

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA



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Application of Pacific Gas and Electric  
Company (U39G) Proposing Cost of  
Service and Rates for Gas Transmission  
and Storage Services for the Period  
2019-2021.

Application 17-11-009  
(Filed November 17, 2017)

**OPENING BRIEF  
OF THE OFFICE OF THE SAFETY ADVOCATE**

**JENNY AU**  
Senior Utilities Engineer

Office of the Safety Advocate  
California Public Utilities Commission  
320 W. 4<sup>th</sup> Street, Ste. 500  
Los Angeles, CA 90013  
Phone: (213) 620-6502  
Email: jenny.au@cpuc.ca.gov

**CANDACE CHOE**  
Attorney

Office of the Safety Advocate  
California Public Utilities Commission  
505 Van Ness Ave.  
San Francisco, CA 94102  
Phone: (415) 703-5651  
Email: candace.choe@cpuc.ca.gov

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## SUMMARY OF RECOMMENDATIONS

The California Public Utilities Commission (Commission) should review Pacific Gas & Electric Company's (PG&E) pipeline mitigation program as it relates to shallow and exposed pipeline. Based on the record, it does not appear that PG&E has an adequate pipeline management program to mitigate risks associated with exposed pipelines in communities such as Lafayette. The Office of the Safety Advocate (OSA) urges the Commission to review PG&E's shallow and exposed pipeline mitigation program. It should review how such pipeline is discovered and the standards used to determine when mitigation is necessary. Specifically, OSA recommends that the Commission direct PG&E to submit a revised pipeline risk management program procedure that Commission staff, including OSA staff, may review, with the goal of reaching a consensus on how to address pipelines that were designed to be underground, but have remained uncovered for many years and present a significant risk to the local community. By reaching such a consensus, it is OSA's goal that such lines may then receive funding in rate cases and be addressed.

PG&E's application seeks to assure the Commission that current conditions such as low gas prices and ample storage supply from Independent Storage Providers (ISPs) in PG&E's service area minimize the risks of their Natural Gas Storage Strategy (NGSS). However, there is no assurance that current conditions related to supply and demand will continue to exist. Particularly since PG&E's closure of Los Medanos and Pleasant Creek storage fields (if approved) and the Division of Oil, Gas, and Geothermal Resources' (DOGGR) new regulations will change those current conditions. For example, both PG&E and the ISPs have estimated that DOGGR's new regulations will decrease the availability of natural gas in the state.<sup>1</sup> Based on the record developed in this proceeding, there is no assurance that the NGSS is the optimal solution for California ratepayers.

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<sup>1</sup> Exh. PG&E 1 at p. 11-5- . 11-6. Exh. ISP – 2 at p. 5.

Therefore, the Commission should deny the NGSS. If the Commission authorizes the NGSS, it should only authorize it on a pilot program basis in which the facilities remain available, operational, and subject to new DOGGR regulations. In either case, a Commission Decision in this rate case should engage an expert, such as the California Council on Science and Technology (CCST) to conduct a gas storage and flow analysis study to evaluate the storage market needs specific to Northern California. If the Commission authorizes the NGSS on a pilot program basis, PG&E should document and resolve operational issues, and gather data on what level of reserve capacity and inventory management services are sufficient to provide safe and reliable service to PG&E's customers, pursuant to Public Utilities Code section 451.<sup>2</sup> PG&E should then report its findings on the NGSS pilot program in its next general rate case.

OSA's recommendations, as specified below, chart a course towards implementing the NGSS with minimal risks to ratepayers by allowing PG&E to revert to using the two storage fields, if needed, during an initial pilot period.

- a. The Commission should not allow PG&E to close Pleasant Creek and Los Medanos as proposed by PG&E.
- b. PG&E should comply with DOGGR's new regulations with a seven- year compliance schedule. This equates to plugging and abandoning two wells in the first year, three wells in the second year, and three wells in the third year.
- c. The Commission should defer any future approval of the decommissioning of Los Medanos until after a three-year pilot period, which should not impact PG&E's decommissioning plan.
- d. The Commission should engage an independent third party, such as the CCST, to conduct a gas storage and flow analysis study to evaluate the storage market needs specific to Northern California, the risks associated with each storage facility, and the impacts resulting from closing PG&E's storage facilities.<sup>3</sup>

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<sup>2</sup> Public Utilities Code § 451 states, in part, every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.

<sup>3</sup> Based on its report on the Long-term Viability of Underground Natural Gas Storage in California (Exh. OSA – 102), CCST has the capacity to provide the Commission with an unbiased and objective study

- e. The Commission should work with the California Independent System Operator to assess the reliability aspects of the NGSS.

The Commission should also:

- a. Implement the recommendation of PG&E's Core Gas Supply that that ISPs either: (1) be rated as investment grade by Standard and Poor's or Moody's, or (2) provide credit assurance that equals 100 percent of the replacement cost of the gas to be stored.
- b. Maintain and enforce the conditions adopted for ISPs in D.06-07-010.
- c. Require that PG&E and the ISPs:
  - i. Jointly and collaboratively develop a safety management system (SMS) framework that is applicable to their underground storage assets and operations based on the tenets and principles of American Petroleum Institute (API) Recommended Practices (RP) 1173 and supplemented by other process safety-enhancing practices, such as the Occupational Safety and Health Administration's Process Safety Management. This framework should, at a minimum, address all the elements contained in API RP 1173, as adapted for underground gas storage, and they should finalize it for implementation within a year of a Commission Decision authorizing the NGSS.
  - ii. Report to the Commission annually on the plan and progress of development and implementation of the SMS related to the underground storage assets
  - iii. Designate an Accountable Officer/Executive who is ultimately responsible for the safety of personnel, business processes and activities of the organization. The Accountable Officer should be an individual with ultimate control and responsibility of the organization, full control of the financial and human resources required to maintain the SMS, and final authority over operations and safety issues.
  - iv. Adopt the safety metrics developed in the Safety Model Assessment Proceeding, as are applicable to

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with specific recommendations to allow the Commission to make an informed decision on PG&E's proposed NGSS.

their specific operations, for reporting to the Commission at a defined frequency.

- v. Verify the ISPs' and PG&E's implementation of select critical aspects of their Natural Gas Safety Plans before submittal of PG&E's next gas transmission and storage rate case application.

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Application 17-11-009  
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**OPENING BRIEF  
OF THE OFFICE OF THE SAFETY ADVOCATE**

**I. INTRODUCTION**

Pursuant to Rule 13.11 of the Commission's (Commission) Rules of Practice and Procedure, the Office of the Safety Advocate (OSA) submits this Opening Brief on Pacific Gas and Electric Company's (PG&E) Application Proposing Cost of Service and Rates for Gas Transmission and Storage (GT&S) Services for the Period of 2019-2021 (Application).

