**Comments on Managing Full Network Model BPM PRR 1262**

**Department of Market Monitoring**

August 18, 2020

Below are DMM comments regarding shaping of gas burn nomogram in 4.2.7.1.2.3 section of Managing Full Network Model BPM PRR 1262:

DMM appreciates ISO adopting our past recommendations on shaping the gas burn nomogram using the net load approach and also based on estimated gas burn from the two-day-ahead runs of the market software that the ISO performs.[[1]](#footnote-1)

In addition, DMM continues to recommend that the ISO improve how gas usage constraint limits are set and adjusted in real-time based on actual gas usage in prior hours. For example, while gas usage constraints are modeled as 15-minute constraints in the ISO’s real-time market, these gas constraints are actually applicable only over a much longer daily multi-hour time period. Based on our past observations, ISO does not appear to adjust these constraints in real time based on actual gas usage in prior hours. Therefore, when the gas constraints bind in the real-time market during the peak ramping hours, there appears to be surplus gas from hours prior in the day when actual usage was well below the constraint as modeled by the ISO. DMM has provided empirical examples of when this issue has occurred in the day-ahead and real-time markets in comments filed at FERC on the ISO’s requests to extend its authority to use the gas nomograms.[[2]](#footnote-2) This represents a significant flaw that remains in the gas nomograms. Thus, DMM continues to recommend that the ISO improve how gas usage constraint limits are set and adjusted in real-time based on actual gas usage in prior hours.

Below is an excerpt from the BPM which highlights that ISO currently has this flexibility. DMM understands that currently this process is manual and cumbersome for the operators to use in real-time and hence opt for out-of-market actions such as exceptional dispatches. DMM seeks clarification on whether this functionality will be automated along with other gas burn nomogram enhancements. DMM believes that incorporating maximum gas constraints into the market software can in theory be more effective and efficient at managing gas limitations than the use of manual dispatches made by system operators.

**Total gas burn limitation due to reduction in capacity or deliverability**

CAISO operations would identify whether there is an anticipated risk that gas demand could exceed system capacity largely because of gas system peaks in the winter.  If the gas curtailment notice has a daily limitation on the gas supply, specified by a gas company, then CAISO would distribute the daily limitation across the hours by a ratio of hourly net load forecast to daily net load forecast to support greater electric flexibility, unless the CAISO has coordinated an alternative specific gas limitation with the gas company.  The net load assessment would consider the total system load net of generation by solar and wind resources (i.e., Variable Energy Resources), which may more closely resemble the actual gas burn requirement and therefore capture daily variations.  In addition, CAISO may also consider using the last available day-ahead historical gas burn requirement for the applicable market to shape the gas limitation profile.  For example, If CAISO was planning to enforce the nomogram in the DAM then the DA + 2 gas burn for the applicable gas forecast zone and same trade date would be used as a reference and to reshape to the gas limitation provided by the gas company.  If the gas limitation provided by the gas company requires an hourly limit on the gas supply, then CAISO would have establish a fixed value for all hours as specified by a gas company.  In the real-time, the CAISO will recapture portions of the allocated range unused for earlier intervals.  For example, if balancing range allocated to the first 4 hours of the day was unused, the gas burn associated with that allocation would be recaptured and used to increase the allowable range for later periods consistent with expected load shape.

1. FERC filing - DMM Comments on Aliso Canyon Gas-Electric Coordination Phase 5 (ER20-273), November 21,2019:

   <http://www.caiso.com/Documents/MotiontoInterveneandCommentsoftheDepartmentofMarketMonitoring-Aliso5-ER20-273-000-Nov212019.pdf> [↑](#footnote-ref-1)
2. See example in Comments of the Department of Market Monitoring for the California Independent System Operator, ER18- 2520, October 19, 2018, pp.24-25. [http://www.caiso.com/Documents/CommentsoftheDepartmentofMarketMonitoirngAliso4-Oct192018.pdf](http://www.caiso.com/Documents/CommentsoftheDepartmentofMarketMonitoirngAliso4-Oct192018.pdf%20)

   Also see example in Comments of the Department of Market Monitoring of the California Independent System Operator, ER17-2568, October 26, 2017, pp 15-17. [http://www.caiso.com/Documents/Oct26\_2017\_DMMCommentsAlisoCanyonElectric-GasCoordinationPhase3\_ER17-2568.pdf](http://www.caiso.com/Documents/Oct26_2017_DMMCommentsAlisoCanyonElectric-GasCoordinationPhase3_ER17-2568.pdf%09)  [↑](#footnote-ref-2)