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California Energy Commission
Docket Office, MS-4
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1516 Ninth Street
Sacramento, CA 95814

Re: Natural Gas Activities

Docket Office:

Please find attached PG&E's comments on the workshop held May 14, regarding Natural Gas Activities.

Please contact me should you have any questions. I can be reached at 415/973-4185.

Sincerely,

Kathy Treleven

Kathy Treleven

Attachment

PG&E's Comments on
CEC Draft Staff Paper on Natural Gas Infrastructure

June 5, 2009

Introduction

PG&E appreciates the CEC Staff's efforts to explore infrastructure adequacy, both within and outside of California. There are a number of ways in which to approach such an analysis and the CEC Staff's approach provides a good initial analysis. PG&E wants to point out some inputs and methodological assumptions that merit revising. As PG&E indicated on the May 14 Workshop, our analyses have found that natural gas infrastructure is adequate to meet stress conditions on our system over the next several years.

PG&E also would like to suggest that the CEC conduct additional analyses by using their economic forecasting model to analyze the adequacy of natural gas infrastructure in California and the western United States.

In these comments, PG&E provides some suggested improvements to the CEC infrastructure adequacy study.

Limited Statewide Supply Analysis and Infrastructure Adequacy

The CEC Staff's analysis of supply and demand attempted to quantify: 1) the peak supply available to California and 2) a Limited Supply Capacity which attempts to reflect the supply available to California assuming minimum storage availability and some supply not being available to the California market.

In the table below, PG&E provides data to be incorporated in the analysis (Table 2 of the Staff Report). While PG&E's receipts of gas at Malin are generally lower in the winter than in the summer, the firm capacity limit is not adjusted seasonally. If the market price in California provided a higher netback to producers, additional volumes of gas could be available at Malin. The CEC's economic model could be used to examine the quantities of gas supplies available at Malin under high demand conditions. The table below also provides an update to PG&E's firm capacity on the Baja transportation path.

PG&E is also providing in the table below updates to the storage deliverability assumptions used in the draft analysis. PG&E also encourages the CEC Staff to discuss deliverability capacities with the Independent Storage Providers.

PG&E Modifications to
CEC Table 2:
Limiting Supply Capacity to DeliverNatural Gas to California Customers (MMcf/d)

Supply Point	Peak Supply			Limited Supply Capacity		
	CEC	PG&E	Delta	CEC	PG&E	Delta
Malin	1850	2021	171	1850	2021	171
Topock	1140	1073	-67	1140	1073	-67
Storage	1500	1957	457	400	1451	1051
Total			561			1155

The CEC analysis also makes assumptions about what supplies might be used to serve demands outside of California. In this analysis, the CEC Staff removes some capacity that is available to California because of new pipeline infrastructure built outside of California. The CEC report acknowledged that Transwestern has recently completed a 500 MMcf/d lateral pipeline to Phoeniz, Arizona without adding mainline capacity. The analysis assumes that this new pipeline removes capacity available to serve the California market; however, this new capacity on Transwestern would reduce the amount of gas that is being used to serve Arizona on the El Paso pipeline. Again, the CEC's economic model could be used to estimate what supplies might flow on both the Transwestern and El Paso pipelines.

As part of developing this analysis further, PG&E suggests that the CEC Staff also investigate whether there is sufficient interstate pipeline capacity in the western United States to serve forecasted demand in the region. To the extent that there is or is not sufficient interstate pipeline capacity to serve the natural gas demand in the western United States, that would provide additional information for the final version of the paper.

PG&E also suggests that the CEC Staff use its economic forecasting model to analyze for potential constraints in the interstate or intrastate natural gas systems. Using their forecasting model to conduct such a study would allow the CEC Staff to create high demand and/or constrained supply cases to test whether there is adequate infrastructure in the western United States. Such a study would be useful in the IEPR, as it would show where future constraints may develop in the western natural gas system. If there are potential pipeline constraints, the Commission could then focus on the most efficient ways to alleviate those constraints. PG&E would welcome working with the CEC Staff to identify scenarios to analyze.