PG&E seeks Commission authorization of GT&S revenue requirements collected in rates of \$1.590 billion for 2019, \$1.725 billion for 2020, and \$1.905 billion for 2021. Additionally, if the Commission authorizes a fourth year for the rate case period, PG&E's forecast revenue requirement for 2022 is \$1.913 billion. PG&E also proposes a new Natural Gas Storage Strategy (NGSS) as part of this rate case proceeding.

OSA urges the Commission to review PG&E's shallow and exposed pipeline mitigation program. Specifically, OSA recommends that the Commission direct PG&E to submit a revised pipeline risk management program procedure that Commission staff, including OSA staff, may review, with the goal of reaching a consensus on how to address pipelines that were designed to be underground, but have remained uncovered for many years and present a significant risk to the local community. Additionally, the



Commission should deny PG&E's NGSS or only authorize it on a pilot program basis to mitigate safety and reliability risks to ratepayers.

## **II. LEGAL AND RATEMAKING PRINCIPLES**

The Applicant, PG&E, bears the burden of proof in this proceeding. The Commission is charged with the responsibility of ensuring that all rates demanded or received by a public utility are just and reasonable; "no public utility shall change any rate... except upon a showing before the Commission, and a finding by the Commission that the new rate is justified."<sup>4</sup> Thus, in ratemaking applications, the burden of proof is on the applicant utility.<sup>5</sup>

The Commission reaffirmed in Decision (D.) 14-12-025 that the standard of proof in General Rate Cases is a preponderance of the evidence. The preponderance of the evidence standard requires that the evidence presented on one side of an issue is more persuasive than that in opposition.<sup>6</sup> The preponderance of the evidence standard does not relieve the applicant, PG&E, of the burden of initially producing and providing evidence that is actually persuasive, and other parties are not required to offer evidence if PG&E fails to meet its initial burden.

## **III. DISCUSSION**

### **Chapter 5 Asset Family – Transmission Pipeline**

#### **5.4.19 Shallow and Exposed Pipe: PG&E Should Submit a Revised Pipeline Risk Management Program**

OSA continues to be concerned that PG&E does not seem to have a specific plan to discover and mitigate shallow and exposed pipeline, unless the pipeline happens to be discovered in the course of other work, has *both* the highest likelihood of failure (LOF), and is located in a high consequence area (HCA). It is also unclear that PG&E's protocol

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<sup>4</sup> Public Utilities Code §§ 451, 454.

<sup>5</sup> See, e.g., Application of Pacific Gas and Electric Company (D.00-02-046), at p. 36.

<sup>6</sup> California Administrative Hearing Practice 2ndEd. (CEB) § 7.51.

of only mitigating the most dangerous type of shallow and exposed pipeline is an adequate standard for safe operations.

PG&E performs an atmospheric corrosion survey once every three years on shallow and exposed pipeline that are not designed to span.<sup>7</sup> But, PG&E does not have a way to determine when shallow pipelines become exposed, except through incidental discovery while doing other work.<sup>8</sup> Thus, this survey is only conducted on shallow and exposed pipeline that has, in fact, been discovered by PG&E. For example, in the case of a pipeline in the City of Lafayette, PG&E does not have any information to indicate how long this specific segment has been exposed.<sup>9</sup>

Figure 1: Lafayette Exposed Pipeline Segment 1<sup>10</sup>



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<sup>7</sup> Hearing Transcript (HT) Vol. 15, 1761-1762: 19-13.

<sup>8</sup> HT Vol. 15, 1764-1765: 18-18. See also HT Vol. 15, 1780:10-16.

<sup>9</sup> HT Vol. 15, 1766:11-19.

<sup>10</sup> Exh. OSA – 1 at p. 1-2.

PG&E states that there are currently no laws or regulations that state that after a transmission pipe is initially constructed, what depth it must be maintained at.<sup>11</sup> Nevertheless, Public Utilities Code section 451 requires safe operation of gas transmission systems. Therefore PG&E should have a plan to ensure adequate depth of cover for all pipelines.

Even when PG&E discovers shallow and exposed gas pipelines, they are not prioritized for mitigation unless PG&E determines that they have *both* the highest LOF and are in an HCA. Otherwise, they could remain unmitigated for an extended period of time.<sup>12</sup>

Under Public Utilities Code § 961(d)(4), a Gas Operator's Safety Plan must provide for effective patrol and inspection of the Commission-regulated gas pipeline facility to detect leaks and *other compromised facility conditions and to effect timely repair*. (Emphasis added.) In Decision (D.) 12-12-009, the Commission's Consumer Protection and Safety Division interpreted Public Utilities Code § 961(d)(4) as requiring the Operator's Safety Plan to detail its process(es) for patrolling and leak surveying its pipeline facilities at locations, and on frequencies, mandated by GO 112-E. The Operator's Safety Plan must also provide details on the Operator's process for classifying, responding to, and repairing the deficiencies found by its patrolling and leak surveys process (es).<sup>13</sup> PG&E does not explicitly address shallow and exposed pipeline in its current Gas Operator's Safety Plan, submitted under Public Utilities Code §961.<sup>14</sup>

OSA urges the Commission to review PG&E's shallow and exposed pipeline mitigation program. Specifically, OSA recommends that the Commission direct PG&E to submit a revised pipeline risk management program procedure that Commission

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<sup>11</sup> HT Vol. 15, 1770: 3-11.

<sup>12</sup> HT Vol. 15, 1755-1756:23-2.

<sup>13</sup> *Decision in Compliance with Public Utilities Code Sections 961 and 963 and Amending General Order 112-E*, Decision (D.) 12-12-009, Dec. 12, 2012, Attachment A, p. 9.

<sup>14</sup> PG&E, 2018 Gas Safety Plan, [https://www.pge.com/pge\\_global/common/pdfs/safety/gas-safety/safety-initiatives/pipeline-safety/2018GasSafetyReport.pdf](https://www.pge.com/pge_global/common/pdfs/safety/gas-safety/safety-initiatives/pipeline-safety/2018GasSafetyReport.pdf). Submitted pursuant to General Order 112-F Section 123.2. (k) and Public Utilities Code §§ 961 and 963.

staff, including OSA staff, may review, with the goal of reaching a consensus on how to address pipelines that were designed to be underground, but have remained uncovered for many years and present a significant risk to the local community.

