

June 30, 2022

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: California Independent System Operator Corporation

**Annual Informational Filing – Usage of Maximum Gas Burn
Constraint**

Docket No. ER20-273-____

Dear Secretary Bose:

On October 31, 2019, the California Independent System Operator Corporation (CAISO) filed a tariff amendment to address the effects of limitations on the natural gas system in Southern California on the CAISO's ability to operate the electric grid reliably by permanently adopting a maximum gas constraint and related tariff provisions. By order issued December 30, 2019, the Commission accepted this tariff amendment and directed the CAISO to submit annual informational filings containing information on its usage of the maximum gas burn constraint, and its impacts on CAISO's markets, beginning on June 30, 2020, as discussed in the body of the order.¹ This filing provides the requested information regarding use of the gas nomogram during the June 1, 2021 to May 30, 2022 period.

The CAISO has served copies of this filing on all the parties to the service list for this proceeding. In addition, the CAISO is posting this filing on the CAISO website.

The CAISO intends to post on its website any subsequent analysis related to the impacts of the maximum gas burn constraint on the CAISO markets when the constraint is enforced.

¹ *Cal. Indep. Sys. Operator Corp.*, 169 FERC ¶ 61,253 (2019) (December 30 Order).

If there are any questions concerning this filing, please contact the undersigned.

Respectfully submitted,

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Aliso Canyon Informational Report

June 30, 2022

Prepared by
Department of Market Analysis and Forecasting

TABLE OF CONTENTS

Introduction	4
Maximum Gas Burn Constraint.....	4
July 2021	4
Conclusion	6

LIST OF TABLES AND FIGURES

Figure 1: Maxburn gas constraint enforced in July.....	5
Figure 2: Gas burn comparison for one trade date in July	6

Introduction

The CAISO files this report pursuant to FERC's order issued on December 30, 2019 in Docket No. ER20-273.¹ This order requires the CAISO to file an annual informational report regarding the impacts of the maximum gas burn constraint on the CAISO market when the CAISO enforced the constraint. This report covers the analysis regarding maxburn gas burn constraint for the period June 1, 2021 to May 30, 2022.

The CAISO enforced the maximum gas constraint in day-ahead (DAM) and real-time markets (RTM) between July 15, 2021 and July 18, 2021 to manage actual and anticipated gas curtailments for planned outages on the natural gas pipeline system of Southern California Gas (SoCalGas).

In May 2021, the CAISO enhanced the gas constraint shaping in its market applications to distribute the daily maximum gas volume, specified by SoCalGas, to hourly maximum gas volumes based on an assigned forecast zone and using the net load forecast. The net load assessment considers the total system load net of generation from solar and wind resources, which resembles the actual gas burn requirement. This approach accurately accounts for changes that may happen from day to day because it reflects forecasted production of wind and solar resources. In addition, the CAISO now uses the last available day ahead historical gas burn to shape the limitation profile, as described below. Thus, when the need arises, the CAISO can assess which shape best fits current system conditions. In addition, the CAISO has enhanced the gas constraint capabilities by applying an hourly fixed maximum burn constraint throughout the operating day.

Maximum Gas Burn Constraint

July 2021

In July 2021, SoCalGas issued a planned curtailment notice for its southern gas system due to maintenance work, severely limiting natural gas imports into the southern gas system. As a result, the CAISO decided to enforce the gas burn constraint for SoCalGas' southern gas system. The southern gas system includes San Diego Gas & Electric (SDG&E) and East of Moreno (EOM) gas forecast zones. This notice was in effect from July 15, 2021 to July 18, 2021. SoCalGas provided a daily limitation for all the generators in the southern system and distributed this limitation across all the hours by using the Day-Ahead historical gas burn shape profile. The CAISO computed the day-

