefore a violation of § 451's "just and reasonable" requirement:

> Even in the absence of a specific statute, rule, or order … Cingular can be charged with knowing its actions violated section 451's requirement that it provide "adequate, efficient, just, and reasonable service" to its customers.
>
> To accept Cingular's argument would require us to conclude that it is just and reasonable for a wireless provider to charge its customers an [early termination fee] to cancel a wireless service contract immediately after activation of the wireless telephone, when the customer has been misled as to the coverage area and level of service, and when the wireless provider admits the best way for the customer to determine whether the service is adequate for his or her needs is to try out the phone for a period of time. *This conclusion would be unreasonable.*[42]

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[41] *Cingular Rehearing,* D.04-12-058, p. 13.

[42] *Cingular Appeal*, p. 740 (*emphases added*).

The court recognized that the statutes and Commission order that Cingular was found to have violated were "broadly written" but that "[t]he Commission's interpretation of the reach of section[] 451 …. as well as of its own earlier order, must be given presumptive value."[43] The court also noted that in the absence of a specific statute or order, Cingular was nevertheless *on notice that its conduct was "unreasonable"* given multiple Commission decisions finding violations of § 451 for similar "unreasonable" business practices:

> If no statute or order of the Commission specifically prohibits the conduct for which Cingular was fined, how could it have notice that this conduct would violate section 451? First, Cingular could reasonably discern from the Commission's interpretations of section 451 that its conduct in this instance would also violate that statute.[44]

The court then summarized eight Commission decisions identifying unfair business practices that the Commission found violated § 451.[45] The court noted that "[t]hese cases deal with a variety of different acts and omissions by many types of public utilities."[46] Nevertheless, the court found that these Commission decisions put Cingular on notice that *its conduct violated § 451*.

The court also found that "the marketplace" put Cingular on notice that "the totality of its acts and omissions was not just and reasonable" because of the high number of complaints it received regarding its various marketing practices.[47] Finally, the court found that Cingular was on notice that *its conduct* violated the law because its conduct was similar to "garden variety fraud" prohibited by the Civil Code.[48] The court noted that those statutes similarly failed to define "deceitful" or "material" misrepresentations, but were nevertheless constitutional. In those cases, like here, a trier of fact is left to decide violations based on the facts of a particular case.[49]

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[43] *Cingular Appeal*, pp. 740-741 *citing Yamaha Corp. of America v. State Bd. of Equalization* (1998) 19 Cal.4th 1, 11.

[44] *Cingular Appeal*, p. 741.

[45] *Cingular Appeal*, pp. 741-742.

[46] *Cingular Appeal*, p. 742.

[47] *Cingular Appeal*, p. 742.

[48] *Cingular Appeal*, pp. 742-743.

[49] *Cingular Appeal*, p. 743.

The Appellate Court rejected Cingular's claim that § 451 could only be applied in conjunction with another "more specific source of law."[50] It noted that while the Commission usually relies upon another violation of law, "we do not infer from this that there *must* be another statute or rule or order of the Commission that has been violated for the Commission to determine there has been a punishable violation of section 451."[51]

The conclusions in the various *Cingular* decisions are applicable here. Similar to the issue of whether Cingular was on notice that its unfair marketing conduct would be defined as "unreasonable" under § 451, whether something is "*necessary to promote* the *safety, health, comfort, and convenience* of … the public" is easily understood both within the gas industry and common usage.

As in the *Cingular* situation, whether PG&E's *conduct* was unsafe under § 451 will be determined based on the specific facts of the case, including, for example, whether PG&E's conduct met industry standards, good engineering practices, other reasonable standards that provide guidance regarding safe conduct, plus plain common sense.

Also, just as Cingular was on notice that its marketing practices violated § 451, many factors, including Commission decisions, Commission safety investigations, and internal PG&E documents put PG&E on notice that its gas recordkeeping and integrity management practices were unsafe and in violation of § 451. For example, the Commission's *Carey* decision, discussed above, put PG&E on notice it could be fined for unsafe practices that were not specifically prohibited, such as delegating to others gas shut-off services that should have been performed by PG&E employees.

Further, the San Bruno explosion was not the first time that PG&E was put on notice of its significant recordkeeping deficiencies. Earlier investigations and audits put PG&E on notice that its deficient recordkeeping was compromising the safety of its system.

In 1981, the NTSB investigated a gas pipeline leak in San Francisco where PG&E took 9 hours and 10 minutes to stop the flow of gas because it could not locate one emergency valve due to inaccurate records.[52] As described in Section V.B.1.a below, Bechtel advised PG&E in

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[50] *Cingular Appeal*, p. 743.

[51] *Cingular Appeal*, p. 743 (*emphasis in original*).

[52] NTSB Report, p. 81.

1984, and again in 1986, of the risk to its integrity management program caused by missing pipeline data, and the need for additional research to resolve these "uncertainties." The NTSB investigation reports on the incidents in San Francisco in 1981and the 2008 Rancho Cordova explosion put PG&E on notice that many of its practices were deficient, unsafe, and needed to be modified.[53] The NTSB goes so far as to suggest that San Bruno might have been avoided if PG&E had changed its ways.[54] The Commission decision on Rancho Cordova similarly put PG&E on notice.[55] And a 2009 PG&E-commissioned audit of its integrity management risk algorithm put PG&E on notice that the its risk assessment methodology suffered from "significant weaknesses".[56] Finally, the decision that adopted General Order 112 – the gas safety regulations – put the utilities on notice that nothing in those "precautionary safety rules" removed or minimized their "primary obligation and responsibility … to provide safe service and facilities in their gas operations."[57] It concluded: "Officers and employees of the [gas utilities] must continue to be ever conscious of the importance of safe operating practices and facilities and of their obligation to the public in that respect."[58]

In sum, there is no question that PG&E was on notice that it could be found to have violated § 451's safety requirements because of its deficient recordkeeping practices and integrity management program. Finding violations pursuant to § 451 does not violate PG&E's right to due process.

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[53] NTSB Report, pp.117-118 ("[M]any of the organizational deficiencies were known to PG&E, as a result of previous pipeline accidents in San Francisco in 1981, and in Rancho Cordova, California, in 2008. As a lesson from those accidents, PG&E should have critically examined all components of its pipeline installation to identify and manage the hazardous risks, as well as to prepare its emergency response procedures. If this recommended approach had been applied within the PG&E organization after the San Francisco and Rancho Cordova accidents, the San Bruno accident might have been prevented." (*footnotes omitted*)).

[54] NTSB Report, pp. 117-118.

[55] D.11-11-001, p. 6.

[56] Ex. Joint-48, Review of Pipeline IMP Documents, Oct. 20, 2009, by WKMC, LLC, pp. 3-4.

[57] Ex. PG&E-4, D. 61269, p. 12, Finding and Conclusion Number 8.

[58] Ex. PG&E-4, D. 61269, p. 12, Finding and Conclusion Number 8

C. PG&E Has Always Had An Obligation To Maintain Accurate And Complete Records Of Its Gas Pipeline System, Yet It Has Failed To Comply

1. Existing Laws, Regulations, Industry Standards and Common Sense Required PG&E To Retain Its Pipeline Records

It is not a mystery, nor has it been a mystery for as long as gas utilities have existed, that pressurized natural gas is an explosive material, transporting pressurized natural gas is a highly dangerous activity, and that it therefore requires a high degree of care to safely operate a high pressure gas pipeline system. Further, it does not take an engineer to recognize that in order to maintain and operate its high pressure gas pipeline system safely, PG&E needed to maintain and have readily available records regarding its gas pipeline facilities, including: their size, where they were located, when they were installed, manufacturing records, pressure test and any other test records, injury records, leak history records, inspection records, repair records, and any other records that would provide information about the history or structural condition of a gas pipeline. Thus, PG&E's obligations to maintain and operate its system safely under § 451, and common sense, dictated that PG&E would need to maintain records regarding its facilities for the life of its facilities.

In addition to the obvious need to retain gas pipeline facility records for the life of the facility in order to safely operate a high pressure gas pipeline system, the Commission's General Order 28 has expressly required PG&E to retain certain records since 1912. General Order 28 requires PG&E to retain "[a]ll records, contracts, estimates, and memoranda pertaining to original cost of property and to Additions and Betterments …" Thus, to the extent that PG&E contracted to have its gas pipelines pressure tested and retained those contract records as required under General Order 28, those records could have been used to populate its integrity management program. Further, they could now be used to verify that a test was performed on the pipeline. PG&E's failure to retain such records has contributed to the need for PG&E to undertake a massive operating pressure validation survey and records correction program to determine whether a pipe has been pressure tested, and if no evidence of testing exists, to either test or replace the pipe.