## **Chapter 6 Asset Family – Storage (Kennedy)**

### **6.4.5 OSA Recommendations: The NGSS Does Not Necessarily Reduce Risks**

PG&E argues that the NGSS reduces risks in PG&E's territory because it plans to plug and abandon 27 wells with the closure of two of its storage facilities.<sup>15</sup> However, PG&E plans to replace its storage and gas supply by relying on services from Independent Storage Providers (ISPs). There are significant differences between PG&E and the ISPs in their management of safety and safety culture. For example, PG&E has adopted best practices such as American Petroleum Institute (API) Recommended Practices (RP) 1173, Publicly Available Specification (PAS) 55-1, International Organization for Standardization (ISO) 50001, and Responsible Care (RC) 14001.<sup>16</sup> The ISPs currently do not implement any of these practices.<sup>17</sup>

Additionally, the Commission has required PG&E to adopt a safety culture plan.<sup>18</sup> However, only two ISPs were recently required to submit a safety culture plan, as a result of other decisions at the Commission.<sup>19</sup> Thus, the replacement of PG&E facilities with ISP facilities may not result in a net reduction of risks. The ISPs argue that their wells are newer,<sup>20</sup> but implementing better technology cannot supplant best practices, including those related to safety and safety culture. Furthermore, ISPs should implement these best practices now rather than waiting for their facilities to become older and more prone to incidents.

## **Chapter 11 Natural Gas Storage Strategy**

### **A. 11.4.1 Introduction: PG&E has failed to show that its proposed NGSS would provide safe and reliable services at just and reasonable rates**

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<sup>15</sup> Exh. PG&E – 31 at p. 6-14

<sup>16</sup> Exh. PG&E – 31 at p. 6-16:19-23.

<sup>17</sup> Exh. ISP – 3 at p. 17.

<sup>18</sup> *Order Instituting Investigation on the Commission's Own Motion to Determine Whether Pacific Gas and Electric Company and PG&E Corporation's Organizational Culture and Governance Prioritize Safety* (I. 15-08-019).

<sup>19</sup> *Joint Application of Gill Ranch Storage, LLC, Northwest Natural Gas Company, NW Natural Energy, LLC, and NW Natural Gas Storage, LLC for Change of Legal Ownership and Control of Gill Ranch Storage, LLC (U914G) Through a Corporate Reorganization* (D.18-05-010); *Decision Authorizing Encumbrance of Assets for Wild Goose Storage, LLC and Lodi Gas Storage, LLC*, (D.18-10-029).

<sup>20</sup> HT Vol. 10, 1186: 22-24.

PG&E proposes to close two underground storage (UGS) facilities, Los Medanos and Pleasant Creek. These two storage facilities have a combined capacity of 18 Bcf (18% capacity of PG&E's total inventory) and 400 million cubic feet per day (MMcf/d). The closure of these two UGS facilities would require both core and non-core customers to rely on ISPs for gas services.<sup>21</sup>

The NGSS should not be shoehorned into a rate case. The NGSS deserves a dedicated proceeding where the Commission may contract or engage expertise such as the California Council on Science and Technology (CCST) and include formal review and approval from the California Independent System Operator (CAISO). Such a review may include a thorough investigation and flow analysis under various scenarios and outage conditions, including significant gas storage and pipeline outages. The outcome from such a proceeding may then be used to inform any formal application to close, decommission, transfer, or reclassify a gas storage facility. The intent of such a proceeding would be to apply lessons learned last year from gas storage and pipeline outages in Southern California that have led to ongoing gas and electric shortage concerns and to avoid similar problems in Northern California.

Many parties in this rate case are particularly interested in the economic impact, including economic opportunities, cost reduction, and reduction in liability and risk exposure from the proposed NGSS. A rate case focused on rates is not the proper forum to determine technical physical gas storage needs and constraints in Northern California. Such an analysis needs to be conducted before the Commission may consider implementing the NGSS.

While it is true that the natural gas market is changing, PG&E's NGSS is a hasty reaction to those changes without fully studying the implications that the NGSS would have on core customers and the overall natural gas market. The record shows that there are many unknown variables involved with implementing the NGSS. For example, the condition of the natural gas market, the safety of the ISPs' facilities, and the effectiveness

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<sup>21</sup> Exh. OSA – 1 at p. 2-2.

of the new reliability services proposed by PG&E. These unknown variables increase the safety and reliability risks that will be borne by PG&E's customers. PG&E has failed to meet its burden that the NGSS will result in safe and reliable services.

Thus, the Commission should either deny the NGSS or adopt OSA's proposal to implement a pilot program to simulate the effects of PG&E's proposed NGSS for a period of at least three years.<sup>22</sup> In the alternative, the Commission should implement the Public Advocates Office's proposal to only decommission Pleasant Creek and keep Los Medanos in service.<sup>23</sup> This will give the Commission and PG&E adequate time to study the effects of DOGGR's new regulations on the California gas market and make an informed decision about how to adapt to market changes. This will also give PG&E the opportunity to document and resolve operational issues, demonstrate that the proposed reserve capacity and inventory management amounts are adequate, and document the affect that the NGSS has on rates. During this pilot period, the Commission should task an independent third party, such as the CCST, to evaluate the storage needs specific to Northern California, the risks associated with each storage facility, and the impacts on closing PG&E's facilities. A shift to the NGSS without such considerations may leave PG&E's system and its customers unprepared to deal with unexpected gas storage situations that have occurred in the past, for example, the California Electrical Crisis of 2000-2001 and the Aliso Canyon gas leak and pipeline outages. Thus, implementing either OSA or the Public Advocates Office's proposals provides a hedge for unplanned events that may result in an unexpected loss of storage capacity.<sup>24</sup>

**B. 11.2 New Reliability Standard: PG&E's New Reliability Standard Is Not Adequately Supported**

As stated above, PG&E proposes to transition storage to a reliability only service.<sup>25</sup> In doing so, PG&E proposes to maintain capacity to provide for its customer

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<sup>22</sup> Exh. OSA – 1 at p. 2-2.