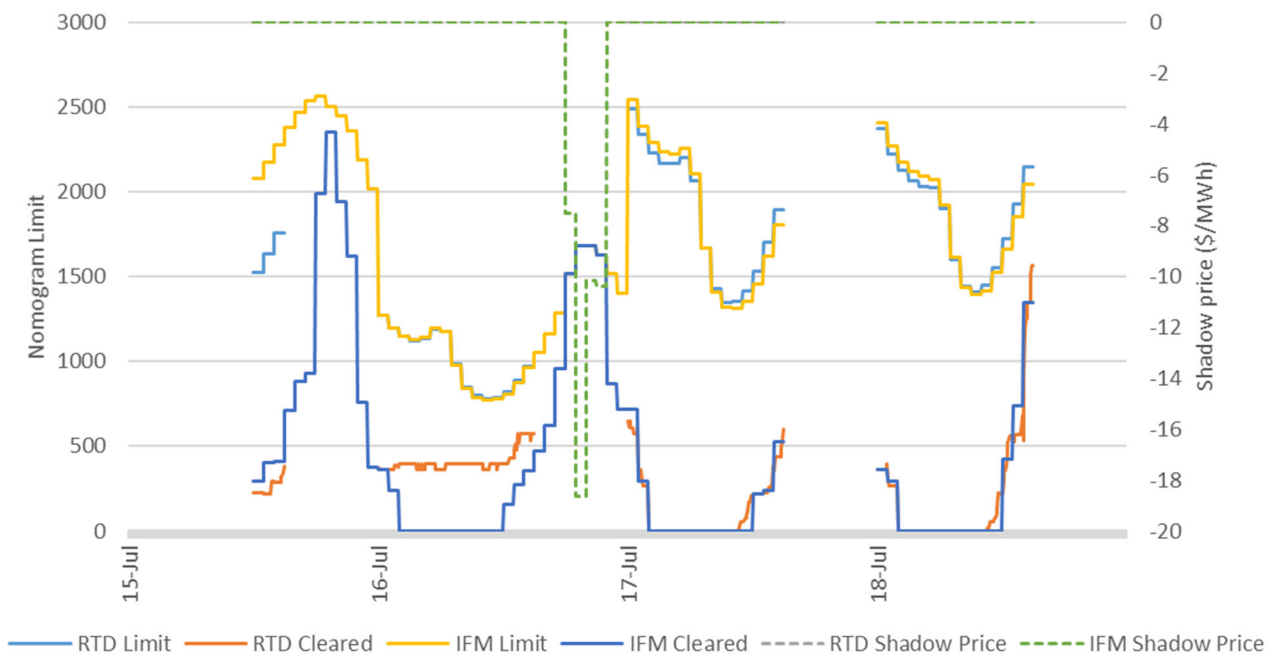
¹ *Cal. Indep. Sys. Operator Corp.*, 169 FERC ¶ 61,253 (2019).

ahead gas burn shape profile using the last available day-ahead gas burn results and shaped it appropriately to the new daily limitation provided by SoCalGas. Using the day-ahead gas burn results reflects the limits with the most updated information for the trade date, including any congestion patterns that are inclusive in the day-ahead results.

Figure 1 below shows the maximum gas burn constraint profile during the period of the noticed maintenance work, with the limits and the cleared flows on the constraint in both the integrated forward market (IFM), and the real-time dispatch (RTD). The constraint was binding in about 6 percent of IFM intervals between July 15 and July 18 from hour ending (HE) 18 to HE 22. Figure 1 also shows the comparison of gas nomogram limits (constraint) and cleared value for the IFM and RTD market. This nomogram was enforced in all three markets, but did not bind in the Fifteen Minute Market or RTD.²

More specifically, the yellow line in Figure 1 shows the limit enforced for the gas constraint in the IFM market, reflecting the shape of last available day-ahead gas burn results. The cleared value of the gas constraint was significantly less than the limits, however, the gas constraint was binding only for one trade date on July 16 and, as articulated above, only in the IFM market. The gas constraint was not enforced in any market from July 17 HE 16 to HE 24 because the grid conditions during those hours did not warrant enforcement, hence the missing lines reflected in the chart below. Finally, the enforcement of gas constraint ended on July 18 HE 15.