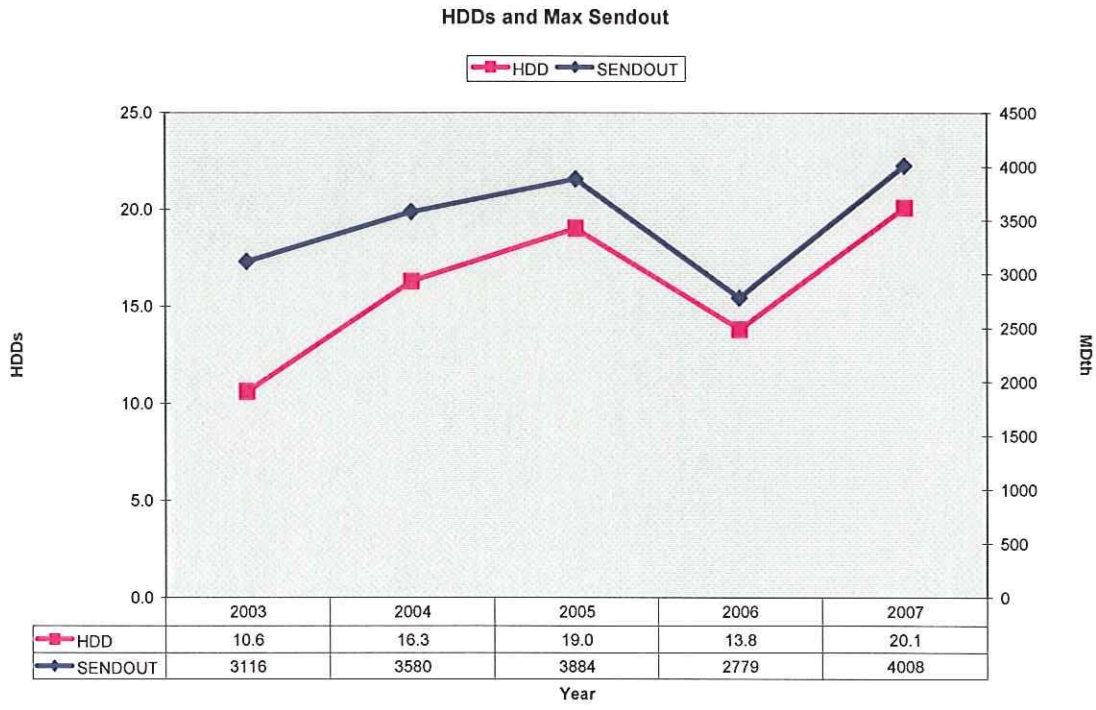
CEC's Forecast of Winter Peak Day Demand

The CEC's Winter Peak Day Demand is an analysis of natural gas demand during a peak weather event and the supply of natural gas available to California. The draft analysis showed a Peak Winter Trend to represent the highest demand in the state through 2020 (Staff Report, Figure 3).