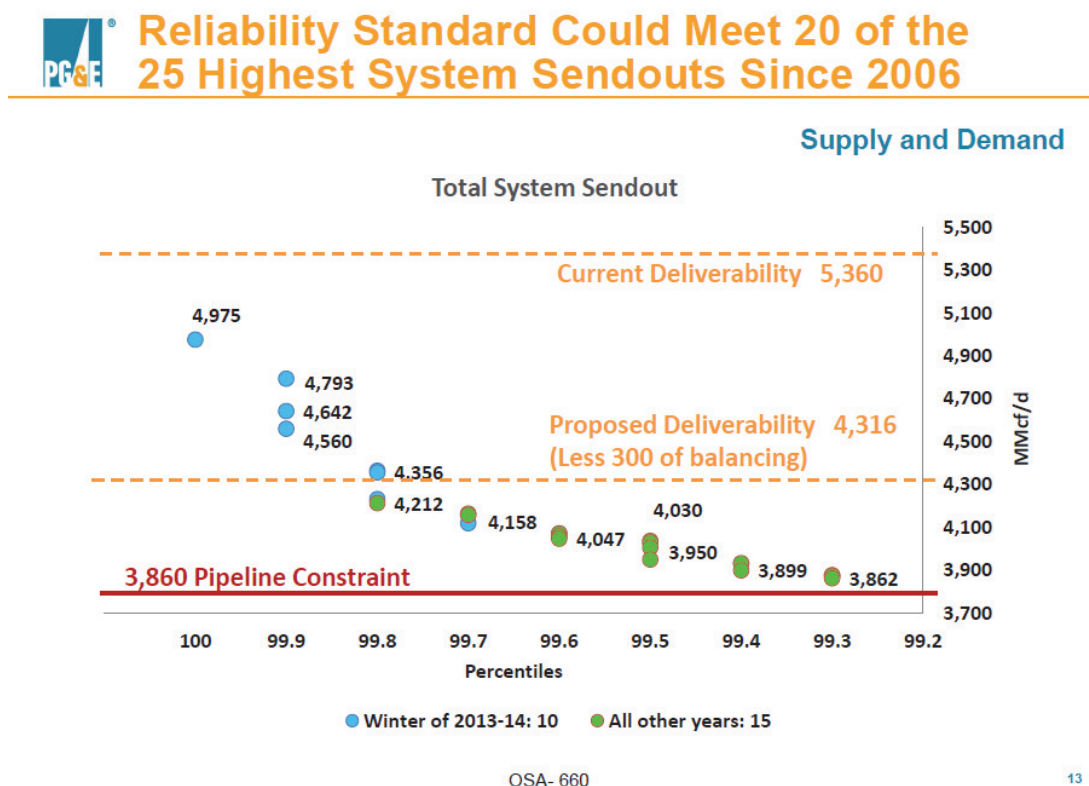
<sup>23</sup> Exh. ORA - 11 at p. 2.

<sup>24</sup> HT Vol. 21, 2783-2784: 28-16.

<sup>25</sup> Exh. PG&E - 1 at p. 11-16.

(core, electric generation, and industrial) demand based on a modified N-1 standard and an inventory management amount. However, PG&E has stated that its proposed N-1 standard is unlike the standard used in the energy context.<sup>26</sup> In the energy context, a minimum reliability standard of N-1 means that the system can withstand the loss of the largest facility. However, under the NGSS, N-1 would mean the most likely outage scenario, not the loss of the largest facility. Additionally, this standard would not meet the needs of PG&E non-core customers in the event of another polar vortex (Winter 2013-2014) situation.<sup>27</sup>

**Figure 2; PG&E’s Reliability Standard vs. Peak Demand<sup>28</sup>**



As depicted above, PG&E disclosed that polar vortex conditions would exceed it’s proposed NGSS deliverability standard. This would increase the potential for outages or curtailment of non-core or core customers and/or coordination with the CAISO to try and

<sup>26</sup> HT Vol. 12, 1382: 6-15.

<sup>27</sup> HT Vol. 12, 1381-1382: 24-5.

<sup>28</sup> Exh. OSA-01-SA at p. OSA-660



meet gas and electric demand. Furthermore, more extreme weather patterns may result in even greater demand for gas in the future, which may not be met under the NGSS.<sup>29</sup>

OSA notes that the CAISO has not been a party to this proceeding, nor has the Commission had the opportunity to conduct a focused proceeding to study the complex impacts of a reduction of gas storage supplies in Northern California. There are significant risks related to owning, operating, and upgrading gas storage facilities and ensuring their safe and reliable operations. The NGSS proposes to increase the dependency of both core and non-core independent on market driven ISPs. ISPs are driven by economic interests, including rate of return, charge market-based rates, and are under less Commission oversight.<sup>30</sup>

PG&E states that it intends to rely on new storage services and then curtailment and operational flow orders (OFOs) for non-core customers to ensure that core customers are not affected.<sup>31</sup> However, this means that electric generation facilities, which are non-core customers, may be affected. Although PG&E states that CAISO will ensure grid stability, it also stated that CAISO is not aware of the specifics of PG&E's curtailment plan.<sup>32</sup> This is concerning especially since PG&E agrees that it would be important for CAISO to have knowledge of their curtailment plan.<sup>33</sup>

Furthermore, even with the reliance on new storage services, those services may not ensure reliability if an ISP outage were to occur. This is because some individual ISPs' facilities account for more than 250 million cubic feet per day (Mmcf/d) of deliverability. Specifically, PG&E's witness, Mr. Christopher, stated that PG&E's proposed reserve capacity of 250 Mmcf/d would not necessarily cover all ISPs' outages

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<sup>29</sup> Exh. OSA – 1 at p. 2-7 – 2-8.

<sup>30</sup> "...the obligation to pursue core storage price benefits has two parts. First, utilities must optimize storage reservations for core price function. This is firm service for the core, equal in priority with firm noncore storage. Second, utilities must pursue cost-effective as-available storage for the core price function, in competition with noncore customers." *In Re Natural Gas Procurement and System Reliability Issues*, 48 CPUC 2d 107 (1993) see also e.g. *Application of Wild Goose Storage, Inc.*, 73 CPUC 2d 90 (1997).

<sup>31</sup> Exh. PG&E -1 at p. 11-18.

<sup>32</sup> HT Vol. 12, 1411:13-21.

<sup>33</sup> HT Vol. 12, 1411: 13-25.

stating, “I don’t know specifically the ISP capacities at any point in time, but I’ve seen personally that they deliver more than 250 million. Some of them do, but not all of them.”<sup>34</sup>

Additionally, PG&E stated that it developed its reliability standard by balancing the costs of maintaining storage and preserving an adequate amount of storage.<sup>35</sup> However, as OSA stated in its opening testimony, the cost benefit analysis conducted by PG&E is a false comparison and does not support its proposal.<sup>36</sup> PG&E is essentially comparing the cost to provide 4,616 MMcf/d, or the amount storage available under the NGSS proposal, to the cost to provide 5,190 MMcf/d, or the cost to maintain current capacities. This was supported by Indicated Shippers who stated that the analysis does not reflect the true cost of complying with the DOGGR regulations because it compares the NGSS with procuring additional storage to maintain the existing level of storage (5,190 MMcf/d).<sup>37</sup>

PG&E should instead have made a comparison between the NGSS and the amount of storage it will need after the implementation of the new DOGGR regulations, which is substantially less. PG&E did provide an updated comparison (scenario 3) within the course of hearings, however, Indicated Shippers found that the revised scenario “overstates what their [PG&E’s] cost would be if they did a more detailed review of the status quo and what costs are needed to maintain service quality in the manner they describe.”<sup>38</sup> OSA provided a similar recommendation in its testimony, stating that PG&E should provide the cost to provide service on a unit cost basis (\$ per MMcf/d), including the capital cost, operating and maintenance expense, tax expense, depreciation expense, and other costs associated with the investment.<sup>39</sup>

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<sup>34</sup> HT Vol. 12, 1384: 12-16.

