Comments on the Draft Final Proposal for Aliso Canyon Gas-Electric Coordination – Phase 2

Department of Market Monitoring
September 28, 2016

Overview

DMM generally supports the ISO's *Draft Final Proposal* to extend the temporary Aliso Canyon provisions. As noted in DMM's prior comments, DMM continues to provide two recomendations for enhancements to the ISO's proposal: [1]

- DMM recommends that the ISO file to permanently eliminate the current 1-day lag in gas prices used in the day-ahead market by updating gas prices used in the day-ahead market based on an average of next day gas trades reported on ICE between 8 a.m. and 9 a.m. prior to running the ISO's day-ahead market each day. The ISO has indicated that it may examine this issues as part of a bidding initiative it plans to initiate in the fourth quarter of 2016, which may result in modifications to be implemented in fall 2017. DMM believes that even if other changes to bidding rules are implemented in fall 2017, this measure represents a common sense element that should be included in the ISO market. This modification has universal support among stakeholders and that neither the ISO nor stakeholders have provided any reasons why this measure should not be implemented on a permanent basis.
- DMM also recommends that incremental and decremental exceptional dispatches related to the management of Aliso Canyon gas issues be considered non-competitive and subject to exceptional dispatch market power mitigation. The ISO notes that "several external stakeholders submitted comments supporting DMM's recommendations," but that "The ISO believes considering this would benefit from additional time and stakeholder process. The ISO will continue to consider these recommendations."[2]

DMM is supportive of the ISO's proposal to extend -- but not modify -- the current gas cost scalars used to increase commitment cost and default energy bid caps used in the real-time market at this time. DMM has not observed any significant detrimental impacts of the scalars in terms of market power and excessive or unnecessary market uplioft costs. However, DMM believes that analysis of market data indicate these scalars – particularly the 75 percent scalar for commitment cost bids – have not played a significant role in helping participants manage real-time gas usage. Thus, in the event DMM observes significant detrimental cost impacts

[1] Comments by Department of Market Monitoring on Aliso Canyon Gas-Electric Coordination Phase 2 – Straw Proposal, September 15, 2016: http://www.caiso.com/Documents/DMMComments_AlisoCanyonGas-ElectricCoordinationPhase2StrawProposal.pdf.

[2] *Draft Final Proposal*.

without any evidence that the scalars were providing significant benefits, DMM would recommend lowering the scalars.

Gas cost scalars

DMM is supportive of not modifying the current gas cost scalars for the time being since DMM has not observed any significant detrimental impacts of the scalars in terms of market power and excessive or unnecessary market uplift costs. However, DMM believes that analysis of market data indicate these scalars have not played a significant role to date in helping participants manage real-time gas usage. In the event DMM observes significant detrimental cost impact without any evidence that the scalars were providing significant benefits, DMM would recommend lowering the scalars.

The following sections provide a more detailed discussion of market data which DMM believes indicate that these scalars – particularly the 75 percent scalar for commitment cost bids – have not played significant role to date in helping participants manage real-time gas usage.

Impact of gas scalars on real-time gas usage

The *Draft Final Proposal* indicates that "in combination with good coordination and advanced electric planning, the more robust bidding flexibility is believed to have led to the limited days with modest positive imbalances and other days with negative imbalances during the summer months."[3] The ISO also notes that "some Stakeholders commented to the ISO that these bidding flexibility improvements helped them manage their operational risk during summer 2016."[4]

Figure 1 in the *Draft Final Proposal* is provided to show the combined impact of various factors that helped limit additional real-time gas usage following implementation of many special measures in early June. As shown in Figure 1, the difference between estimated real-time gas usage and gas needed to meet day-ahead schedules tended to be negative most days starting in June 2016 (indicating that real-time gas usage would be lower than scheduled supplies assuming generators scheduled gas to meet their day-ahead energy schedules).