The evidence shows that from at least 1929, PG&E retained engineering documents related to completed projects in Job Files, and thus was aware of the need to retain these

documents. But it did not include this information in the "Master" Job Files. This critical information was discarded or misplaced as early as 1980 and these practices continued through 1996.[59]

Industry standards also required the retention of original pipeline records. The 1955 ASA standards required the retention of as-built drawings, design, construction, and test records *for the life of the pipeline*.[60] PG&E does not suggest that the ASA standards did not require recordkeeping for the life of the pipeline since at least 1955. Rather, it argues that the ASA standard is not relevant because it was replaced in July 1961 by General Order 112.[61] Indeed, ASA B.31.8-1955 is not irrelevant. Decision 12-12-030 in the related pipeline safety ratesetting proceeding specifically rejected a PG&E argument that it could not be liable for failing to comply with industry practices. It found PG&E responsible for maintaining pressure test records starting in 1956:

> We do not agree that the change from an industry practice to regulatory mandate somehow excuses PG&E's failure to retain the pressure test records. As noted above, the record supports the finding that PG&E stated that from 1956 on, PG&E's practice was to pressure … test pipeline prior to placing it in service and that the costs of such testing was passed on to ratepayers. *As required by industry practice and prudent natural gas transmission system operations, PG&E should have created and maintained records of those pressure tests*.[62]

General Order 112 requirements for the maintenance and operation of gas facilities, based on the ASA standards, have been in place since 1961. As discussed above, at the time that General Order 112 was being considered, PG&E represented that it was complying with those industry standards.[63]

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[59] Ex. CPSD-2, Felts Report, pp. 32-33 ("PG&E has a history of destroying or discarding important records. Despite requirements that date back to 1912 (by California regulations) and 1970 (by Federal regulations) to retain facility related records permanently, PG&E readily admits that records may have been discarded or misplaced as early as 1980 and continuing through 1996.").

[60] ASA B31.8-1955, page 50, Section 841.417 establishes recordkeeping requirements which have not changed since 1955.

[61] Ex. PG&E-61, PG&E Response, pp. 1-5 to 1-6.

[62] D.12-12-030, p. 60 (*emphases added*).

[63] Ex. PG&E-4, D. 61269, p. 4.

General Order 112 provided that the responsibility to maintain records lies with the utility and that the records shall be available for inspection at all times by the Commission.[64] Section 302.1 of General Order 112 required a utility to maintain all records related to its facilities:

> Specifications for material and equipment, installation, testing and fabrication shall be maintained by the utility.

Section 303.1 of General Order 112 required a utility to retain records regarding maximum actual operating pressure:

> Plans covering operating and maintenance procedures, including maximum actual operating pressure to which the lines is intended to be subjected, shall be maintained by the utility.

Federal regulations adopted in 1970 establishing formal utility requirements for gas transportation safety also required PG&E to retain its high pressure gas pipeline facility records. 49 CFR Part 192 requires maintenance of certain records throughout its sub-parts. For example both sub part M – Maintenance 192.709 – Transmission Lines: Record Keeping and subpart N Qualification of Pipeline Personnel 192.807 – Record Keeping, give a retention period for the disposition of the records relating to specific items.

All of these laws and regulations required PG&E to retain accurate and complete records and to keep them readily accessible, many for the life of the facilities. PG&E has failed to explain why it would be exempted from these requirements.

2. PG&E's Own Policies Required It To Retain Its Pipeline Records

In addition to the statutory, regulatory, and common sense requirements to retain its high pressure gas transmission line facility records, PG&E had internal policies in place requiring retention of those records.

As early as 1967, PG&E described for the Commission its "standard procedure" for maintaining pipeline data pursuant to Chapter V of General Order 112-B. PG&E provided to the Commission details regarding the types of pipeline information it retained and its retention method:

> Although some data, such as original and test information and special surveys, are filed by main number, the majority of the data developed to record replacement, reconditioning, leakage, and other operating and

[64] General Order 112, Chapter III, Section 301.

> maintenance activities are filed in numerical sequence, depending upon the type record and the system used in a particular division. Reference to these numbers, quite often with a brief description, is posted to the pipeline plat sheets. This serves as an index to the history files and presents a graphical representation of the maintenance and repair activity. Some divisions also post to a full size or reduced size wall map for a better overall review.[65]

By 1969, PG&E had formalized this policy into Standard Practice 463.7, which required a pipeline history file to contain the following information:

a. Pipeline or main number;

b. Dates of original installation and subsequent changes requiring work orders;

c. Design and construction data covering the original installation and subsequent revisions requiring work orders or GM estimates;

d. MAOP of each section;

e. Type of protective coating originally or subsequently installed and the existing condition of the coating;

f. Cathodic protection installations showing locations, ratings, and installation dates;

g. Record of pipeline or main inspections;

h. Record of pipeline or main leakage surveys and repairs;

i. Record of location class surveys;

j. Record of pipeline or main sections where hoop stress corresponding to MAOP exceeds that permitted for new pipelines or mains in the particular class location;

k. Initial or most recent strength test data;

l. Special studies and surveys made as a result of unusual operating or maintenance conditions, such as earthquakes, slides, floods, failures, leakage, internal or external corrosion or substantial changes in cathodic protection requirements;

m. Annual summary of existing condition of pipelines and mains based upon available records as per Exhibit A; and

n. Specifications for materials and equipment, installation, testing, and fabrication shall be included or cross-referenced to this file.[66]

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[65] Ex. CPSD-2, Felts Report, p. 29 quoting from PG&E document P3-10005(b), p. 244.

[66] Ex. CPSD-2, Felts Report, pp. 29-30 quoting from PG&E document P2-400, pp. 90-91.

Standard Practice 463.7 also required that these files be retained *for the life of the facility*.[67] If PG&E had been doing what it told the Commission it was doing in 1967, or if it had followed its own Standard Practice 463.7, we would not be here today. The pipeline history files created under Standard Practice 463.7 would have provided an ongoing record of each pipeline in PG&E's system. But, when the Commission's consultants asked PG&E to produce the pipeline history files, PG&E could not explain what had happened to the pipeline history files or Standard Policy 463.7. Rather, PG&E stated that it "no longer maintains Pipeline History Files" and that it "believes" the standard practice became inoperative in the early 1990s when PG&E initiated its transition to its electronic GIS.[68] Left wondering, the Commission's consultants discovered a memo produced by PG&E, dated October 9, 1987, that discontinued Standard Policy 463.7 with no explanation.[69]

D. The Commission Has Authority To Disallow Rate Increases Pursuant to Public Utilities Code §§ 451 and 463

In addition to the § 451 safety requirements discussed above, § 451 also has rate impacts on utility practices. Pursuant to § 451, all utility rates and charges must be just and reasonable:

> All charges demanded or received by any public utility … for any product or commodity furnished or to be furnished or any service rendered shall be just and reasonable. Every unjust or unreasonable charge demanded or received for such product or commodity is unlawful.[70]

Section 463 governs certain Commission ratemaking decisions as well. As a supplement to § 451, and consistent with the Commission's general ratemaking authority, § 463 requires the Commission to disallow direct and indirect expenses when they are related to the unreasonable errors or omissions of a utility and add more than $50 million to the cost of providing service:

> [T]he commission shall disallow expenses reflecting the direct or indirect costs resulting from any unreasonable error or omission relating to the

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[67] Ex. CPSD-2, Felts Report, p. 30, note 118.

[68] Ex. CPSD-2, Felts Report, p. 31.

[69] Ex. CPSD-2, Felts Report, p. 31.

[70] *See also* § 728 ("Whenever the commission, after a hearing, finds that the rates or classifications, demanded, observed, charged, or collected by any public utility for or in connection with any service, product, or commodity, or the rules, practices, or contracts affecting such rates or classifications are insufficient, unlawful, unjust, unreasonable, discriminatory, or preferential, the commission shall determine and fix, by order, the just, reasonable, or sufficient rates, classifications, rules, practices, or contracts to be thereafter observed and in force.").

> planning, construction, or operation of any portion of the corporation's plant which cost, or is estimated to have cost, more than fifty million dollars ($50,000,000) ….

The Commission has relied upon § 463 and its general ratemaking authority on many occasions to disallow costs resulting from unreasonable utility errors and omissions.[71]

The rate recovery issues raised by PG&E's errors and omissions in this proceeding are being addressed in the related rulemaking, R.11-02-019, which is still open. The Commission should consider making findings here regarding PG&E's unreasonable errors and omissions for application in that rulemaking.