<sup>35</sup> HT Vol. 12, 1382:16-20.

<sup>36</sup> Exh. OSA – 1 at p. 2-9; see also HT Vol. 14 1599: 3-10.

<sup>37</sup> HT Vol. 21, 2751:15-28.

<sup>38</sup> HT Vol. 21, 2752: 19-25.

<sup>39</sup> Exh. OSA – 1 at p. 2-10.

Furthermore, in order to adequately compare the costs of the NGSS and the amount of storage it will need after it implements the new DOGGR regulations, PG&E would also need to know the cost to purchase storage services from the ISPs. However, PG&E has admitted that because PG&E's Core Gas Supply (CGS) would have to purchase storage from the ISPs based on market-based contracts, the earliest it can negotiate and enter into a firm contract is only a few months in advance of the need.<sup>40</sup> Thus, these costs have not been considered as part of the cost comparison.

Lastly, any cost comparison which includes the cost to procure storage services from the ISPs must include the costs that ISPs will incur to implement the DOGGR regulations. Those costs would eventually flow through to PG&E core customers. Since the cost to procure storage services from the ISPs is a market-based rate, PG&E does not know how the DOGGR implementation costs will be reflected in that market-based rate.<sup>41</sup> Therefore, any cost benefits calculated by PG&E cannot include the cost to purchase gas from the ISPs and are not accurate.

OSA also notes that if the Commission, as a part of adopting the NGSS, adopts CGS' recommendation for ISPs to either (1) be rated as investment grade by Standard and Poor's or Moody's, or (2) provide credit assurance that equals 100 percent of the replacement cost of the gas to be stored, there may be additional costs associated with providing a credit assurance that may be added to the cost of procuring storage services from an ISP.<sup>42</sup>

**C. 11.3 Reconfiguration of Storage Assets: PG&E Has Failed to Show that the Reconfiguration of Storage Assets Will Result in Just and Reasonable Rates**

As part of its NGSS, PG&E proposes to cease operations at the Los Medanos and Pleasant Creek Storage facilities by October 31, 2019.<sup>43</sup> No injections into the field will

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<sup>40</sup> HT Vol. 16, 2081.

<sup>41</sup> HT Vol. 12, 1427: 4-20

<sup>42</sup> HT Vol. 17, 2185-2186: 18-5.

<sup>43</sup> Exh. PG&E-1 at p. 11-13.

occur after that date.<sup>44</sup> PG&E intends to convert the two facilities to production facilities, as of November 1, 2019, to avoid investments in them related to the new DOGR requirements.<sup>45</sup> In production-only status, PG&E will produce any remaining customer gas from the two reservoirs through December 31, 2021.<sup>46</sup> PG&E intends to decommission the above-and below-ground facilities at Los Medanos and Pleasant Creek in a two-year process beginning January 1, 2022.<sup>47</sup> As stated previously, the closure of these two storage fields means that PG&E proposes to rely more heavily on ISPs to provide storage services to core customers. However, PG&E has not implemented a management of change program to examine the safety and reliability issues associated with implementing the NGSS.<sup>48</sup> Thus, PG&E has failed to show that the reconfiguration of storage assets will result in just and reasonable rates.<sup>49</sup>

Additionally, PG&E has not shown that it would be infeasible to meet the new DOGGR regulations through plugging and abandoning wells within a seven-year compliance schedule. Specifically, PG&E stated that although the NGSS is based on their interpretation of the DOGGR rules, it has not confirmed this interpretation with DOGGR.<sup>50</sup> OSA suggests that PG&E could still comply with DOGGR regulations by plugging and abandoning two wells in the first year, three wells in the second year, and three wells in the third year.<sup>51</sup> OSA acknowledges that PG&E disagrees with this interpretation, but this only further highlights the need for the Commission to make a more thorough consideration of the NGSS, possibly outside of this rate case.

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<sup>44</sup> Exh. PG&E -1 at p. 11-13.

<sup>45</sup> Exh. PG&E -1 at p. 11-13.

<sup>46</sup> Exh. PG&E -1 at p. 11-13.

<sup>47</sup> Exh. PG&E -1 at p. 11-13.

<sup>48</sup> HT Vol. 12, 1409: 13-17; Management of change is a best practice used to ensure that safety, health, and environmental risks are controlled when a company makes changes in their facilities, documentation, personnel, or operations.

<sup>49</sup> Public Utilities Code section 451.

<sup>50</sup> HT Vol. 10, 1169: 13-14; 20-26.

<sup>51</sup> HT Vol. 12, 2747: 6-17.

**1. PG&E failed to assess the increased reliability and safety risks that will result from the significantly increased dependence of core customers on market-based ISPs.**

First, a greater reliance on ISPs raises reliability concerns because ISPs do not have the same obligation to serve as PG&E customers.<sup>52</sup> Rather, their obligations are contractually based, and they may charge market-based rates.<sup>53</sup> It is possible that the Commission could seek to impose greater obligations on ISPs as a result of their greater responsibilities to core customers under the NGSS. But, if the Commission sought to change the historically lighter touch regulation of the ISPs to require ISPs to operate at a certain level for the benefit of core customers, the ISPs could in turn ask for cost-based rates.<sup>54</sup> This would require changes to Commission rules<sup>55</sup> and could take a significant amount of time. This would support considering the NGSS separately from this rate case.