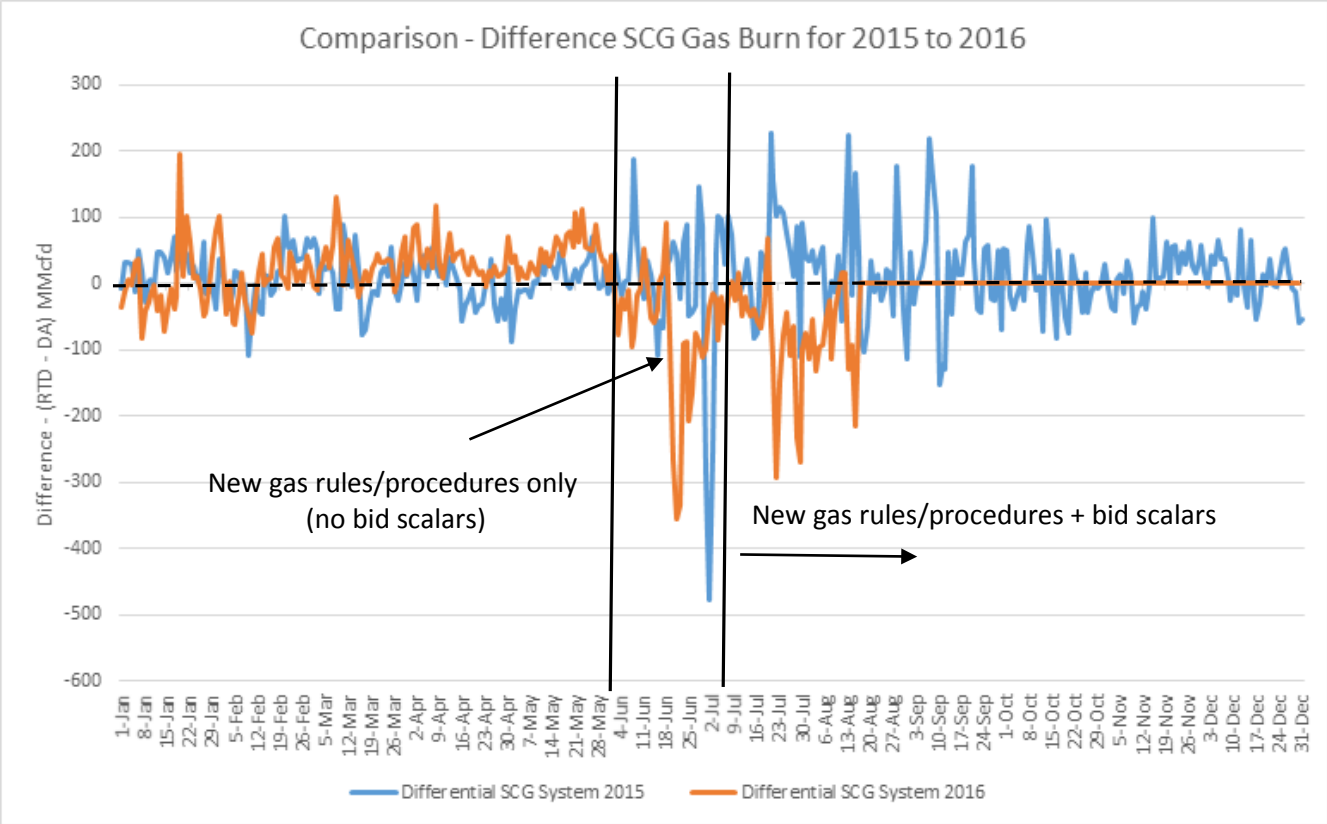
Figure 1 below shows the same Figure 1 from the *Draft Final Proposal*, but includes lines showing the date on which special gas provisions by SoCalGas and SDG&E were implemented (June 1, 2016) and the date on which the ISO implemented the gas cost scalars (July 6, 2016). Figure 1 below also includes a heavy dotted black line highlighting day when estimated real-time gas usage exceeded the ISO's calculation of gas needed to meet day-ahead schedules.

