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PG&E Comments on the Draft Natural Gas Market Trends and Outlook Report

Additional submitted attachment is included below.

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California Energy Commission
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Re: Docket 17-IEPR-04: Pacific Gas and Electric Company Comments on October 9, 2017 Commissioner Workshop on *Draft Natural Gas Market Trends and Outlook Report*

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide comments on the October 9, 2017 Integrated Energy Policy Report (IEPR) workshop hosted by the California Energy Commission (CEC) and the opportunity to provide feedback on the *2017 Draft Natural Gas Market Trends and Outlook* (Draft Report). PG&E provides comments including the following key points:

- Existing tools and market mechanisms make a proposed gas imbalance market unnecessary;
- North American Market gas trade modeling results need to be clarified; and
- Gas storage industry dynamics are changing but system reliability remains essential.

PG&E looks forward to continuing to work with staff on this important effort until the adoption of 2017 IEPR.

I. A Natural Gas Imbalance Market is Unnecessary Given Existing Market Mechanisms

The creation of a so-called “natural gas imbalance market” as presented in the *2017 Draft Natural Gas Market Trends and Outlook* does not appear to be applicable for Northern California. The Draft Report states that the natural gas imbalance market could enable market participants with excess supply in a given hour (California’s gas utilities already allow trading of daily and monthly gas imbalances) to sell gas to others needing more that day.

To understand the impact of the proposed “natural gas imbalance market,” it is important to note that electric generation gas demand is only about one-third of the overall gas demand in the PG&E service area and forecasts of gas-fired electric generation are declining. Consequently, changing the structure of the existing, well-functioning market would be very disruptive to the rest of the gas market, particularly as it currently has tools to balance gas supply and demand in the near- and long-term.

One of the existing tools available to PG&E intrastate transportation customers is the gas tariff G-BAL. This tariff provides PG&E the ability to balance volumes of gas it receives into its pipeline system with the volume it delivers to End-Use Customers and to Off-system Delivery Points. Under this G-BAL, PG&E calculates, maintains, and carries imbalances; provides incentives for customers to avoid and minimize imbalances; facilitate elimination of imbalances; and cash out imbalances. Schedule G-BAL applies to all market participants and allows the aggregation of multiple customers into balancing pools. This system of balancing supply and demand is working well in PG&E’s service area and has been for more than 15 years. PG&E has heard in no uncertain terms that our customers like the flexibility that our current balance rules allow. The "natural gas imbalance market" proposal would diminish the current market preferences for balancing usage and supply.

Another tool that helps balance customer supply and use on a daily basis is Operational Flow Orders (OFOs). An OFO is a mechanism to protect the operational integrity of a pipeline. PG&E's California Gas Transmission may issue and implement System-Wide or Customer-Specific OFOs in the event of high or low pipeline inventory. OFOs require shippers to take action to balance their supply with their customers' usage on a daily basis within a specified tolerance band. Shippers may deliver additional supply or limit supply delivered to match usage. Noncompliance charges are based on a fixed amount plus the Daily PG&E Citygate Index when applicable. Thus, noncompliance charges include market pricing leading to price signals and are market based to improve efficiencies.

As for liquidity and pricing, in the Pacific Gas and Electric service area, the PG&E Citygate gas market is already very actively traded on Intercontinental Exchange (ICE), the bi-lateral market, and on NYMEX ClearPort. For example, market participants trade gas at the PG&E Citygate using the ICE same-day contract Natural Gas Firm Physical, Fixed Price (NG Firm Phys, FP). This contract allows the trading of physical volumes to meet supply and demand conditions on a given day at a fixed price. This same-day access and pricing of supplies is one of the main issues the balancing proposal attempts to address even though it already exists.

In the Workshop presentation *California Natural Gas Market Transformation Thoughts and Recommendations*, two recommendations run counter to market-based storage incentives. The first recommendation state that the Gas Imbalance Market and the Market Operator should maintain summer gas storage inventory levels at between 70% and 80% of working gas levels. Requirements for storage to be maintained at these levels decreases the intrinsic value of gas storage by removing the opportunity to arbitrage seasonal price differences. Consequently, this intrinsic value that helps pay for storage capital and operation expenses is diminished and leaves customers with stranded costs that reduce the affordability of the gas transmission and storage system in PG&E's service area. It is not clear how this storage recommendation could be implemented in Northern California given that over half of the gas storage capacity is held by independent storage providers (ISPs) who depend on market revenues to cover their costs. The recommendations would significantly impair the commercial operations of Northern California ISPs by placing them under third-party control.