In response to these concerns, ISPs testified that the only reason they would fail to perform under a contract would be because of a physical incapacity to do so.<sup>56</sup> In situations where there is an outage or other incapability to provide service to core customers, PG&E would have to find another supplier. Several parties argue that there is a surplus in the market today, and therefore, stakeholders should not be concerned about the inability of an ISP to perform.<sup>57</sup> However, the current market may not be indicative of future conditions. Furthermore, PG&E's analysis did not thoroughly consider the impact that DOGGR regulations will have on ISPs. Specifically, PG&E's analysis relied on a 40% loss of capacity for ISPs after the implementation of DOGGR, but the witness

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<sup>52</sup> "...the obligation to pursue core storage price benefits has two parts. First, utilities must optimize storage reservations for core price function. This is firm service for the core, equal in priority with firm noncore storage. Second, utilities must pursue cost-effective as-available storage for the core price function, in competition with noncore customers." *In Re Natural Gas Procurement and System Reliability Issues*, 48 CPUC 2d 107 (1993)

<sup>53</sup> e.g. *Application of Wild Goose Storage, Inc.*, 73 CPUC 2d 90 (1997). This is not comparable to electric services because storage services are physical assets in limited supply. Electric supply can also be purchased from out-of-state sources, however, storage must be purchased near the demand because gas travels at a low rate and is used to manage pressure related to intraday fluctuations in demand.

<sup>54</sup> HT Vol. 21, 2726: 7-16.

<sup>55</sup> HT Vol. 21, 2726: 7-16.

<sup>56</sup> HT Vol. 17, 2104: 19-22.

<sup>57</sup> e.g. HT Vol. 21 2724-2725: 25-5.

could not be certain of the accuracy of that number.<sup>58</sup> Additionally, ISPs would only pay a monetary penalty for their nonperformance in the amount required for PG&E to replace the lost gas, but this does not necessarily remedy the operational or reliability impacts that might result from their nonperformance. Thus, the NGSS presents various risks to reliability for core customers.

Even if an ISP chose to ramp up their capacity in response to market conditions, it could still take anywhere from a few days to two years to bring the capacity online.<sup>59</sup> Alternatively, if, for whatever reason, PG&E was required to purchase an ISP, it would take more than a month and possibly more than a year to begin operations.<sup>60</sup> The more prudent alternative is to keep Los Medanos and Pleasant Creek as a hedge against unforeseen circumstances. As stated by the Public Advocates Office, core customers lose the option value in the storage facilities of Los Medanos and Pleasant Creek if they were to be shut down.<sup>61</sup> A pilot, as suggested by OSA or delaying the decommission of at least Los Medanos, as suggested by the Public Advocates Office would give the Commission an opportunity to assess the impacts of the new DOGGR regulations on the market.<sup>62</sup>

Lastly, the proposed NGSS has the potential to impact PG&E's operational flexibility and disrupt energy services for its customers. This is because PG&E already utilizes some ISP storage,<sup>63</sup> but if the NGSS is implemented it will lose the option of using two existing facilities, Los Medanos and Pleasant Creek. Having fewer storage fields reduces options to park or move excess gas out of pipelines to maintain operating pressure at a safe level.<sup>64</sup>

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<sup>58</sup> HT Vol. 12, 1427-1428: 28-16.

<sup>59</sup> HT Vol. 17, 2109:5-8.

<sup>60</sup> HT Vol. 12, 1412:12-28.

<sup>61</sup> HT Vol. 21, 2783-2784: 28-16.

<sup>62</sup> Exh. OSA-1 at p. 2-2; Exh. ORA-1 at p. 2.

<sup>63</sup> HT Vol. 16, 2020:5-10.

<sup>64</sup> Exh. OSA -1 at p. 2-7.

The Commission's Decision in this proceeding should maintain and enforce the following conditions from D.06-07-010 to ensure at least a minimum level of reliability. Specifically:

- Standby power generation capacity that assures full contracted volumes can be withdrawn during electric power supply outages
- Sufficient available compressor horsepower to assure the contracted volumes can be injected or withdrawn at the prevailing pressures of the interconnecting PG&E pipeline, as set forth in the Operating and Balancing Agreement with the ISP;
- Operator availability assuring that corrective action is initiated quickly in the event of equipment or power failure;
- Maintenance practices that provide reasonable assurance that all necessary facilities are available and operable when storage service are needed;
- The facilities, equipment, operating procedures, and maintenance practices are consistent with expected gas storage industry practices.

One PG&E witness agreed that these conditions should continue to apply to ISPs.<sup>65</sup> However, PG&E's CGS proposes to remove the standby power requirement for ISPs, but has not sufficiently demonstrated that it is unnecessary.<sup>66</sup> When OSA asked the PG&E CGS witness about his testimony which alleged that the requirement was too prescriptive and potentially confusing, he could only add that removing the requirement would allow all ISPs to participate, since currently, Wild Goose does not meet this requirement.<sup>67</sup> However, there is no convincing evidence in the record that Wild Goose is incapable of meeting this requirement. OSA reiterates that the Commission should continue to require these conditions and ensure that they are enforced.

OSA also supports CGS' recommendation to replace the current creditworthiness requirement for ISPs with a requirement that ISPs either (1) be rated as investment grade by Standard and Poor's or Moody's, or (2) provide credit assurance that equals 100

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<sup>65</sup> HT Vol. 12, 1386: 13-24.

<sup>66</sup> HT Vol. 16, 2078-2079: 24-12.

<sup>67</sup> HT Vol. 16, 2078-2079: 24-12.

percent of the replacement cost of the gas to be stored.<sup>68</sup> CGS indicated that in the past not all ISPs have been able to show that they are creditworthy.<sup>69</sup> CGS has not had to contract with an ISP that did not pass financial review even though they had some form of insurance.<sup>70</sup> Insurance would not necessarily make CGS whole since if there was an issue with a storage field there would be other counterparties seeking to recover damages.<sup>71</sup> Furthermore, liquidated damages clauses would not necessarily make CGS whole either because there is the possibility that an ISP is not sufficiently funded to pay those damages.<sup>72</sup> Thus, OSA supports these provisions as one way to bolster CGS' ability to procure storage for core customers. However, OSA notes that these provisions only ensure that CGS is made financially whole. These provisions do not necessarily ensure performance.

**2. PG&E has failed to assess ISPs ability to ensure the safety of their facilities.**

As stated in OSA's testimony, a gas operator's ability to manage safety can have a tremendous impact on the performance of the energy system. Safety failures of critical ISP or other gas system components, such as pipelines or wells, can create outages which could affect the entire gas system under the proposed NGSS.<sup>73</sup> However, the record does not reflect that ISPs have implemented adequate safety management practices and therefore, the NGSS increases safety risks.

Both the federal safety regulator, the Pipeline and Hazardous Materials Safety Agency (PHMSA), and the oil and gas industry have now adopted the American Petroleum Industry (API) Recommended Practice (RP) 1173 PSMS as a best practice.<sup>74</sup>

“PHMSA fully supports the implementation of [API] RP 1173 and plans to promote vigorous conformance to this voluntary

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<sup>68</sup> Exh. PG&E – 1 at p. 19-10.