As shown in the annotated version of Figure 1 below, the trend of real-time gas usage below gas usage needed to meet day-ahead electric schedules began in June when special gas

[3] *Aliso Canyon Gas-Electric Coordination Phase 2 Draft Final Proposal*, September 23, 2016: http://www.caiso.com/Documents/DraftFinalProposal-AlisoCanyonGasElectricCoordinationPhase2.pdf.
[4] *Draft Final Proposal*.

provisions by the SoCalGas systems were implemented and continued for more than a month before the ISO implemented the gas cost scalars in July.

Figure 1. Gas usage before and after implementation of gas cost scalars



As shown in Figure 1 above, the days and magnitude of real-time gas usage in excess of gas needed for day-ahead schedules are approximately equal *before* and *after* implementation of the gas usage scalars. Before the gas scalars were in effect, positive differences in estimated gas usage occurred on 4 of the 34 days (or 12 percent of days) from June 2 to July 5. After gas scalars were in effect starting July 6, positive differences occurred on 6 of the following 41 days (or 15 percent of days).

Figure 2 and Figure 3 compare the same data on estimated gas deviations during the period before and after implementation of the gas cost scalars in terms of a duration curve of estimated daily gas deviations.

Based on these data – along with analysis of bidding data summarized below – DMM believes that the gas usage trend in Figure 1 is not due to the gas cost scalars and is instead likely due to other factors – such as good coordination and advanced planning and scheduling of substantial supplies of gas by participants prior to real-time.

Figure 2. Daily gas usage before and after implementation of gas cost scalars (all days)