While ratemaking issues are not always taken up in an OII, the Commission invited consideration of such issues here in D.12-12-030, the decision approving PG&E's post-San Bruno remediation plan and addressing the ratemaking treatment of the plan's costs. In D.12-12-030 the Commission explicitly recognized that the evidence and findings in this proceeding could (and possibly should) impact the rate treatment of PG&E's remedial pipeline safety plan approved in that decision. Decision 12-12-030 expressly made the rate increases approved in that decision subject to refund based on "ratemaking adjustments … adopted in [the Commission's] investigations":

> Our upcoming decisions in Investigations (I.) 11-02-016, I.11-11-009, and I.12-01-007 will address potential penalties for PG&E's actions under investigation. We do not foreclose the possibility that further ratemaking adjustments may be adopted in those investigations; thus, all ratemaking recovery authorized in today's decision is subject to refund.[72]

Ordering Paragraph 3 of D.12-12-030 reiterates this decision:

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[71] *See, e.g.*, *Re Pacific Gas and Electric Company* (1998) 83 CPUC 2d 208 (D.98-11-067, affirming disallowance of $100 million from recoverable Diablo Canyon nuclear plant sunk costs, based on an admitted error by contractors during the plant's construction); *Re Southern California Edison Company* (1994) 53 CPUC 2d 452 (D.94-03-048, disallowing costs associated with an accident and explosion at a coal slurry generating plant that killed six utility employees); *Re Pacific Gas and Electric Company* (1985) 18 CPUC 2d 700 (D.85-08-102, disallowing costs based on managerial imprudence and inadequate attention during construction of Helms Pumped Storage Project); *Re Southern California Edison Company* (1985) 17 CPUC 2d 470 (D.85-03-087, disallowing repair costs associated with defective steam generator equipment at San Onofre Nuclear Generating Station Unit 1); *Re Southern California Edison Company* (1986) 22 CPUC 2d 124 (D.86-10-069, disallowing $344.6 million in construction costs of SONGS units 2 and 3 as a result of imprudence and unreasonable delays in completion of the project).

[72] D.12-12-030, p. 4.

> All increases in revenue requirement authorized in Ordering Paragraph 2 [of this decision, D.12-12-030] are subject to refund pending further Commission decisions in Investigation (I.) 11-02-016, I.11-11-009, and I.12-01-007.[73]

The OII in this proceeding also recognized the potential rate impacts of its findings, and that the ratesetting proceeding addressing PG&E rates, R.11-02-019, "may take note of the record evidence in this investigation."[74]

The Commission in D.12-12-030 recognized that PG&E's gas pipeline recordkeeping has been deficient. On that basis, it disallowed approximately $222 million in records validation and computer upgrade costs between 2012 and 2014. Specifically, the Commission found that PG&E was responsible for maintaining records from "the day it installed facilities and equipment for the system," that ratepayers funded this work, and that PG&E has mismanaged its records "such that extensive remedial work is now needed to correct past deficiencies":

> PG&E became responsible for its natural gas transmission system the day it installed facilities and equipment for the system. That responsibility includes creating and maintaining records of the location and engineering details of system components. Over the years, PG&E has sought and obtained ratepayer funding for its record-keeping functions. PG&E has imprudently managed its gas system records such that extensive remedial work is now needed to correct past deficiencies.[75]

In Decision 12-12-030 the Commission also recognized that PG&E's lack of records would require the testing or replacement of certain pipelines: "The absence of the records for the 1956 to 1961 pipeline now brings these pipeline segments into the Implementation Plan for re-testing or replacement."[76] On this basis, the decision disallows the testing costs for such pipelines, but stopped short of disallowing *all* remedial costs incurred by PG&E as a result of its lost records. Among other things, D.12-12-030 requires ratepayers to pay for the replacement

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[73] D.12-12-030, p. 126, OP 3.

[74] I.11-02-016, p. 15.

[75] D.12-12-030, p. 87.

[76] D.12-12-030, p. 60.

cost of pipelines installed after 1955 for which PG&E has lost the records.[77] These costs will easily exceed $500 million for the first phase of PG&E's plan, to be completed by 2014.[78]

This proceeding should address the issue of whether PG&E's deficient recordkeeping practices constitute unreasonable errors or omissions that have led to the need to perform certain pipeline replacements. To the extent this proceeding finds that PG&E has committed unreasonable errors or omissions, additional findings should be made to facilitate disallowance of both direct and indirect costs associated with correcting those errors or omissions to the extent they add $50 million or more to the cost of providing service.

IV. OTHER ISSUES OF GENERAL APPLICABILITY

A. Given PG&E's Historic Inattention To Safety, An Independent Monitor Is Needed

1. PG&E's Inattention To Safety Is Pervasive And Goes Back Over 50 Years

The various reports on the San Bruno explosion identify several contributing factors to the San Bruno explosion, which, when viewed holistically, demonstrate that PG&E's inattention to safety is pervasive and goes back over 50 years.

The NTSB concluded that the explosion was caused by a gas pipe that was defective when PG&E installed it in 1956, and that the defect "would have been visible when it was installed."[79] The NTSB identified two probable causes for the accident. The first was PG&E's "inadequate quality assurance and quality control" which allowed installation of the defective line in 1956.[80] The second was PG&E's "inadequate pipeline integrity management program" – a records-based program – which "failed to detect and repair or remove the defective pipe section" in later years.[81] As discussed in Section V.B.1.a below, a form of PG&E's integrity

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[77] The Decision disallows from the replacement cost the estimated cost to pressure test the pipeline. D.12-12-030, p. 61.

[78] The Phase 1 costs to replace pipelines for which test records are missing are still being estimated, but *see, e.g.,* D.12-12-030, p. E3, Table E-3, line 1, which estimates a total of $825.5 million for capital expenditures for PG&E's "Pipeline Modernization Plan." The bulk of these expenditures will be for pipeline replacements.

[79] NTSB Report, p. x.

[80] NTSB Report, p. xii.

[81] NTSB Report, p. xii.

management program has been in place for nearly 30 years. The evidence shows that PG&E's integrity management program lacked reliable data from the beginning, and that PG&E was on notice that it needed to systematically update the data as information became available, but that it did not. The NTSB also recognized that PG&E was on notice for many years, as a result of other gas system incidents, that its records were inaccurate and that quality assurance was a problem.[82]

The IRP Report concluded that "the explosion of the pipeline at San Bruno was a consequence of multiple weaknesses in PG&E's management and oversight of the safety of its gas transmission system."[83] Many of those weaknesses related to PG&E's inaccurate records and a lack of quality assurance. Specifically, the IRP Report identified the following deficiencies:

- A lack of coordination between field staff and engineering management regarding which data are collected and where and how records are preserved – resulting in the discovery that "experienced piping engineers were well aware the San Bruno segment was double-submerged arc welded (DSAW), rather than seamless;"[84]

- Integrity management program failures to adequately identify pipeline threats because of inaccurate data, inappropriate risk ranking methodology, a failure to have knowledgeable engineers reviewing the data for errors, and the disconnect between integrity management and field operations;[85] and

- A lack of a strong quality assurance program,[86] the same observation made by the NTSB regarding PG&E's activities in 1956.

Thus, it is clear that PG&E's mismanagement did not start with the energy crisis in 2000, or some other recent event outside its control. As discussed in Section III.B above, PG&E has been on notice at least as early as 1981 regarding its poor recordkeeping practices and their compromising impact on gas pipeline safety. Evidence in the San Bruno investigation documents PG&E's disregard of safety for over 50 years.

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[82] NTSB Report, pp. 117-118

[83] IRP Report, p. 5.

[84] IRP Report, p. 7.

[85] IRP Report, pp. 8-9.

[86] IRP Report, pp. 10-12.

PG&E practices documented in both this ad the San Bruno investigation are the same kinds of practices that would have permitted Line 132 to be installed with no record of the 6 pups in the 1950s, and the same types of practices that would have permitted PG&E's integrity management program to be developed with multiple errors, omissions, and inappropriate assumptions in the 1980s, and never corrected in later years.

All of this leads to the common sense conclusion that PG&E has never had a gas safety culture, systematic and effective record retention and integration policies, or quality assurance or risk assessment mechanisms in place to ensure the safe operation of a high pressure gas transmission pipeline system. In light of this history, it is unrealistic to expect PG&E to change its culture and develop these programs successfully overnight because of a partial change in management. The Commission, with the help of independent third parties, must adopt a qualitatively different type of oversight of PG&E's gas operations. And it must maintain this stepped-up oversight until PG&E has demonstrated that it can operate its gas transmission system safely.

2. An Independent Third Party Monitor Is Appropriate Here

Given PG&E's decades of gas system mismanagement, including failure to implement a systematic record retention and integration program, there is a need for ongoing "hands on" oversight of PG&E's work testing and replacing its gas transmission system, and updating its records with accurate information. And the Commission cannot provide this oversight in a vacuum.

The IRP Report identified the Commission's failure to oversee PG&E's gas operations effectively and opined that the Commission as well as PG&E "must confront and change elements of their respective cultures to assure the citizens of California that public safety is the foremost priority."[87] The NTSB report found that the Commission's "failure to detect the inadequacies of PG&E's pipeline integrity management program" contributed to the San Bruno Explosion.[88]

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[87] IRP Report at 8 and 18-22.