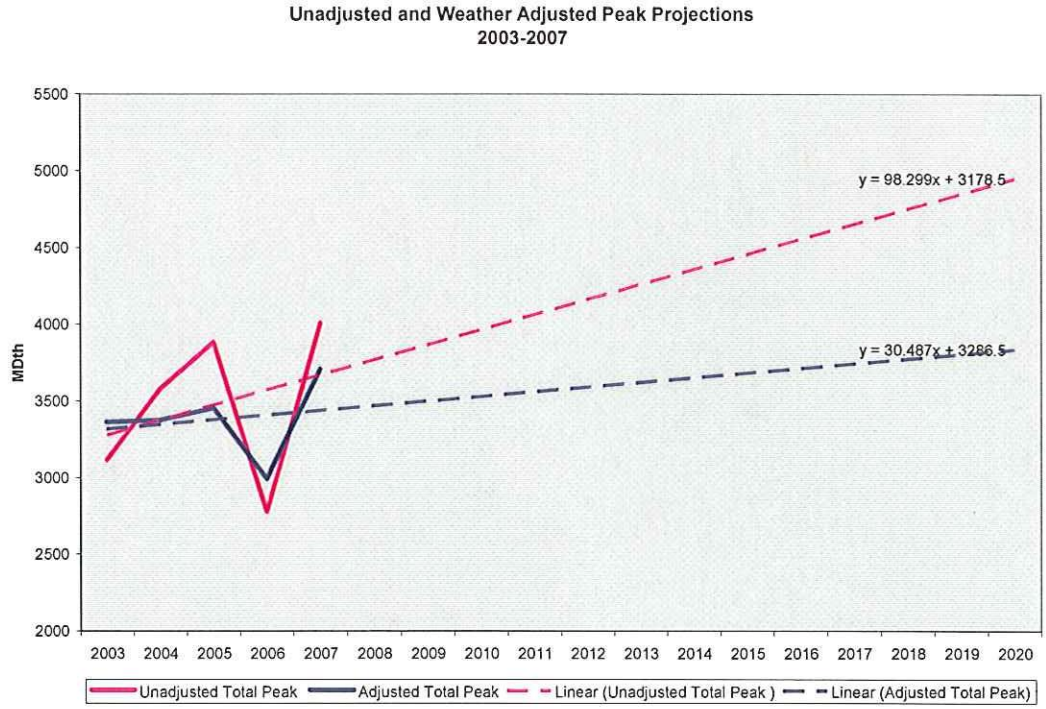
The Draft Report indicated a concern that the peak sendout between 2003 and 2007 increased, while the forecast of winter peak demand in the Cal Gas Report was relatively flat. PG&E's forecast of winter demand used by the CEC (Cal Gas Report, page 48) represents the average daily demands in the peak month in a 1-in-35 year, but not the peak demand in a year.

This trend analysis represents a good starting point, but the gas demand data needs to be adjusted for temperature and should also include other variables, such as economic conditions. As an example of adjustments, an analysis of the relationship between Heating Degree Days (HDDs) and maximum gas sendout in January shows a high correlation over that period. Because 2003 was a relatively warm peak and 2007 was a relatively cold peak, the forecast trend is higher than if normalized for temperature.

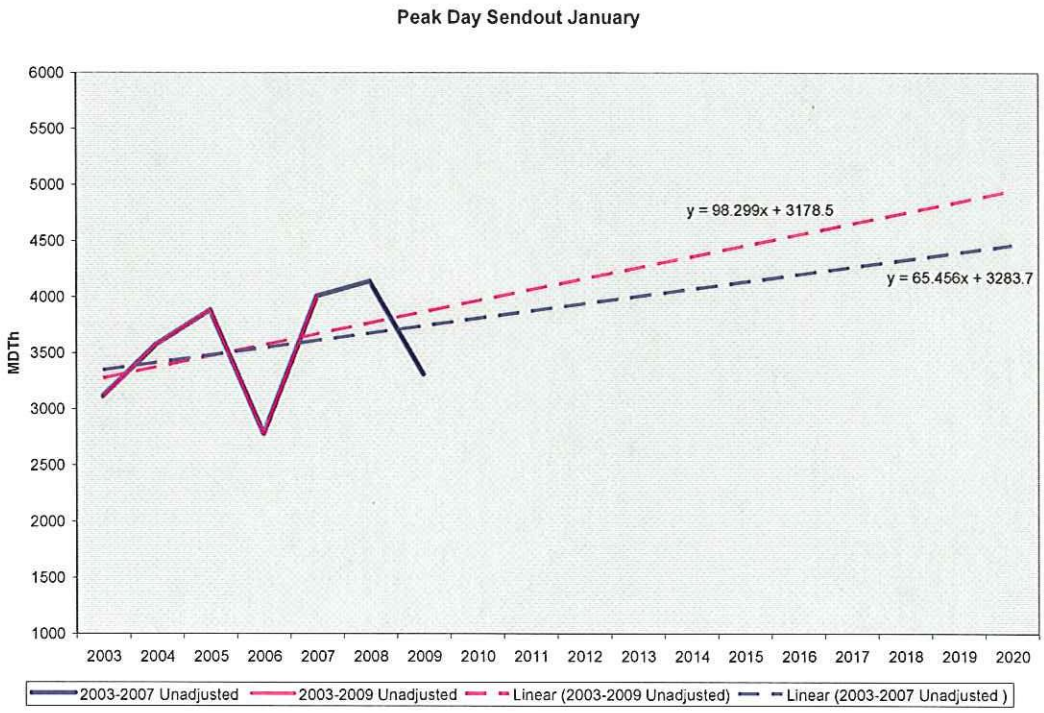
PG&E constructed a regression of total peak day send out in January and HDDs from 2003-2007 (see graph below). While there are many other factors affecting sendout, such as the economy, the R-squared of the equation was .58, indicating that we can explain 58% of the variation in Total Daily Sendout in January with HDDs. The equations for this analysis are provided in Appendix 1.