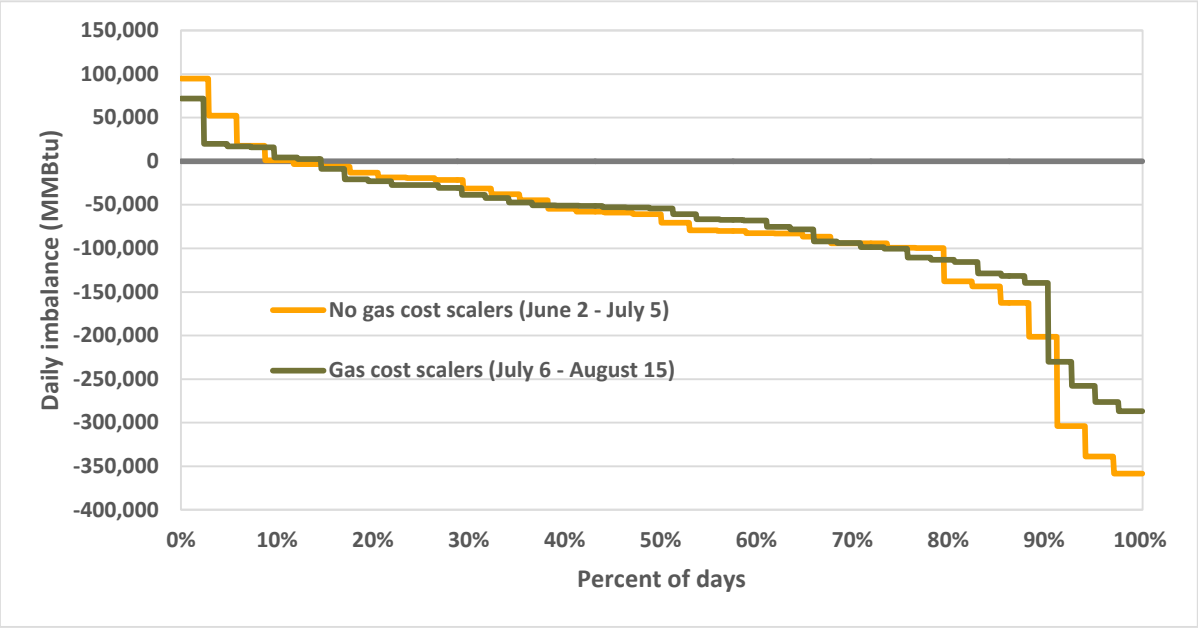
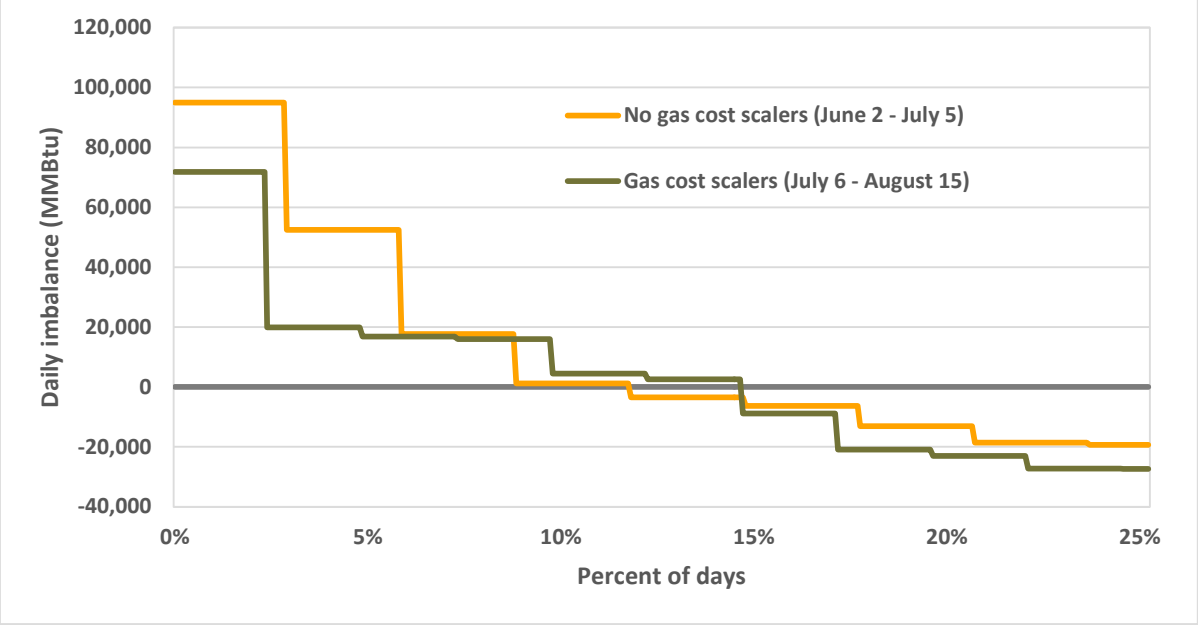


Figure 3. Daily gas usage before and after implementation of gas cost scalars (highest 25 percent of days)



In addition to the data in Figure 1 above, DMM believes that analysis of bidding patterns presented by DMM at the technical conference provides further indications that the upward bidding flexibility allowed due to the gas cost scalars is unlikely to have played a significant role in limiting additional real-time gas usage.

DMM's analysis presented at the technical conference shows that the additional headroom created by the 75 percent gas cost scalars for minimum load cost bids was used primarily by only one large participant. This one participant accounted for 99 percent of minimum load bids submitted at the bid cap after application of the 75 percent scalar and 85 percent of the minimum load bids submitted below the new bid cap and above the 25 percent headroom normally included in the bid cap for commitment costs.[5]

Other participants made some use of the additional headroom created by the 75 percent adder, while several participants made very limited use of this headroom.[6] The fact that only one supplier made significant use of the gas cost scalars – while several others made very limited use of the scalars – provides a further indication that the scalars are likely to have had limited impact on limiting real-time gas usage in excess of scheduled gas levels.