[88] NTSB Report at xii.

To restore public confidence in the Commission's ability to supervise PG&E, and to provide the expertise necessary to ensure that PG&E's work is implemented in a timely and competent manner, the Commission should establish a method of oversight that employs independent monitors who will actively monitor PG&E's remedial work and report publicly on their findings. This level of oversight should be maintained until the Commission has found that PG&E has fully complied with its orders regarding testing, replacement, and database upgrades relative to its gas transmission system.

Independent third party monitors are routinely used on large scale public works projects, including the recent retrofits to the Golden Gate Bridge and the current construction of a new Bay Bridge. There, independent monitors are on site, inspecting all aspects of the work being performed on a daily basis as an additional check to ensure the public is getting what it is paying for.

Similarly, it is not uncommon for independent monitors to be employed in response to destructive oil and gas pipeline incidents, including the 2006 British Petroleum oil spills in Alaska[89] and the 1999 rupture of a Shell and Olympic Oil Company pipeline.[90] An independent monitor with expertise in risk assessment, pipeline integrity management, and data management systems was employed to review the implementation of remedial plans agreed to by El Paso Natural Gas Company as part of a 2007 Consent Decree resolving an action brought by the federal government against the company after a pipeline explosion that killed twelve people.[91]

To establish an independent monitor process, the decision in this matter should direct the parties to meet and confer and invite them to file joint comments proposing an independent monitor process acceptable to the majority of them. At a minimum, the decision should require the parties' joint proposal to include these elements:

- A hiring process for the independent monitors that ensures their independence;
- PG&E will hire and pay for the independent monitors;

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[89] See pp. 30-31 of British Petroleum's consent decree with the U.S. Environmental Protection Agency at http://www.epa.gov/compliance/resources/decrees/civil/cwa/bpnorthslope-cd.pdf.

[90] See http://www.epa.gov/compliance/resources/cases/civil/cwa/olympicshell.html.

[91] Consent Decree in US v El Paso Natural Gas Co. (Dist. Ct. New Mexico) at 12 and *et seq.,* available at http://emerginglitigation.shb.com/Portals/f81bfc4f-cc59-46fe-9ed5-7795e6eea5b5/r_El_Paso_Natural_Gas_Consent_DecreeFinal.pdf

- The independent monitors will conduct and present all analyses and recommendations independently of any suggestions or conclusions of PG&E, the Commission, or other interested parties;
- Quarterly public reporting by the independent monitors to a joint meeting of PG&E, the Commission, and other interested parties;
- The independent monitors will notify PG&E, the Commission, and other interested parties in writing within 10 days of discovery of any potential non-compliance with the requirements of the PG&E's gas safety implement plan or that presents a potential, but not immediate, threat to public safety;
- The independent monitors will notify PG&E, the Commission, and interested parties in writing within 24 hours of any condition that poses a potential and immediate threat to public safety; and
- PG&E's contracts with independent monitors shall prohibit an independent monitor from accepting work from PG&E while performing the duties of an independent monitor.

Proposed Findings of Fact and Conclusions of Law necessary to implement this third party independent monitor proposal are set forth in Appendices A and B hereto.

V. ALLEGED VIOLATIONS PREDICATED ON THE REPORTS AND TESTIMONY OF MARGARET FELTS

A. Alleged Records Violations relating to Line 132, Segment 180, San Bruno Incident

B. Alleged General Records Violations for all Transmission Lines including Line132

Violation 25: Data Used in Integrity Management Risk Model

1. The Data In PG&E's Integrity Management Program Has Been Deficient For Over 30 Years, PG&E Knew It Was Deficient, Yet PG&E Failed To Take Proactive and Systematic Steps To Gather And Integrate Missing And Accurate Data Into The Program

a. PG&E's Integrity Management Program Required Accurate Data To Function Properly

As set forth in Section I above, every report on the San Bruno explosion concludes that PG&E's integrity management program was deficient and that the inaccurate and missing data in that program were significant factors in that determination.

As set forth in Section III.C above, a combination of industry practices, PG&E's claimed practices, laws, regulations, and common sense have all required PG&E to retain accurate records for the life of its gas pipeline facilities. PG&E's adoption of a records-based integrity management program in the 1980s to identify the lines with the highest risk of failure compounded the need for accurate records.

Since 2004, federal regulations have required all pipeline operators to implement a Transmission Integrity Management Program (TIMP) to assess and manage the integrity of all gas transmission pipelines in High Consequence Areas (HCAs).[92] TIMPs use pipeline facility data such as age, material, and repair history, to prioritize pipelines for repair and/or replacement. While the specific TIMP regulatory requirement is relatively new, PG&E's integrity management program is not.

In 1984, 20 years before the federal TIMP requirement, PG&E proposed a "Gas Pipeline Replacement Plan" (GPRP) to prioritize the replacement of various gas transmission lines. A year earlier, PG&E had hired Bechtel to develop a methodology and database to prioritize replacement of transmission line segments and distribution mains. Bechtel proposed to use a probability analysis to predict the segments that posed the highest risk based on the segment's physical characteristics. Those projects with the highest risk numbers were considered more likely to fail and cause significant injury to people and property; thus segments with the highest risk numbers were prioritized for repair or replacement. PG&E and Bechtel refined this model over the next 20 years and this model became the basis for PG&E's TIMP.[93]

Throughout the development of the program in the 1980s, Bechtel advised PG&E where data was missing or assumptions were made, and the risks that missing or inaccurate information posed. At the beginning of the program, in 1984, Bechtel observed that engineers were confronted with the problem of missing records. It emphasized that the value of the risk assessment would be limited by "unknowns and highly suspect data variables":

> *Clearly the result of any risk analysis is entirely dependent upon the quality of information accessed.* The presence of unknowns and highly suspect data variables combined with the lack of mathematical precision in

[92] 49 CFR Part 192, Subpart O.

[93] *See, e.g.,* Ex. CPSD-2, Felts Report, pp. 17-18.

the evaluation of risk parameters places limitations on the applicability of the risk values.[94]

While it appears that PG&E made an attempt in 1984 to gather missing information,[95] it is evident from CPSD's investigation that these efforts were not productive. PG&E was thus on notice that it needed to be proactive and systematic in updating and correcting the data for its integrity management program, but all the evidence suggests that the iterative process of updating the data never occurred.

Notably, and relevant to Mr. Zurcher's testimony, discussed in Section V.B.1.c below, the evidence also shows that PG&E failed to use conservative assumptions when data was missing. For example, the Commission's consultants explain that PG&E often did not have accurate age data for its facilities because it used the date of installation to calculate the age of the pipe, and PG&E often re-used older pipe within the PG&E system. Thus, older pipe was listed as newer because its age was the date of its most current installation. Regarding critical leak data, Bechtel reported that PG&E's engineers expressed little confidence in the accuracy of PG&E's leak data, believing the leak history was under-recorded. Knowing this, and instead of looking to original sources of information, Bechtel relied upon its own experience that the number of leaks in any given transmission line segment rarely exceeds two, and it assumed for modeling purposes that a transmission line segment would have no more than two leaks.[96] Significantly, PG&E's job files show many segments with many more than two leaks.[97]

b. PG&E Never Took Proactive Steps To Correct Or Update the Data In Its Integrity Management Program

All of PG&E's integrity management programs – over nearly three decades – have been funded by ratepayers through rates.[98] Aware of the need to justify this ratepayer investment, PG&E's 1990 Annual Progress Report on its Gas Pipeline Replacement Plan emphasized that by

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[94] Ex. CPSD-55, 1984 Bechtel Report, p. 13 (*emphases added*).

[95] Ex. CPSD-2, Felts Report, p. 19.

[96] Ex. CPSD-2, Felts Report, pp. 19-20.

[97] Ex. CPSD-2, Felts Report, p. 20.

[98] *See, e.g.,* Ex. CPSD-2, Felts Report, p. 18, note 78; Decision 11-04-031, Appendix A, Gas Accord V Settlement Agreement, Section 7.3, p. 8.

replacing highest priority pipes first, it was maintaining a safe operating system in the most cost effective manner possible.[99] "What PG&E did *not* say in its report was that it did not have adequate historical data about its pipeline system to populate the required data fields in a risk assessment model so it would produce accurate and useful results."[100]

Had PG&E attempted to proactively populate its database with complete and accurate information in the 1980s when it hired Bechtel to develop its integrity management program, or if it had taken action at any time after that to do so, even with information learned over the years, we would not be here today. Instead, the Commission's consultants have found that PG&E's data base has historically contained, and continues to contain, so much missing and/or inaccurate data that the integrity management system itself poses a safety threat:

> The pipes most likely to fail are not being identified accurately due to a lack of relevant, accurate, complete and accessible data. Thus, PG&E's current integrity management program itself presents a safety risk to PG&E's field and station employees and the public.[101]

The Commission's consultants have pored over PG&E's integrity management database and have found material errors and omissions at every turn, including evidence of intentionally destroyed data, lost data, and PG&E policies requiring data retention that were ignored and eventually rescinded.