The second recommendation to institute winter gas storage refills when inventory drops below 60% (or other prudent level) and demand drops such that interstate capacity is available to refill to 70% (or other prudent level), would also increase costs to customers and further decrease the economic viability of the ISPs.

In Northern California, this proposal is a solution in search of a problem. The existing tools and current market structure handles the variation of usage and supply through market-based prices and flexible balancing tools.

While the Southern California system tariffs differ from PG&E's in some ways, the use of storage for arbitrage (as well as core customer reliability), OFOs to provide balancing incentives and a daily Citygate market are common elements of the two systems. The need for an additional balancing mechanism should be reexamined in light of existing options.

II. North American Market Gas Trade Modeling Results Should be Clarified

In the North American Market Gas Trade Modeling Results presentation, on slide 11, a Low Demand price driver includes the assumption of lower resource availability. In slide 10, "Natural Gas Common Cases: Key Assumptions 2017," the table does not include this assumption. PG&E recommends staff explain these assumptions for both the High Demand and Low Demand cases and illustrate how these assumptions change pipeline flows and prices at Malin and Topock in each scenario.

III. Gas Storage Industry is Changing but Reliability Remains Critical

Regarding the Workshop presentation from Central Valley Storage LLC on behalf of Gill Ranch Storage, LLC, Lodi Gas Storage, LLC, and Wild Goose Storage, LLC, PG&E concurs that traditional seasonal storage spreads remain low relative to history. This low intrinsic value continues to be present in the current futures market as well as the value and use of storage capacity. With these changing market conditions, PG&E proposes to change its gas storage services with details to be shown in PG&E's Gas Transmission and Storage rate case which is expected to be filed with the California Public Utilities Commission (CPUC) by the end of October, 2017. However, the expectation will remain that PG&E and ISPs gas storage assets provide reliability services to core and noncore customers.

PG&E is focused on providing reliability services to all customers on the PG&E system and the expectation is that those services will continue. This includes winter peaking supply to the core, transmission system, balancing of supply and demand to all customers, reserves in the case of loss of other supply sources, and intraday balancing as part of backbone services. Load variation comes from both residential and electric generation demands, with residential load variation far greater than electric generation that is on a downward trend over the next decade. To meet residential-sector load variation, ISPs may see increased reliance on their assets to provide the core with intrinsic value, peaking winter withdrawals and noncore storage services. PG&E will provide services for meeting load variation with its rules and tariffs along with pipeline and storage assets.

In the near future, large investments will be required to maintain the reliability and safety of existing gas storage assets. These investments will be driven by regulatory and legislative requirements from the California Division of Oil, Gas and Geothermal and Senate Bill 887, Chapter 673. To improve customer affordability, PG&E is proposing to remove two storage assets from operation, Los Medanos and Pleasant Creek. These actions will reduce the expected average residential monthly gas bill relative to keeping these assets and making the investments required by regulation and legislation. At the same time, reliability will be maintained by PG&E and ISPs coordinating activities and maintaining adequate inventory levels to support deliverability to balance new load variability.

IV. Draft Report Clarifications

PG&E provides a number of specific, clarifying changes to the Draft Report as detailed below.

- Page four of the Draft Report states "In contrast, the natural gas market operates on flat hourly nominations, meaning the same level of gas is delivered in each hour of the day." However, utilities can vary the hourly volumes of gas delivered from utility-owned storage fields, including capacity allocated for load balancing, to accommodate hourly load fluctuations along with varying pipeline inventory levels.

- Pages 14 and 15 of the Draft Report note that the electric generation gas consumption increase is "driven largely by the retirement of almost 16,000 MW of coal in the West by 2030 and the expected replacement with gas-fired generation." The CEC should specify if this figure represents Western Electricity Coordinating Council (WECC) retirements from 2016 to 2030. Moreover, the CEC should assess the impacts of recent policy developments, including the recent Department of Energy Grid Resiliency Pricing Rule notice of proposed rulemaking (NOPR) on its coal retirement assumptions.[1] Finally, the CEC should provide the rationale behind the assumption that the replacement of all coal-fired generation will be gas-fired generation.