The ISO appears to concur with DMM's assessment that the commitment cost scalars have not provided significant benefits in terms of being needed to reflect actual gas prices in the real-time market. Specifically, the *Draft Final Proposal* states that "Regarding commitment costs, the ISO does not observe significant benefits from looking at systematic price differences alone by applying a scalar higher than 125 percent to the next day gas index."[7]

However, the *Draft Final Proposal* goes on to state that "there are additional benefits provided by having this higher scalar in place beyond capturing systematic price differences as it allows resources to reflect gas system constraints so the supplier can manager their unit within gas rules."[8] It is unclear it the ISO believes such additional benefits (i.e. helping suppliers manage resources within the gas rule) actually occurred during the summer months, or if the ISO believes these represent potential future benefits in the event gas and electric market conditions are different in the coming winter months.

As explained above, DMM believes that this analysis indicates that the 75 percent gas scalar for commitment costs did not end up having a signficant benefit in terms of helping to manage gas usage this summer. However, DMM agrees that the scalar may provide such benefits in the future in the event gas and electric market conditions are different in the coming winter months.

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[5] See *DMM Comments on Aliso Canyon market impacts*, September 16, 2016, p. 7: http://www.ferc.gov/CalendarFiles/20160915133258-DMMmarket-highlightsAliso.pdf.
[6] Ibid, p. 8.
[7] *Draft Final Proposal*.
[8] *Draft Final Proposal*.

DMM also notes that that following implementation of the 25 percent scalar used for default energy bids used in mitigation, we did not observe any systematic increase in energy bids in excess of the 10 percent headroom above estimated costs normally included in default energy bids and the approximately 35 percent level of headroom included after application of the 25 percent gas scalar. However, we did observe a few periods with higher demand where some participants may have increased their bids into the bid range afforded by the scalar. Though the impact on bids is difficult to assess directly as default energy bids are not directly correlated with incremental energy bids.

Thus, as explained in DMM's prior comments, while DMM believes the gas cost scalar – particularly the 75 percent scalar for commitment cost bids – have provided limited benefits, DMM is supportive of not modifying these for the time being since DMM has not observed any significant detrimental impacts of the scalars in terms of market power and excessive or unnecessary market uplift costs.

Same day gas costs

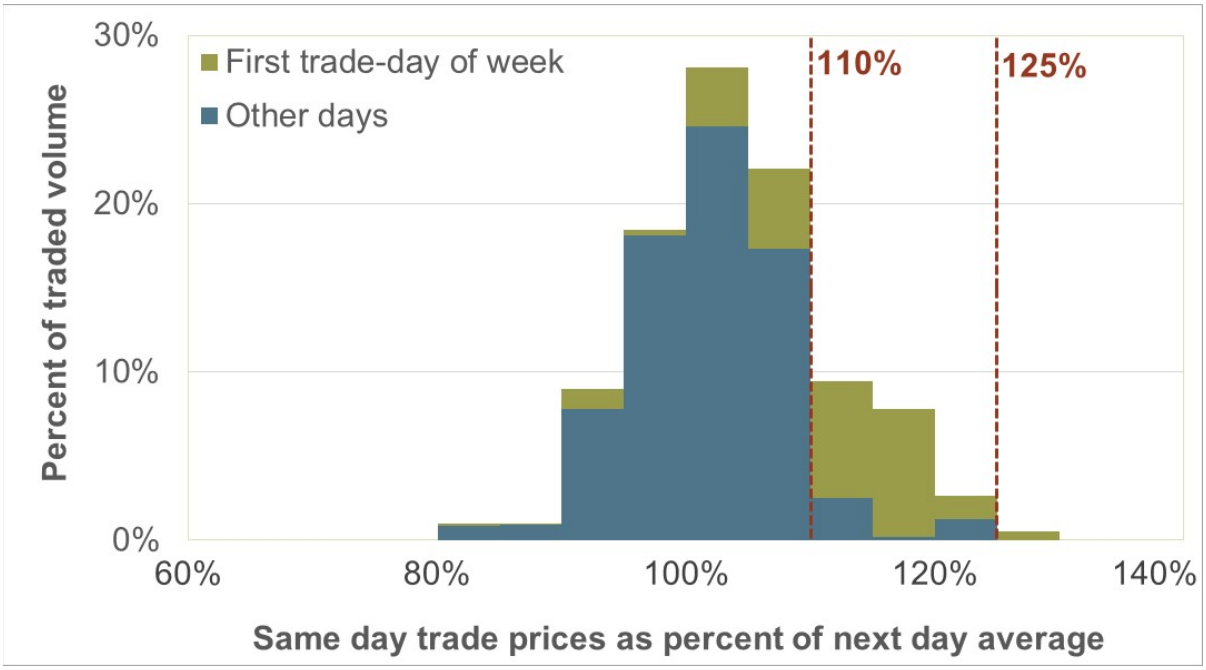
Under the ISO's proposal, the second criteria used by the ISO to determine if the gas cost scalars need to be adjusted is whether the scalar "better accounts for systematic differences between day-ahead and same-day natural gas prices that materialize."[9] Again, DMM's analysis indicates that the gas cost scalars have not been needed to account for any systematic differences in actual observed same-day natural gas prices and the next day gas costs used by the ISO to calculate commitment costs and default energy bids.