Figure 1: Maxburn gas constraint enforced in July

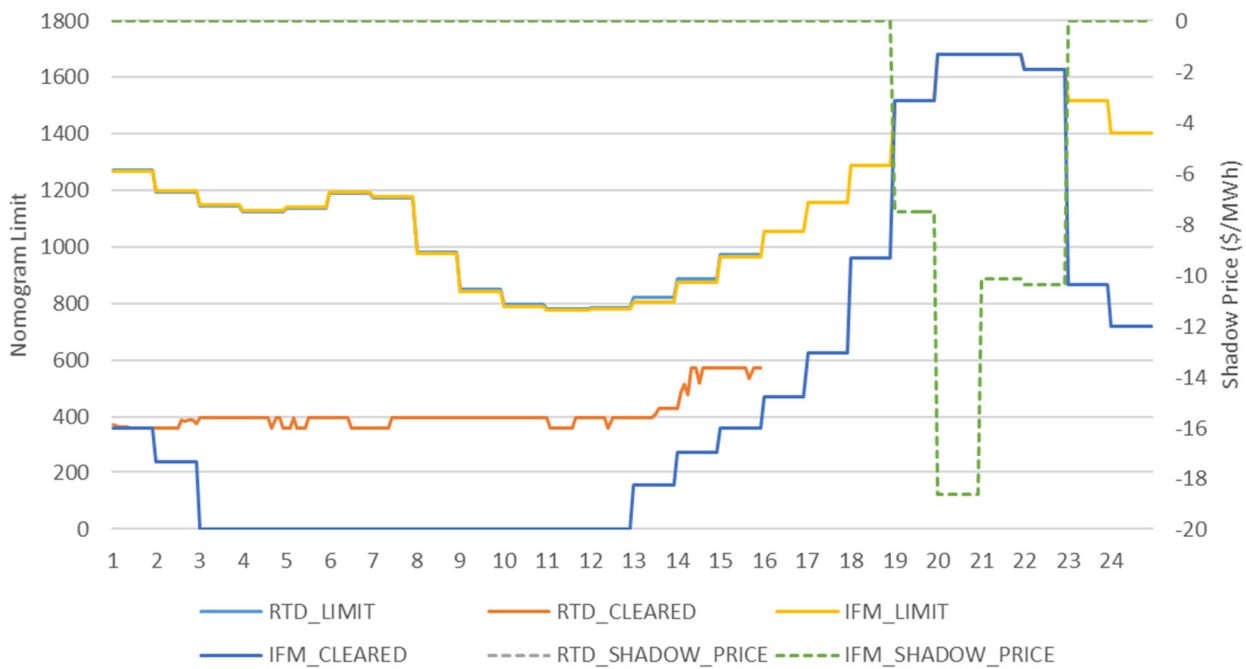


² The Fifteen Minute Market is not included in the figures for visual clarity.

Figure 2 shows a sample day of gas burn across IFM and RTD markets for July 16. This figure reflects the historical day-ahead gas burn shape for the gas burn constraint limit. The sample day gas burn comparison shows a more granular comparison showing the different limits and cleared values of the gas constraint for one trade date across IFM and RTD markets. For this sample day, the gas constraint was enforced up to hour ending 15 in the RTD market, hence the missing orange lines in the chart below.

Because the maximum gas constraint did not bind in the real time market for any trade dates, the gas constraint did not affect the real time congestion offsets for these days.

Figure 2: Gas burn comparison for one trade date in July



Conclusion

This report provides a summary of the conditions and trends of the gas constraint used in the CAISO market during the period of June 1, 2021 to May 31, 2022. When the limitation provided by SoCalGas relies on a daily limit, the CAISO distributes the daily limit on an hourly basis using a day-ahead gas burn shape profile. The CAISO enforced the gas constraint only for four days during the time period of June 1, 2021 – May 31, 2022. The gas system conditions did not warrant enforcing this constraint in the market during other times of the year except these four days and, hence, there was no

other impact on the market. When the gas constraint was enforced, it did not have any impact on the real time offset costs.

CERTIFICATE OF SERVICE

I certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceeding, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California on this 30th day of June, 2022.

/s/ Jacqueline Meredith
Jacqueline Meredith