Normalizing the data in the trend analysis shows a flatter trend for the PG&E Service Area, as shown on the graph below.



Including additional years of data in the analysis also changes the projections for the January peak. While the peak sendout in 2008 was high, the peak sendout in 2009 was much lower than the previous two years.



Long-Term High Winter Demand

The Long-Term High Winter Demand in the Draft Report assumed that the winter peak conditions would last for an entire five month winter season. While there were relatively high demands during the energy crisis of 2000-2001, winter peak demands that last for an entire five-month period would be an extremely low frequency event. The analysis assumed that January demands in a 1-in-35 year event lasted for the entire winter season (about 150 days). In a year with a winter that had a 1-in-35 year occurrence, the level of demand in November, February and March would be significantly lower than the demands in December and January. The Final Report should quantify the likelihood of occurrence of this type of year. Alternatively, the demand scenario used in this analysis could be something that has a more likely chance of occurrence.

The impact of a long-term high winter demand scenario is something that could also be analyzed with an economic model. PG&E would recommend that such an analysis not be as extreme as a peak day or cold winter day that extended for an entire five month period. It is important to distinguish between normal planning criteria that focus on short-term events versus sustained adverse conditions.

PG&E's Infrastructure Adequacy

PG&E's biannual report to the CPUC filed in July 2008 showed that PG&E's overall level of backbone capacity is above the reserve margin criteria established in CPUC Decision 06-09-039 and that PG&E has adequate system backbone capacity to serve its customers under high demand conditions. In that report, PG&E showed that in a 1-in-10 Cold and Dry Year Demand, PG&E's backbone capacity utilization is forecasted to be in the low 70% range.

While PG&E has adequate backbone capacity, PG&E's Baja transportation path has exhibited high utilization in recent years. Because of that high utilization, PG&E is holding an Open Season for firm transportation capacity on this path. This Open Season closes on June 8, 2009.

PG&E has proposed two groups of capacity in this open season:

1) 30 MDth/d of capacity starting on December 1, 2011, available at all receipt points for a term of 12-120 months
2) 200 MDth/d of capacity starting on January 1, 2013, limited to a new interconnect at Arvin

Natural Gas Working Group

PG&E believes that the existing Natural Gas Working Group could be used more effectively to address up front the scope for this type of analyses. With better coordination with the gas utilities and other stakeholders, the scope of analysis could be better developed with the CEC Staff.

Appendix 1

Relationship Between daily HDDs and Total January Sendout

The following illustrates the relationship between daily HDDs and Total January Sendout in MDth. The equation gives the relationship of an increase of one HDD would result in an 80 MDth increase in Total Sendout.

Dependent Variable: TOTAL_SEND_JAN
Method: Least Squares
Date: 05/21/09 Time: 16:53
Sample (adjusted): 1/01/2003 1/31/2007
Included observations: 155 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1910.121	74.91742	25.49635	0.0000
WEEKDAY	190.3687	48.88298	3.894377	0.0001
HDDS	80.38834	5.669914	14.17805	0.0000

R-squared	0.584465	Mean dependent var	2920.893
Adjusted R-squared	0.578997	S.D. dependent var	422.7912
S.E. of regression	274.3269	Durbin-Watson stat	0.617635
Sum squared resid	11438795		
Log likelihood	-1088.640		
F-statistic	106.8967		
Prob(F-statistic)	0.000000		