Analysis presented by DMM at the technical conference show that only 0.5 percent of same day gas traded on ICE was more than 125 percent higher than the next day gas index normally used to calculate commitment cost bids, and that the price of these trades was only marginally higher than the 125 percent level (i.e. up to 128 percent). With regards to default energy bids, the increased flexibility may have been useful in a limited set of instances (above 110 percent) that typically occurred on the first trade-day of the week. This analysis is shown in Figure 4 below.

DMM recommends that the ISO initiave steps needed to implement a process for updating gas prices used in the real-time market based based on an average or same day trade prices on ICE each morning atbout 8 a.m. This process would be essentially the same as the process for updating next day gas prices used in the day-ahead market each morning. This would ensure that updated gas prices used in the real-time market were virtually always within the 10 percent and 25 percent headroom normally allowed for default energy bids and commitment cost bids.

[9] *Draft Final Proposal.*

Figure 4. SoCal Citygate same day gas trades compared to the next day index



While DMM's analysis is based on the volume of all trades on ICE, the ISO's analysis is based on the single maximum trade price on ICE each day. The ISO's analysis found that "out of 92 days reviewed, only 1 had trading where the highest traded price [for same day gas] was more than 125 percent higher than the next day gas index published the morning of the ISO's day-ahead market."[10] This one day represents about 1.1 percent of the 92 days examined by the ISO and had a maximum trade price of equal to about 128 percent of the next day prices used to calculate real-time bid caps.

While the ISO's analysis represents the number of days, our analysis shows that of the traded volume only 0.5 percent of same day trades exceeded the 125 percent threshold. We believe that focusing on the volume of trades rather than instances of days is a better metric and representation of trades exceeding the threshold.