The Commission's consultants reviewed all of the records required to create an accurate and useful integrity management model. Almost all of these records are required to be maintained for the life of the facility, and in some instances, for the life of the facility plus 6 years.[102] The Commission's consultants found the following material errors and omissions associated with each aspect of the data PG&E has used to populate its integrity management system:[103]

- Historical Information Missing: Because PG&E is missing historical data about its pipelines, it must use erroneous and incomplete

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[99] Ex. CPSD-2, Felts Report, p. 18.

[100] Ex. CPSD-2, Felts Report, pp. 18.

[101] Ex. CPSD-2, Felts Report, pp. 24-25.

[102] Ex. CPSD-2, Felts Report, pp. 15-16.

[103] Ex. CPSD-2, Felts Report, pp. 26-47.

(assumed and/or of unknown quality) information in its integrity management models. This lack of information has resulted in the assignment of incorrect risk priorities (for replacement and assessments) to pipeline segments.[104]

- Early Pipeline Records Missing Or Lacking Detail: Many early pipeline drawings are missing and many others lack certain details and supporting documentation cannot be found.[105]
- Pipeline History Files Discontinued and Now Missing: While PG&E policy in place for at least two decades required retention of critical pipeline history files for the life of the pipeline, this policy was discontinued in 1987. The files were apparently discarded.[106]
- Job Files Incomplete and Disorganized: From at least 1929, PG&E retained engineering documents related to completed projects in Job Files, but it did not include this information in the "Master" Job Files. This critical information was discarded or misplaced as early as 1980 and continuing through 1996.[107]
- Many Design and Pressure Test Records Missing: PG&E is missing pipeline and pressure test records required to be retained for the life of the pipeline and vital to PG&E's successful implementation of its integrity management program.[108]
- Weld Maps and Inspection Records Mostly Missing or Incomplete: Despite PG&E's written policies to create and manage weld records, weld maps and inspection records for PG&E's transmission pipelines, which would normally be a source of key pipeline data for the integrity management model, are mostly missing.[109]
- Operating Pressure Records Missing, Incomplete, or Inaccessible: PG&E generally has no "life of the plant" record of operating pressure for the life of its pipelines and PG&E lost pressure records for all of 1999.[110]

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[104] Ex. CPSD-2, Felts Report, pp. 28-29.

[105] Ex. CPSD-2, Felts Report, p. 29.

[106] Ex. CPSD-2, Felts Report, pp. 29-31.

[107] Ex. CPSD-2, Felts Report, pp. 32-33 ("PG&E has a history of destroying or discarding important records. Despite requirements that date back to 1912 (by California regulations) and 1970 (by Federal regulations) to retain facility related records permanently, PG&E readily admits that records may have been discarded or misplaced as early as 1980 and continuing through 1996.").

[108] Ex. CPSD-2, Felts Report, pp. 33-34.

[109] Ex. CPSD-2, Felts Report, pp. 35-38.

[110] Ex. CPSD-2, Felts Report, pp. 38-39.

- Leak Records Incomplete, Disorganized and Inaccessible: Notwithstanding the fact that Bechtel concluded that leak information is one of the most important sources of information for integrity management, PG&E has failed to maintain its leak records in a manner that makes the information readily accessible and states that it cannot retrieve leak data prior to 1970.[111]
- No Tracking System for Salvage and Reused Pipe: PG&E has a practice of salvaging pipe when it is removed from the ground. However, over the years, PG&E moved pipe (often in service for many years) from one location to another, but did not keep track of where the pipe was reinstalled in the system, making it impossible to determine the age of pipe in any segment.[112]

Based on these discoveries, the Commission's consultants made two findings regarding PG&E's recordkeeping: (1) "the pipe failure and explosion on Line 132 in San Bruno on September 9, 2010 may have been prevented had PG&E managed its records properly over the years" and (2) "PG&E's entire integrity management program is an exercise in futility because PG&E lacks the basic records necessary to provide fundamental data required for the successful use of the integrity management risk model. Therefore, PG&E has been operating, and continues to operate, without a functional integrity management program."[113]

c. PG&E's Experts Argue That PG&E's Integrity Management Program Met Requirements, Even Though It Lacked Accurate Data

Notwithstanding overwhelming evidence of PG&E's integrity management program failures *over many decades*, PG&E's experts argue that PG&E's integrity management program complied with requirements, that its data gathering and integration complied with requirements, and that *accurate data is not a requirement or a goal of the integrity management rules*. PG&E's experts are able to make these assertions because they – evidently – only speak to PG&E's *written policies and protocols*. They assiduously ignore the evidence suggesting that PG&E employees were not actually *complying* with these policies and protocols.

PG&E's expert on integrity management, Mr. Zurcher, has an impressive resume which describes, among other things, his close ties to the gas pipeline industry, and his pervasive

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[111] Ex. CPSD-2, Felts Report, pp. 39-43.

[112] Ex. CPSD-2, Felts Report, pp. 43-47.

[113] Ex. CPSD-2, Felts Report, p. 49.

involvement as an industry lobbyist in the development of the integrity management rules and gas company programs to comply with those rules.[114] He claims to have reviewed the integrity management programs of companies representing 220,000 of the 300,000 miles of pipeline installed in the United States.[115] Therefore, PG&E's expert, and his numerous gas industry clients, have much to lose if PG&E is found to have violated those integrity management rules.

Mr. Zurcher's direct testimony, and his performance on cross examination, both demonstrate Mr. Zurcher's bias as a hired apologist for PG&E and all of his future industry clients. For $390 per hour,[116] Mr. Zurcher's testimony is limited almost entirely to materials provided to him by PG&E, and relies on virtually no observations of PG&E's actual practices.[117] In sum, he compares PG&E's written integrity management program protocols to the regulations, and concludes they comply.[118] His analysis and conclusions fail to incorporate any of his own prior knowledge of PG&E's practices, which he should be familiar with given his post-San Bruno audit of PG&E's integrity management program.[119] This experience is conveniently forgotten, if his cross examination responses can be believed. And he did not ask PG&E to confirm, with evidence, the accuracy of its assertions that are key to his compliance determinations.[120]

On cross examination, ignoring the well-documented evidence that PG&E's integrity management records have significant errors and omissions,[121] and have for years, Mr. Zurcher

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[114] *See, e.g.,* 7 Jt. RT 679: 14-28, Zurcher/PG&E.

[115] 8 Jt. RT 798:11-21, Zurcher/PG&E.

[116] 7 Jt. RT 651:10-14, Zurcher/PG&E.

[117] *See, e.g.,* I.12-01-007, Ex. PGE-1, Zurcher Testimony, pp. 5-3 to 5-4. Mr. Zurcher's testimony from the San Bruno OII is within the record of this proceeding based upon cross examination of Mr. Zurcher, and questions regarding this testimony, in the Joint Evidentiary Hearings.

[118] *See, e.g.,* I.12-01-007, Ex. PGE-1, Zurcher Testimony, p. 5-6, lines14-17 ("In connection with this testimony, I have reviewed materials relating to PG&E's pipeline data records as maintained in its Geographic Information System (GIS). My understanding from the materials that I have reviewed is that …."); and similar at p. 5-8, lines 16-18 and p. 5-13, lines 22-24, and p. 15, lines 11-15.

[119] 7 Jt. RT 695:20 – 705:27, and specifically 704:20 – 705:27 ("Q: And so before you said that you didn't review any of PG&E's TIMP as part of this audit, do you recall that? A: Yeah, and I am struggling. ….. Q: But you did review PG&E's Integrity Management Program as part of this audit? A: Yes.")

[120] 7 Jt. RT 674:8 – 675:5, Zurcher/PG&E.