<sup>69</sup> HT Vol. 17, 2179: 2-5.

<sup>70</sup> HT Vol. 17, 2179: 2-5.

<sup>71</sup> HT Vol. 17, 2179: 17-27.

<sup>72</sup> HT Vol. 17, 2182: 1-16.

<sup>73</sup> Exh. OSA – 1 at p. 3-4.

<sup>74</sup> Exh. OSA – 1 at p. 3-6 -3-7.



standard. The recommended practice is a proactive, system-wide approach to reducing risks and provides operators with a comprehensive framework to address risk across the entire life cycle of a pipeline. The standard promotes pipeline safety, while implementing guidelines for continuous improvement.”<sup>75</sup>

OSA acknowledges that there are other methods besides API RP 1173, which are considered best practices for safety management.<sup>76</sup> For example, PG&E has implemented API RP 1173, but it has also received certifications under PAS 55 -1, ISO 50001, and RC 14001.<sup>77</sup> Their compliance with these best practices has been reviewed by third-parties.<sup>78</sup> The ISPs have admitted that they do not adhere to API RP 1173 and do not plan to.<sup>79</sup> One argument they have made for not doing so is that API 1173 is only applicable to pipelines, and not storage.<sup>80</sup> However, this fails to recognize the fact that API 1173 is adaptable and that PG&E has adapted this standard for its storage facilities. Central Valley Gas Storage, LLC also stated that it would not do so because its other non-California facilities do not implement API 1173 and it would be burdensome to do so for only one facility.<sup>81</sup> However, it has failed to support that assertion. Additionally, the ISPs do not adhere to any of the other best practices that PG&E has implemented, nor have they received certificates from third parties confirming their compliance with best practices.

The ISPs argue that they have safety management systems in place.<sup>82</sup> However, they have failed to provide information which substantiates their claim that the systems they have in place are equivalent to the measures that PG&E has implemented. Furthermore, ISPs argue that the single most important factor in determining whether

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<sup>75</sup> Exh. OSA – 1 at p. 3-6 -3-7.

<sup>76</sup> HT Vol. 18, 2328:6-14.

<sup>77</sup> HT Vol. 10, 1170:19-25.

<sup>78</sup> HT Vol. 8, 701: 17-20

<sup>79</sup> Exh. ISP- 3 at pp. 15-16.

<sup>80</sup> Exh. ISP – 3 at p. 16.

<sup>81</sup> HT Vol. 18, 2287: 19-22.

<sup>82</sup> Exh. ISP-3 at p.18.

they are operating their system properly and safely is by the number of past incidents and violations.<sup>83</sup> This argument is flawed. First, Wild Goose Storage, LLC is ranked as the second highest facility in California to have a likelihood of having a loss of containment, behind Aliso Canyon.<sup>84</sup> Additionally, the ISPs have stated that their low rate of incidents and violations are because their facilities are relatively new, but that does not mean that this trend will continue as their facilities age. The ISPs have also pointed to the fact that they are required to file an Operator's Safety Plan with the Commission that they update annually.<sup>85</sup> However, they stated that their annual review is only to ensure compliance with GO 112F and any DOGGR regulations.<sup>86</sup> Thus, it is only concerned with minimum regulatory compliance. OSA has advocated that a robust SMS and safety culture must go beyond meeting minimum compliance requirements. Finally, there is no third party which reviews the Operator's Safety Plan to ensure that the ISPs comply with these plans.<sup>87</sup>

Furthermore, PG&E is required to submit a Safety Culture Plan under I.15-08-019.<sup>88</sup> Recently, two ISPs were also required to prepare and implement a safety culture plan.<sup>89</sup> However, those have yet to be submitted to the Commission for review. In the most recent decision authorizing the encumbrance of assets for Wild Goose Storage, LLC and Lodi Gas Storage, LLC, the Commission stated that it may consider "opening a rulemaking to evaluate whether other natural gas utilities, including the independent storage providers, should be required to have safety management procedures and a

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<sup>83</sup> HT Vol. 18, 2285-2286: 26- 24.

<sup>84</sup> Exh. OSA-101 at p. 124.

<sup>85</sup> HT Vol. 18, 2279-2280: 22-6.

<sup>86</sup> Exh. ISP - 3 at p. 10; HT Vol. 18, 2280: 10-20.

<sup>87</sup> HT Vol. 18, 2280:22-25.

<sup>88</sup> I. 15-08-019, Order Instituting Investigation on the Commission's Own Motion to Determine Whether Pacific Gas and Electric Company and PG&E Corporation's Organizational Culture and Governance Prioritize Safety.

<sup>89</sup> *Joint Application of Gill Ranch Storage, LLC, Northwest Natural Gas Company, NW Natural Energy, LLC, and NW Natural Gas Storage, LLC for Change of Legal Ownership and Control of Gill Ranch Storage, LLC (U914G) Through a Corporate Reorganization (D.18-05-010); Decision Authorizing Encumbrance of Assets for Wild Goose Storage, LLC and Lodi Gas Storage, LLC, (D.18-10-029).*

safety culture plan, and if so, what procedures should be included in such a plan.”<sup>90</sup> Thus, the Commission has recognized, at least in two instances, that a greater focus on safety culture is needed for ISPs. In accordance with this, the Commission should consider the adequacy of safety management procedures and safety culture plans at the ISPs. This is particularly necessary before it adopts a plan, such as the NGSS, that gives the ISPs a greater role in providing natural gas storage services to PG&E’s customers.

Another example of comparatively greater safety oversight that the Commission has over PG&E in comparison to the ISPs is the fact that the ISPs are also not part of the safety model assessment proceeding. Through this proceeding, the Commission is developing a set of metrics to evaluate the safety performance of the larger utilities.<sup>91</sup> However, this proceeding is tied to the general rate case plan, which, does not include ISPs, as their rates are market-based.

Lastly, PG&E has demonstrated that it did not conduct a review of the safety management systems and safety culture of ISPs as they could not answer many of OSA’s questions regarding the safety practices of the ISPs.<sup>92</sup> Specifically, PG&E stated that they are unaware of whether ISPs have implemented the same level of safety standards and process as PG&E.<sup>93</sup> Thus, PG&E has failed to show that they adequately considered whether the implementation of the NGSS, which necessarily requires greater reliance on the ISPs, will ensure safe and reliable services for core customers.