Updated gas price for day-ahead market

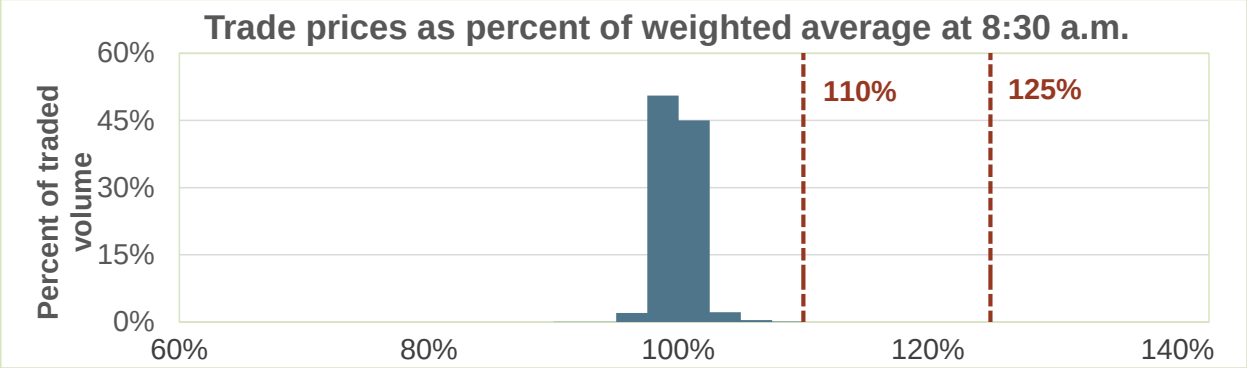
DMM recommends that the ISO file for permanent authority to eliminate the current 1-day lag in gas prices used in the day-ahead market by updating gas prices used in the day-ahead market based on an average of next day gas trades reported on ICE between 8 a.m. and 9 a.m. prior to

[10] *Draft Final Proposal*.

running the ISO's day-ahead market each day. This measure reflects a recommendation previously made by DMM in September 2015.[11]

Analysis by DMM presented at the technical conference shows that implementing this would ensure that gas prices used in the day-ahead market would have always been within the 25 percent and 10 percent levels of headroom already included in day-ahead commitment cost bid caps and default energy bids, respectively.[12] This analysis is provided in Figure 5 below.

Figure 5. Next day trade prices compared to proposed methodology



The ISO is only filing to extend this authority on a temporary basis. The ISO has indicated that it may examine this issues as part of a bidding initiative it plans to initiate in the fourth quarter of 2016, which may result in modifications to be implemented in fall 2017. DMM notes that this modification has universal support among stakeholders and that neither the ISO nor stakeholders have provided any reasons why this measure should not be implemented on a permanent basis.

DMM believes that even if other changes to bidding rules are implemented in fall 2017, this measure represents a common sense element that should be included in the ISO market. For example, even if bidding rules are modified to allow participants to request use of gas costs in excess of the cost used in the market software, this updated gas price represents the benchmark or default prices that would need to be used to assess such requests. In practice, DMM believes that data in Figure 5 shows that implementing this to eliminate the current 1-day lag in prices used in the day-ahead marker would provide the ISO and participants with a significantly more accurate representation of natural gas prices in the day-ahead market.

[11] *Report on natural gas price volatility,* Department of Market Monitoring, September 21, 2015, p.1: http://www.caiso.com/Documents/DMMReport-gas_price_analysis_september2015.pdf.

[12] *DMM Comments on Aliso Canyon market impacts*, p. 4.

Gas cost recovery

DMM recommended that the ISO clarify that the cost recovery provisions be expanded to include gas costs incurred as a result of energy dispatches only if these represented bids that were mitigated (i.e. *lowered*) through the ISO's automated bid mitigation procedures or mitigation rules for exceptional dispatches. The ISO's final proposal appears to do this.[13]

Exceptional dispatch

Since the ISO has indicated that exceptional dispatch will continue to be used as needed to manage Aliso Canyon gas limitations, DMM recommends that incremental and decremental exceptional dispatches related to the management of Aliso Canyon gas issues be considered non-competitive and subject to exceptional dispatch market power mitigation.

In response to requests from the ISO and stakeholders for DMM to provide some analysis supporting this recommendation, DMM provided analysis of structural market power in each of the gas sub-regions defined by the ISO. This analysis shows a high degree of structural market power in each of these gas regions.[14]

The ISO notes that that "several external stakeholders submitted comments supporting DMM's recommendations," but that "The ISO believes considering this would benefit from additional time and stakeholder process. The ISO will continue to consider these recommendations."[15]

[13] *Draft Final Proposal*.
[14] Comments by Department of Market Monitoring on Aliso Canyon Gas-Electric Coordination Phase 2 – Straw Proposal, p. 3.
[15] *Draft Final Proposal*.