[121] Mr. Zurcher reviewed the report and testimony of Margaret Felts in developing his own testimony. I.12-01-007, Ex. PGE-1, Zurcher Testimony, p. 5-3. As such, he would have been familiar not with Ms. Felts' criticisms and supporting evidence, but also with the Bechtel warnings regarding the quality of the

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answers questions based upon the *theoretical* integrity management program PG&E *might have had* if it had followed its written rules regarding recordkeeping and gas pipeline assessments. Mr. Zurcher assiduously steers clear of agreeing with the NTSB, the IRP and numerous other consultants that "accurate" records are needed to operate a functional integrity management program. When directly asked whether he agrees with the NTSB that the elements of an effective integrity management program include accurate, complete, and verifiable data, he unequivocally states: "I would disagree with that."[122] When asked whether he would agree that accurate data is essential for an integrity management program to reach reliable conclusions he states: "I would not necessarily agree with that."[123] When asked if records can be useful for determining the condition of a pipeline, he disagrees: "No, I don't think that's a true statement."[124] When asked the basis for his testimony that the "NTSB got it wrong" on these points he explains: "Well, NTSB is just like any other organization. … They are entitled to their opinion, but their opinion is not always right."[125] Failing to provide any specific examples of how the "NTSB got it wrong," or why he is right, Mr. Zurcher reluctantly admits that the NTSB had qualified experts working on the report: "I'm sure they were qualified, yes."[126]

Upon further examination, it becomes clear that while Mr. Zurcher opines that accurate data is not necessary to populate an integrity management program *at the beginning*, he expects that the data will later be updated with information from pipeline assessments[127] or be otherwise corrected.[128] Mr. Zurcher's direct testimony made this point clear:

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data in the integrity management program.

[122] 7 Jt. RT 658:28 – 659:5, Zurcher/PG&E.

[123] 7 Jt. RT 658:28 – 659:9-10, Zurcher/PG&E. See also 7 Jt. RT 662:13-19.

[124] 8 Jt. RT 733:8-21, Zurcher/PG&E.

[125] 8 Jt. RT 795:19 – 796:10, Zurcher/PG&E.

[126] 8 Jt. RT 796:11-20, Zurcher/PG&E.

[127] 7 Jt. RT 659:19 – 660:1, Zurcher/PG&E ("But remember, also the assessment process provided the operator, once the assessment was performed, with a wealth of information that they were going out and seeking. For instance, if I decided to do a smart pig run, an ILI, I would come back with a lot of information.").

[128] 7 Jt. RT 663:8-17, Zurcher/PG&E ("Again, as we would find errors in the data, those would get corrected.").

> The Integrity Management rules thus required operators to conduct integrity assessments of their pipelines in order to validate existing assumptions and/or provide information that would either change or confirm the assumptions and, potentially, lead to additional assessment, examination, evaluation, and remediation. These ongoing Integrity Management assessments were intended in part to address known and anticipated gaps in operators' knowledge about their pipeline systems.[129]

On cross-examination, Mr. Zurcher emphasizes that a "prescriptive program" like PG&E's, which requires mandatory pipeline assessments under the regulations, would be lacking information and required the gathering of data.[130] He explains: "Sometimes we just entered data and left items blank with the full intention of coming back later on. But we designed those systems at that time in late '80s and early '90s and probably even into today *with the idea that we would go back and supplement it with data as it became available*."[131] Mr. Zurcher emphasized this point regarding adding additional data throughout his cross examination and at again the end:

> ... I know I have to say this all the time, but the *integrity management programs directed us to where we need to find additional data to make better decisions about pipeline safety going forward.* So it was always forward looking, *where do I need to go to get this additional data, what data do I want, and then how do I integrate that data back into my program to make decisions*.[132]

However, Mr. Zurcher refused to acknowledge that, in reality, PG&E's integrity management program did not meet any quality assurance standards at the outset and that PG&E took no meaningful actions to fill gaps in the data, correct errors, or revise its assumptions, over time. As described in Section V.B.1.a above, this problem, and the need to correct data errors going forward, was brought to PG&E's attention by Bechtel early in the life of its initial integrity management program. Thus, PG&E *knew* that its database errors and omissions posed significant problems to the validity of its integrity management program, yet did nothing to

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[129] Ex. PG&E-61, Testimony, pp. 3-9 to 3-10, lines 28-2.

[130] 7 Jt. RT 660:7-13, Zurcher/PG&E ("[T]he operator had to recognize lacking information, I want a prescriptive program and I need to go gather that data.").

[131] 7 Jt. RT 663:1-7, Zurcher/PG&E (emphases added). *See also* 8 Jt. RT 814:9-23 ("And the integrity assessment, to a large degree, is for the purposes of finding information that you didn't have before.").

[132] 8 Jt. RT 870:2-11, Zurcher/PG&E (emphases added). *See also* the four footnotes immediately above and Ex. PG&E-61, Testimony, pp. 3-9 to 3-10.

address that problem. Had PG&E worked to systematically populate its database with complete and accurate information starting in the 1980s when it hired Bechtel to develop its integrity management program, or had it taken action at any time after that to do so, even with information learned over the years – as Mr. Zurcher explains is part of the integrity management process – PG&E might have developed an effective integrity management program and we would not be here today. Instead, it is evident that PG&E's database has historically contained, and continues to contain, so much missing and/or inaccurate data and inappropriate assumptions that the integrity management system itself poses a safety threat.[133]

d. Mr. Zurcher's Testimony Is Not Credible and Should Be Disregarded

Mr. Zurcher testifies to PG&E's compliance with integrity management regulations and industry standards without ever confirming for himself that PG&E actually complies with those regulations and standards. His claimed ignorance of PG&E's actual practices strains credibility given his relatively recent audit of PG&E's integrity management program. For these reasons, Mr. Zurcher's testimony should be disregarded.

Mr. Zurcher's claims that PG&E's integrity management program is compliant with regulations and industry standards is intentionally provided in a vacuum where PG&E's *actual* practices and the *observed outcomes of those practices* are deemed irrelevant.[134] When asked whether he requested documentation from PG&E demonstrating that PG&E had complied with its own quality control requirements for entering data into the GIS system, he admitted that he did not. He simply took PG&E's word that it had complied.[135] In fact, all evidence regarding PG&E's *actual* data collection and integration efforts is contrary to Mr. Zurcher's assertions that PG&E met "requirements." As the IRP Report recognized, PG&E did not even take the obvious

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[133] NTSB Report, p. xi (PG&E's integrity management program "[l]ed to internal assessments … that were superficial and resulted in no improvements"); Ex. CPSD-10, IRP Report, p. 8 ("The lack of an overarching effort to centralize diffuse sources of data hinders the collection, quality assurance and analysis of data to characterize threats to pipelines as well as to assess the risk posed by the threats on the likelihood of a pipeline's failure and consequences.").

[134] As demonstrated during cross examination, Mr. Zurcher should be extremely knowledgeable about PG&E's practices given his numerous audits of its various systems. See e.g., 8 Jt. RT 726:7-19.

[135] 7 Jt. RT 674:8 – 675:5, Zurcher/PG&E.

step of having an experienced pipeline engineer review its data for accuracy.[136] If it had, PG&E would have known that Line 132 was not a seamless pipe.

Mr. Zurcher baldly asserts that PG&E's data gathering and integration "practices" complied with integrity management requirements, but fails to provide any evidence in support. When asked whether he actually *observed* whether PG&E was following its standards, Mr. Zurcher admitted that his observations were limited to "certain people" over "a few days":

> Q: And when you – you mentioned in response to a question from Ms. Strottman that you looked for PG&E's standards and for – and they were consistent with the industry, *did you actually observe whether or not PG&E employees were following the standards?*
>
> A: I would not say that I looked at the following of the process to the detail that I looked at the actual documents and the records of the documents. We did observe certain people performing certain tasks. Of all the tasks that I saw performed, they were in compliance with their procedures. But it was not a – it wasn't a several month effort. It was a few days.[137]

Mr. Zurcher also testifies that PG&E's use of the less informative direct assessment process for Line 132 was appropriate. He overlooks the fact that PG&E's integrity management program data was deficient and that direct assessment, as compared to in-line inspection, significantly limited the quality and quantity of new information to provide missing data points or correct inaccuracies.

Ultimately, even Mr. Zurcher admits that "I think you want [data used in the integrity management program] as accurate as possible…"[138] And: "Again, where you were missing data, you could make conservative assumptions. And the whole process was *also where you were missing data, you would perform the integrity assessment and gather that data*."[139]

By applying only a facial analysis, Mr. Zurcher's review of PG&E's integrity management program falls prey to the same mistakes made by the CPSD and PHMA audits that PG&E relies upon to support its assertions of compliance.[140] Mr. Zurcher's testimony

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[136] IRP Report, p. 7.

[137] 8 Jt. RT 829:1-16, Zurcher/PG&E (*emphases added*).

[138] 7 Jt. RT 668:11 – 669:24, Zurcher/PG&E (but he qualifies: "but I don't think that there was ever an expectation that you have the most accurate data.").

[139] 7 Jt. RT 669:25 – 670:1, Zurcher/PG&E (*emphases added*).

[140] I.12-01-007, Ex. PGE-1, Keas Testimony, pp. 4-11 to 4-12. Ms. Keas' testimony from the San Bruno

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intentionally misses the point that while PG&E's integrity management program may be *written* in a manner that arguably complies with regulations, PG&E's *implementation* of that program was not compliant. Specifically, while even Mr. Zurcher insists that an integrity management program's data base must be constantly and iteratively updated, he refuses to say whether PG&E, in fact, engaged in this iterative process, thus undermining the entire foundation of his testimony.