- Page 29 of the Draft Report reads: "PG&E's Redwood Path (Lines 400/401) is connected to GTN, and Ruby has a firm capacity of only 2,023 MMcf/day" but should state:

  "PG&E's Redwood Path (Lines 400/401) is connected to GTN and Ruby, **and** has a firm capacity of only 2,023 MMcf/day. (i.e., take out comma after "GTN")

  This change clarifies that PG&E's Redwood Path is connected to GTN <u>and</u> Ruby and has a firm capacity of 2,023 MMcf/day.

- On Table 3, PG&E recommends noting the current limitation on the use of Aliso Canyon within the SoCalGas working capacity and maximum withdrawal capacity.

- On page 34, PG&E recommends noting in the description of Figure 16 that the change in the monthly inventory pattern and November storage inventory level are due to the loss of Aliso Canyon.

  Regarding Figure 17 on page 42, PG&E notes that the CEC near-term forecast prices for Henry Hub (HH) are higher than most industry forecasts. The CEC's mid-demand case is approximately $3.60/MMBtu compared to industry base forecasts below $3.00/MMBtu for 2020.

- "As Mexico draws more gas from the Permian Basin in Texas and New Mexico, California's reliance on gas delivered to Ehrenberg, Arizona will encompass a smaller percentage of the state's supply. While California will rely less on Permian gas, modeling shows that California will import more natural gas from the San Juan Basin."

  The above statement from pages 42-43 is not consistent with declining San Juan production and growth in low-cost Permian supplies. Permian supplies are likely to maintain or increase deliveries to California as San Juan basin supplies decline. Lower cost Permian supplies currently augment declining San Juan production in western flows to Arizona and the California market. Forecast Permian production growth could continue to supply an increase in Mexican exports as well as maintaining current Southwest supply volumes delivered to California.

- On page 54, the Draft Report states, "However, a growing LNG export market could affect natural gas prices in the United States."

  Staff should provide further details on the impacts on LNG growth on natural gas prices nationally and in California. Note that EIA's 2017 Annual Energy Outlook (AEO) shows lower Henry Hub prices in the Low oil and gas resource and technology and High oil and gas resource and technology cases, compared to the Reference case[2]. These two cases both include higher

[1] https://www.energy.gov/sites/prod/files/2017/09/f37/Notice%20of%20Proposed%20Rulemaking%20.pdf
[2] EIA, 2017 AEO Natural Gas : Henry Hub Spot Price.

LNG exports than the Reference case. These price trends indicate that LNG exports are driven, in part, by domestic gas prices.[3]

Beyond the domestic market, LNG export projects on the West Coast could affect California border prices, especially at Malin and this impact should be further assessed in this report.

- As indicated in the text in p. 62, Figure 24 represents methane emissions from oil and gas production and processing and pipelines. PG&E recommends changing the title of Figure 24 to reflect the text in p.62

  Figure 24: Methane Emissions from California **Oil and Gas Production and Processing and from Pipelines**

- On page C-1, PG&E recommends the following modification to the report:

  The Diablo Canyon power plant is retired in all IEPR common cases. The model assumes Diablo Canyon Unit 1 is retired **November 2** ~~December 31~~, 2024, and Unit 2 by August 26, 2025. Consistent with the Diablo Canyon Retirement Proposal, ~~all common cases include 2,000 GWh of gross energy efficiency in addition to the AAEE already embedded in the IEPR common cases and an additional 2,000 GWh/yr of new renewables developed between 2020 and 2024.~~ **remaining assumptions on future demand-side and supply-side resources are based on the CPUC's current Integrated Resource Plan (IRP) assumptions. These assumptions are currently based on the 'Proposed Reference System Plan' released on September 19, 2017, which includes energy efficiency based on the CEC 2016 IEPR Mid AAEE plus AB802 and a renewables level of approximately 58% in 2030 (4% banked renewable energy credits, 54% renewable generation).**[4]

V. Conclusion

PG&E appreciates this opportunity to comment on the October 9, 2017 Commissioner Workshop as well as the Draft Report and looks forward to continued participation in this process.

Sincerely,

/s/

Wm. Spencer Olinek

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[3] EIA, Liquefied natural gas exports expected to drive growth in U.S, natural gas trade, https://www.eia.gov/todayinenergy/detail.php?id=30052, February 22, 2017.

[4] http://www.cpuc.ca.gov/irp/proposedrsp/