PG&E supports its proposed NGSS through a memorandum of understanding among several parties, including the ISPs, which agree to certain conditions. However, the memorandum of understanding among the signatories does not include any safety related provisions.<sup>94</sup> If the Commission adopts all or part of PG&E’s proposed NGSS, it

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<sup>90</sup> D.18-10-029 at p. 13.

<sup>91</sup> A.15-02-002, et al, *Safety Model Assessment Proceeding (SMAP)*: D.14-12-025, D.16-08-018\_Phase 2 Interim Decision.

<sup>92</sup> HT Vol. 10, 1170-1171: 26-6.

<sup>93</sup> HT Vol. 10, 1170-1171: 26-6; 1171:7-21.

<sup>94</sup> Exh, PGE – 1 at p. Chapter 11 Attachment 1.

must also require additional safety related provisions through its final decision, which may also include modifying the memorandum of understanding. These provisions are necessary to mitigate the operational risks associated with reducing operational flexibility under the NGSS and increasing dependency on ISPs. These provisions promote the adoption of best safety management practices by both ISPs and PG&E for their pipelines and underground storage operations, promote strengthening of safety culture at their organizations, and increase transparency and Commission oversight.

The Commission should require that PG&E and the ISPs do the following:

- Jointly and collaboratively develop an SMS framework that is applicable to their underground storage assets and operations based on the tenets and principles of API RP 1173 and supplemented by other process safety-enhancing practices, such as OSHA's Process Safety Management. This framework should, at a minimum, address all the elements contained in API RP 1173, as adapted for underground gas storage, and they should finalize it for implementation within a year of a Commission Decision on the NGSS.
- Report to the Commission annually on the plan and progress of development and implementation of the SMS related to the underground storage assets.
- Designate an Accountable Officer/Executive who is ultimately responsible for the safety of personnel, business processes and activities of the organization. The Accountable Officer should be an individual with ultimate control and responsibility of the organization, full control of the financial and human resources required to maintain the SMS, and final authority over operations and safety issues.
- Adopt the safety metrics developed in the SMAP proceeding, as are applicable to their specific operations, for reporting to the Commission at a defined frequency.
- Verify the ISPs' and PG&E's implementation of select critical aspects of their Natural Gas Safety Plans before submittal of PG&E's next GT&S rate case application.

#### **D. New Storage Services**

PG&E proposes to rely on new storage services as a substitute for the storage capacity that they will no longer hold. These new services include reserve capacity and

inventory management. Reserve capacity is designed to provide emergency intraday supply in case of a significant, unplanned equipment outage or other supply problem. PG&E proposes 250 MMcf/d of reserve capacity.<sup>95</sup> Inventory management is designed to compensate for intraday fluctuations in backbone pipeline gas inventory to keep operating pressures within safe boundaries. PG&E proposes 300 MMcf/d of withdrawal capacity and 200 MMcf/d of injection capacity.<sup>96</sup> These two new storage services present additional risks and challenges to PG&E's system and do not ensure reliable services. Furthermore, Indicated Shippers estimated that maintaining these two new storage services will cost up to \$300 million per year.<sup>97</sup>

First, PG&E's new storage services exacerbate its backbone transmission constraints because they necessitate that PG&E maintain a cushion of 550 Mmc/d in its system at all time. PG&E's backbone transmission pipe is constrained and can only deliver 3,860 Mmc/d.<sup>98</sup> The NGSS requires that PG&E hold 550 Mmc/d in its pipes for reserve capacity and inventory management, further constraining the available supply in PG&E's backbone pipe for services. Lastly, Indicated Shippers estimated that the cost to maintain these two storage services is approximately \$300 million per year.<sup>99</sup>

Second, the reserve capacity that PG&E proposes to rely on would not be adequate to address an outage of the most significant facility in the system, or what would be considered an N-1 situation in the energy context. Additionally, the reserve capacity amount would also not be adequate to ensure system reliability in a situation where there is an ISP outage since PG&E states that, although they do not specifically know the ISP capacities at any point in time, PG&E has seen some ISPs deliver more than 250 MMcf/d.

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<sup>95</sup> Exh. PG&E – 1 at p. 11-19.

<sup>96</sup> Exh. PG&E – 1 at pp. 11-20-11-21.

<sup>97</sup> HT Vol. 21, 2767: 9-14.

<sup>98</sup> OSA Exhibit, Figure 2-1.

<sup>99</sup> HT Vol. 21, 2767: 9-14.

Finally, these new products are not adequate replacements for physical infrastructures. In R.04-01-025, establishing policies and rules to ensure reliable long-term supplies of natural gas, the Commission directed gas utilities to “plan their backbone and *storage systems* so as to meet” peak demand.<sup>100</sup> The Commission’s intent is for the gas utilities to maintain their own physical infrastructures such as backbone pipelines and storage systems, instead of relying on a third party for storage services as PG&E is proposing with its NGSS. This is further evidenced in the Commission’s finding in R.04-01-025 that “[S]torage serves purposes far beyond price hedging, and provides certainty that cannot be matched by a reliance on flowing supply.”<sup>101</sup> PG&E’s proposal to close its two storage fields and rely on new storage services contradicts the Commission’s policies and rules for ensuring reliable supplies and therefore should be rejected.

#### IV. CONCLUSION

The Commission should review PG&E’s pipeline mitigation program as it relates to shallow and exposed pipeline. Based on the record, it does not appear that PG&E has an adequate pipeline management program to mitigate risks associated with exposed pipelines in communities such as Lafayette. OSA recommends that the Commission direct PG&E to submit a revised pipeline risk management program procedure that Commission staff, including OSA staff, may review, with the goal of reaching a consensus on how to address pipelines that were designed to be underground, but have remained uncovered for many years and present a significant risk to the local community.

The Commission should deny PG&E’s NGSS. If the Commission authorizes the NGSS it should only do so on a pilot program basis so that PG&E may document and resolve operational issues, demonstrate that the newly proposed reserve capacity and inventory management are sufficient to provide safe and reliable service to PG&E’s

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<sup>100</sup> D.06-09-039, Ordering Paragraph 2. [Emphasis Added].

<sup>101</sup> D.06-09-039, Findings #22. [Emphasis Added.]

customers, pursuant to Public Utilities Code section 451.<sup>102</sup> PG&E should report its findings on the NGSS pilot program in its next general rate case. However, if the Commission authorizes the NGSS, it should also implement the safety and reliability conditions listed in the above Summary of Recommendations.

Respectfully submitted,

/s/ CANDACE CHOE

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Candace Choe  
Attorney

Office of the Safety Advocate  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102  
Phone: (415) 703-5651  
Email: cc2@cpuc.ca.gov

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<sup>102</sup> Public Utilities Code §451 states, in part, every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.