Mr. Zurcher's testimony lacks credibility for the additional reason that he repeatedly contradicted himself on cross examination. For example, at one point Mr. Zurcher stated emphatically that gas pipeline operators routinely operate above maximum allowable operating pressure (MAOP) and that this is not prohibited by regulations: "… there is no regulation that says I cannot exceed my MAOP. …. I know MAOP is exceeded by every operator every day. There is not a rule that says you can't do it."[141]

However, when presented with his own testimony to the contrary on behalf of El Paso Gas in another case, he had no response. There, he emphatically testified the opposite, that regulations require "operators to operate pipeline facilities in a manner so that they will not exceed Maximum Allowable Operating Pressure (MAOP)" and that the regulatory definition of MAOP provides that "'may not exceed' means may never exceed.'"[142] Mr. Zurcher's El Paso testimony concludes: "Therefore prudent pipeline operators manage system pressures to never exceed MAOP, which often means that a safety margin below MAOP is necessary … When considering deliverability, maximizing pressure as close to MAOP is desirable; however, it must be done to ensure that MAOP is not exceeded."[143]

At still another point in cross examination, Mr. Zurcher, after significant prompting and presentation of written documentation, admitted that he had performed an audit for PG&E after the San Bruno explosion. But he claimed to have forgotten virtually everything about the audit and what he did for the audit, including the fact that he was responsible for auditing employee practices regarding PG&E's integrity management program – an issue his testimony here

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OII is within the record of this proceeding based upon cross examination of Ms. Keas, and questions regarding this testimony, in the Joint Evidentiary Hearings.

[141] 7 Jt. RT 713:14-27, Zurcher/PG&E.

[142] 8 Jt. RT 789:20-790:12, Zurcher/PG&E (*emphases in original).*

[143] 8 Jt. RT 790:19-791:7, Zurcher/PG&E.

assiduously avoids.[144] Incredibly, he stated: "I don't believe any of [the audit] was relevant to the report or the testimony that I prepared."[145]

Finally, after repeatedly testifying that PG&E's integrity management program was compliant with regulations,[146] Mr. Zurcher stated that only a court could answer whether PG&E complied with the regulations.[147] Certainly, this is a strange position for a self-acclaimed regulatory compliance expert to take. And if this is the case, shouldn't his earlier testimony to the contrary be disregarded?

e. Ms. Keas' Testimony Is Hearsay, Is Not Credible, And Should Be Disregarded

PG&E offers the testimony of its recently hired employee, Ms. Keas, to further support Mr. Zurcher's conclusions that PG&E's integrity management program existing before the San Bruno explosion met requirements. Here, PG&E has the opportunity to correct the deficiencies of Mr. Zurcher's testimony, and to show that its program *as applied* was compliant – yet it fails to do so.

Ms. Keas joined the company post-San Bruno and cannot testify as an eye witness to PG&E's actual data collection and integration practices before San Bruno. Nor can she testify regarding the actual functionality of PG&E's integrity management program at that time. But this does not stop her from trying. While she admits that she has no "personal knowledge of what was done prior to San Bruno" she elaborates on what she did to understand PG&E's practices before San Bruno,[148] and she testifies to those practices, as they were explained to her.[149] Among other things, Ms. Keas testified regarding how PG&E integrated its integrity management data from various sources using GIS before San Bruno.[150] This is classic hearsay testimony – "evidence not proceeding from the personal knowledge of the witness, but from the

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[144] 7 Jt. RT 695-705, Zurcher/PG&E; see specifically 704:20-705:18.

[145] 7 Jt. RT 706:3-5, Zurcher/PG&E.

[146] I.12-01-007, Ex. PGE-1, Zurcher Testimony, pp. 5-6 and 5-13 to 5-14.

[147] 7 Jt. RT 686:3-10 ("But it's always been my opinion and my understanding that it's only the courts who get to decide what compliance is") and 687:13-17 ("Again, only the court in my mind can actually determine what the regulations require, so I can't really answer that.").

[148] 11 Jt. RT 1155:3 – 1156:11, Keas/PG&E.

[149] *See, e.g.,* 11 Jt. RT 1152:13 – 1155:8, Keas/PG&E.

[150] 11 Jt. RT 1152:13 – 1155:8, Keas/PG&E.

mere repetition of what she has heard others say"[151] – and it is being offered for the truth of the matter asserted. Give the critical nature of the defense, and the fact that PG&E did not attempt to explain why an eye-witness to PG&E's actual data collection and integration practices could not be made available, Ms. Keas testimony should be disregarded.

Ms. Keas' hearsay testimony is contradicted by the NTSB Report, which concludes that, contrary to fundamental integrity management principles, PG&E was *not* updating its GIS with ECDA information.[152] The NTSB Report explains that "many of the pipe segments for which records had missing, assumed, or erroneous data *had previously been exposed* in connection with ECDA excavations as part of the integrity management program."[153] This is evidence PG&E was not updating the data. The NTSB also observed that though PG&E officials at its investigative hearing claimed that PG&E required data to be updated when field staff noticed discrepancies, this was not happening:

> At the NTSB investigative hearing, PG&E officials testified that if discrepancies between GIS data and actual conditions are discovered by field personnel, field engineers are required to report them to the mapping department, which validates the information. However, the documents provided to the NTSB indicate that PG&E does not use the ECDA process for validating assumed values, determining unknown values, or correcting erroneous values.[154]

To rebut this NTSB finding in this proceeding, PG&E would have had to put on a witness with *personal knowledge* of PG&E's pre-San Bruno data integration practices. PG&E's failure to produce such a witness speaks volumes about the validity of its position. Quite simply, the conclusions of the NTSB and IRP Reports that PG&E did not properly populate or maintain its integrity management data base trump Ms. Keas' hearsay testimony regarding historic events that she did not witness. All of the evidence, aside from Ms. Keas' hearsay testimony regarding

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[151] Black's Law Dictionary, Abridged 6th Edition, 1991.

[152] NTSB Report, p. 108.

[153] NTSB Report, p. 108 (*emphases added*).

[154] Ex. CPSD-9, NTSB Report, p. 109, *see also id,* p. 110 ("As stated earlier in this section, in many cases, accurate information could have easily been obtained during ECDA digs, but the information was either not obtained or not entered. The lack of complete and accurate pipeline information in the GIS prevented PG&E's integrity management program from being effective.").

PG&E's practices pre-San Bruno, demonstrates that PG&E was not engaging in the "iterative" process of database correction that effective integrity management requires.

VI. ALLEGED VIOLATIONS PREDICATED ON THE REPORTS AND TESTIMONY OF DR. PAUL DULLER AND ALISON NORTH

VII. ALLEGATIONS RAISED BY CCSF TESTIMONY

VIII. ALLEGATIONS RAISED BY TURN TESTIMONY

IX. ALLEGATIONS RAISED BY CITY OF SAN BRUNO TESTIMONY

X. CONCLUSION

For all the reasons set forth herein, the decision in this matter should find that PG&E's recordkeeping deficiencies constitute unreasonable errors and omissions requiring ratemaking disallowances for direct and indirect costs incurred to correct those errors and omissions pursuant to Public Utilities Code §§ 451 and 463. The decision should also adopt a process to appoint an independent third party monitor to oversee PG&E's gas pipeline testing, replacement, and recordkeeping activities to ensure they are performed in an appropriate manner. Appendices A and B, attached hereto, contain proposed Findings of Fact and Conclusions of Law necessary to implement these recommendations.

Respectfully submitted,

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APPENDIX A

PROPOSED FINDINGS OF FACT

I. FINDINGS OF FACT TO SUPPORT DISALLOWANCES FOR UNREASONABLE ERRORS AND OMISSIONS

1. The overwhelming weight of the evidence shows that PG&E has committed unreasonable errors and omissions with regard to its gas transmission records and integrity management program for which the remediation will cost far more than $50 million.

2. Every report on the San Bruno explosion correctly concludes that PG&E's integrity management program was deficient.

3. The NTSB correctly found that PG&E's pipeline integrity management program, which should have ensured the safety of the system, was deficient and ineffective because it relied on pipeline information that was inaccurate and incomplete, was missing mission critical information, and was not designed to consider the most relevant information – such as pipeline design, materials, and repair history – when determining how to prioritize repairs and replacements.

4. The NTSB correctly concluded that PG&E's integrity management program led to internal assessments that were superficial and resulted in no improvements.

5. The IRP correctly concluded that PG&E's integrity management program is not identifying all threats, as required by regulation; is not identifying the segments of highest risk and remediating significant anomalies; and hence is not taking programmatic actions to prevent or mitigate threats.

