

Load Pocket Thresholds

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Agenda

- **Background**
- **NYISO's Concerns**
- **Current Methodology**
- **Next Steps**

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Background

Background

■ Load Pocket Thresholds (LPTs)

- Employed to identify economic withholding in NYC, while the load pocket is transmission constrained
- Limit the ability of NYC generators to submit bids that diverge from their Incremental Energy and Minimum Generation reference levels
- Tariff defined methodology has not changed in more than 15 years

Concerns about Current Methodology

Concerns - review

■ Possible Over/Under Mitigation

- Tight LPTs can make it hard for generators to incorporate temporary changes in costs into their bids
- Could lead to over or under mitigation, because they have been based on previous months' data
- Monthly Fuel Adjustment built into LPTs doesn't account for *daily* changes in fuel prices

Concerns - review

Market power assumptions may need to change

- When is it actually possible to exercise market power?
- For LPTs, expected market power in the coming months is based on a simple average of the # of binding constraints for the prior 12 months.

Concerns - review

Current LPT design may not correspond to presence of market power

- Large one-time swings in natural gas prices and/or LBMPs can skew the 12-month average of gas price adjusted LBMPs.
- Topology changes over the past 15-20 years.
- Assumption that a generator in a narrow load pocket has the potential to exercise market power in both its narrow load pocket and the broad load pockets may need to be updated.

Today's Process

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Tariff Defined Calculation

The Tariff-specified methodology (MST 23.3.1.2.2) for setting RTD and DAM LPTs is as follows:

$$\textit{Threshold} = \frac{2\% * \textit{Average Price} * 8760}{\textit{Constrained Hours}}$$

NYISO MMA Process

- **Run the Preliminary Calculation**
 - 1st business day following the 4th day of the month
- **Further adjust the automated logic results**
 - Gas-futures adjustment factor
 - Scaling factor
- **Run final calculation**
 - Last business day before the 14th of the month
- **Further adjust the automated logic results**
 - Gas-futures adjustment factor
 - Scaling factor
- **LPTs are posted for Market Participants and become effective on the 15th of the month**
- **Details of the calculation are on the coming slides**

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LPT Calculation - Details

Average Price

- Pulls DAM and RTD Generator LBMPs for the past 12 months
- Calculates LBMP ratio
 - Time Weighted
 - Load Weighted
- Fuel Adjusted
 - Divides last month's average gas price by the average monthly gas price for each of the prior 12 months' average gas price to determine a fuel adjustment factor

LPT Calculation - Details

Constrained hours

- Pulls all active constraints for the prior 12 months for both the RTM and DAM
- Shadow Price Analysis on all constrained intervals to eliminate intervals with *de minimis* price differences
- For RTD, calculate share of RTD seconds in an hour that were constrained
- For each load pocket, sum the number of constrained hours over the calendar month

LPT Calculation - Details

Thresholds calculated

- **Weight Historical Load Pocket LBMP Prices with Corresponding Con Edison Hourly Load Data**
- **Adjust these Monthly Weighted Average LBMPs with a Monthly Fuel Adjustment Factor**
- **Use these Fuel-Price Adjusted LBMPs and the 12-month Average of Historical Transmission Constraints to Calculate LPT Thresholds for the month**

Further Adjustments

Create a “Gas-Futures” Adjustment Factor

- Balance of Month (“BOM”) future natural gas price
- Next Month’s Natural Gas Price
- Average Futures Price
 - Average the BOM and Next Month’s futures together
- Preliminary Adjustment Factor
 - Divide the Average Futures Price by the Prior Month’s Actual Average Spot Fuel Price

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Further Adjustments

Create a Scaling Factor

- **Removes the preliminary fuel adjustment's inappropriate effects on non-fuel Variable Operating and Maintenance (VOM) Costs**
 - Calculate non-fuel component of the historical LBMPs
 - Fuel adjust the non-fuel component of historical LBMPs
 - Subtract the 'fuel adjusted' non-fuel cost from the hourly LBMPs & replace that with the '*non-gas price adjusted*' non-fuel cost.
 - Calculate the ratio of '*over-fuel adjusted*' LBMPs to the partially fuel adjusted LBMPs
 - Divide the projected fuel adjusted LPTs by this correction factor.

Analysis

- Improving the estimates of upcoming month's transmission constraints/market power
- Improving how we predict the expected load pocket LBMP used in the LPT calculation
- Alternative approach to market power

Next Steps

- Present analysis
- Discuss options
- Solicit Feedback

Feedback?

- Email additional feedback to: sjacon@nyiso.com

Questions?

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefit to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policy makers, stakeholders and investors in the power system



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