6. A form of PG&E's gas transmission integrity management program has been in place for nearly 30 years.

7. PG&E has not met its burden of proving its defenses.

8. PG&E's integrity management program lacked reliable data from the beginning.

9. The evidence shows that well before the San Bruno explosion, PG&E was put on notice of its significant record keeping deficiencies, and their impacts on its integrity management risk assessments.

10. PG&E's expert testimony that its integrity management program met regulatory requirements and industry standards is not credible and should be disregarded.

11. The evidence shows that PG&E was not complying with integrity management regulatory requirements or industry standards.

12. PG&E's expert witnesses intentionally ignored well-documented evidence that PG&E's integrity management records have significant errors and omissions.

13. PG&E's expert witness incorrectly asserted that accurate data is not important for integrity management purposes and is not necessary to operate a functional integrity management program.

14. PG&E's expert witnesses correctly emphasized that integrity management was an iterative process requiring new and updated information to be added when pipeline assessments were performed and data became otherwise available.

15. The evidence shows that PG&E took no meaningful actions to systematically update its integrity management data, or correct the errors over time. It did not systematically update the integrity management data base when pipeline assessments were performed.

16. One of PG&E's integrity management witnesses joined PG&E after the San Bruno explosion and could not testify from personal experience to PG&E's actual data collection and integration practices before San Bruno; nor could she testify regarding the actual functionality of PG&E's integrity management program at that time.

II. FINDINGS OF FACT SUPPORTING DENIAL OF PG&E'S DUE PROCESS CLAIMS

1. The San Bruno explosion was not the first time that PG&E was put on notice of its significant record keeping deficiencies.

2. Many factors, including Commission decisions, Commission safety investigations, and internal PG&E documents put PG&E on notice that its gas recordkeeping and integrity management practices were unsafe and in violation of § 451.

3. In 1981, the NTSB investigated a gas pipeline leak in San Francisco where PG&E took 9 hours and 10 minutes to stop the flow of gas because it could not locate one emergency valve due to inaccurate records.

4. Bechtel advised PG&E in 1984 of the risk to its integrity management program caused by missing pipeline data, and the need for additional research to resolve these "uncertainties."

5. As observed by the NTSB, incidents in San Francisco in 1981and the 2008 Rancho Cordova explosion put PG&E on notice that many of its practices were deficient, unsafe, and needed to be modified

6. A 2009 PG&E-commissioned audit of its integrity management risk algorithm put PG&E on notice that the its risk assessment methodology suffered from "significant weaknesses".

7. D. 61269, the decision that adopted General Order 112 – the gas safety regulations – put the utilities on notice in Finding and Conclusion Number 8 that nothing in those "precautionary safety rules" removed or minimized their "primary obligation and responsibility … to provide safe service and facilities in their gas operations." It concluded: "Officers and employees of the [gas utilities] must continue to be ever conscious of the importance of safe operating practices and facilities and of their obligation to the public in that respect."

III. FINDINGS OF FACT SUPPORTING ADOPTION OF AN INDEPENDENT THIRD PARTY MONITOR

1. The evidence shows that for at least the last 30 years PG&E has not had an effective and systematic program for maintaining its gas pipeline records and that it has not engaged in the iterative process to update the records relied upon by its integrity management program.

2. The Commission's failure to detect the inadequacies of PG&E's pipeline integrity management program contributed to the San Bruno Explosion, but does not excuse PG&E's unreasonable conduct.

3. Independent third party monitors are often used on large scale public works projects where independent monitors are on site, inspecting the work being performed on a daily basis as an additional check to ensure that the work is being done properly and the public is getting what it is paying for.

4. It is not uncommon for independent monitors to be employed in response to destructive oil and gas pipeline incidents.

APPENDIX B

PROPOSED CONCLUSIONS OF LAW

I. CONCLUSIONS OF LAW TO SUPPORT DISALLOWANCES FOR UNREASONABLE ERRORS AND OMISSIONS

1. The hearsay testimony of PG&E's integrity management witness should be given very little weight.

2. Section 463 of the California Public Utilities Code requires the Commission to disallow direct and indirect expenses related to the unreasonable errors or omissions of a utility that result in added costs of more than $50 million.

3. The Commission has relied upon § 463 and on its general ratemaking authority on many occasions to disallow costs resulting from unreasonable utility errors and omissions, and should do so here.

4. While ratemaking issues are not usually taken up in an OII, D.12-12-030, which addressed the ratemaking treatment for PG&E's post-San Bruno remediation plan, invited consideration of such issues here.

5. D.12-12-030 expressly provided for the possibility of refunds based on findings in this proceeding.

6. To the extent the parties to this proceeding have shown that PG&E has committed errors or omissions resulting in added costs of more than $50 million, all direct and indirect remediation costs should be disallowed.

7. Pursuant to D.12-12-030 and sections 451 and 463, the Commission should order disallowances based on PG&E's unreasonable errors and omissions in R.11-02-019.

II. CONCLUSIONS OF LAW SUPPORTING DENIAL OF PG&E'S DUE PROCESS CLAIMS

1. PG&E's constitutional due process claims that § 451 is void for vagueness or that it did not have appropriate notice that it could be fined for gas safety violations under § 451 have no merit.

2. The Commission has held in Carey v. Pacific Gas & Elec., D.99-04-029, and the Appellate Court has affirmed in Pacific Bell Wireless, LLC v. Public Utilities Commission, 140 Cal. App. 4th 718, 741-742 (2006), that § 451 is not unreasonably vague and does not violate due process.

3. This holding applies to both ratemaking and safety violations of § 451.

4. Whether something is "*necessary to promote* the *safety, health, comfort, and convenience* of … the public" is easily understood both within the gas industry and common usage.

5. Conduct does not need to be expressly prohibited by statute or regulation for the Commission to find that § 451 has been violated.

6. The Appellate Court, in Pacific Bell Wireless, LLC v. Public Utilities Commission, 140 Cal. App. 4th 718 (2006) found that a violation of § 451 is a separate offense for which a fine may be imposed, regardless of whether or not the conduct in question also violates a more specific regulatory requirement.

7. The Commission has interpreted § 451 in the past to fine utilities for failures to safely maintain and operate their facilities.

8. Many factors, including Commission decisions, Commission safety investigations, and internal PG&E documents put PG&E on notice that its gas recordkeeping and integrity management practices were unsafe and in violation of § 451.

III. CONCLUSIONS OF LAW SUPPORTING ADOPTION OF AN INDEPENDENT THIRD PARTY MONITOR

1. The various reports on the San Bruno explosion identify several contributing factors to the San Bruno explosion, which, when viewed holistically, demonstrate that PG&E's inattention to safety is pervasive and goes back over 50 years.

2. In light of the evidence that shows that for at least the last 30 years PG&E has not had an effective and systematic program for maintaining its gas pipeline records and that it has not engaged in the iterative process to update the records relied upon by its integrity management program, it is unrealistic to expect PG&E to change overnight.

3. In light of this evidence, there is a need for ongoing "hands on" oversight of PG&E's work testing and replacing its gas transmission system, and updating its records with accurate information.

4. The Commission, as well as PG&E, must confront and change elements of their respective cultures to assure the citizens of California that public safety is the foremost priority.

5. The Commission, with the help of independent third parties, should adopt a qualitatively different type of oversight of PG&E at every level.

6. To restore public confidence in the Commission's ability to supervise PG&E, and to provide the expertise necessary to ensure that PG&E's work is implemented in a timely and competent manner, the Commission should establish an oversight process that employs independent monitors to actively monitor PG&E's remedial work and who report publicly on their findings until the Commission has found that PG&E has fully complied with its orders regarding testing, replacement, and database upgrades relative to its gas transmission system.

7. The Commission should maintain this stepped-up oversight until PG&E has demonstrated that it can operate its gas transmission system safely.

8. To establish an independent monitor process, the decision in this matter should direct the parties to meet and confer and invite them to file joint comments proposing an independent monitor process acceptable to the majority of them. At a minimum, the decision should require the parties' joint proposal to include these elements:

   - A hiring process for the independent monitors that ensures their independence;
   - PG&E will hire and pay for the independent monitors;
   - The independent monitors will conduct and present all analyses and recommendations independently of any suggestions or conclusions of PG&E, the Commission, or other interested parties;
   - Quarterly public reporting by the independent monitors to a joint meeting of PG&E, the Commission, and other interested parties;
   - The independent monitors will notify PG&E, the Commission, and other interested parties in writing within 10 days of discovery of any potential non-compliance with the requirements of the PG&E's gas safety implement plan or that presents a potential, but not immediate, threat to public safety;
   - The independent monitors will notify PG&E, the Commission, and interested parties in writing within 24 hours of any condition that poses a potential and immediate threat to public safety; and
   - PG&E's contracts with independent monitors shall prohibit an independent monitor from accepting work from PG&E while performing the duties of an independent monitor.