System Market Power

Kallie Wells – Gridwell Consulting
CAISO Committee Consultant for WPTF
kwells@gridwell.com
916.306.1743

August 2019

About us

- Gridwell Consulting is a boutique consulting firm located in Sacramento, CA
  - All things California Energy; transmission, interconnection, battery energy storage, resource adequacy, and energy markets
- Advocate for the Western Power Trading Forum
  - WPTF is a non-profit, trade forum dedicated to competitive markets and transparency at the California ISO and across the West
  - CAISO Committee- paid monthly service for WPTF members that covers CAISO policy and important happenings

This presentation does not necessarily represent WPTF members' views

Presentation overview

1. Residual Supplier Index (RSI) results are not a conclusive indicator of market power
2. Additional metrics are needed to determine if all conditions necessary for market power to be exercised exist
3. Inaccurate mitigation could deter needed supply from imports and EIM entities, exacerbating supply conditions
4. Outstanding west-wide implications need to be further explored

Residual Supply Index (RSI)

- Residual Supply Index (RSI) is a common metric used to predict uncompetitive market conditions
- Compares supply, absent supply from some of the largest suppliers, to demand

Supply and demand comparison	RSI result	Designation
Remaining supply >= demand	>=1	Competitive
Remaining supply < demand	< 1	Uncompetitive

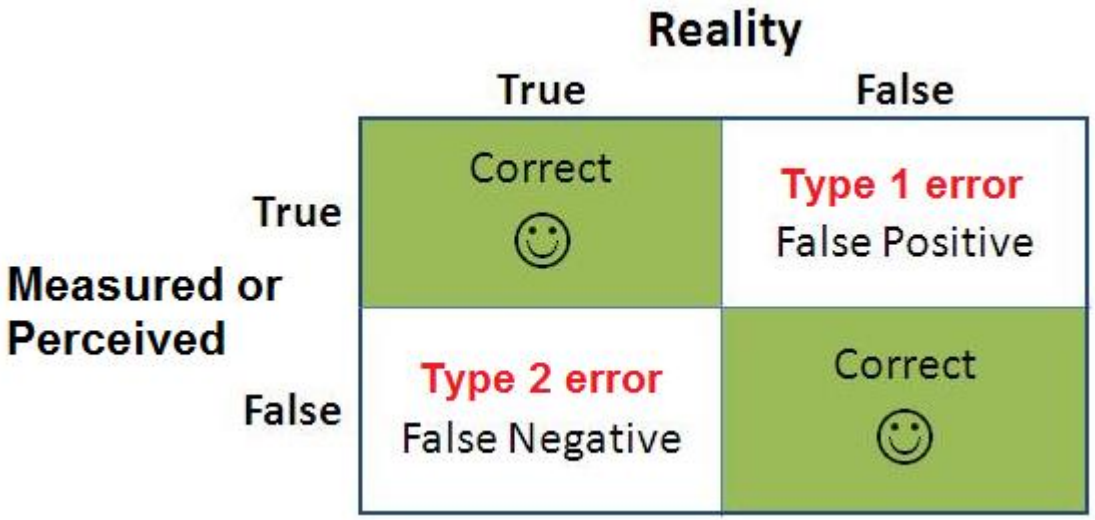
- Several assumptions must be made when calculating the supply and demand values, especially in the context of system market power

Residual Supply Index (RSI) is a screen, not a conclusive indicator

- RSI results are a first level assessment to identify potentially uncompetitive conditions
  - Not an indicator that market power has been exercised
  - At system, not even reliable indicator that market power MAY be exercised
  - RSI results will typically overestimate hours with uncompetitive conditions (i.e. Type 1 error)
- Other conditions must also exist for market participants to have the ability to exercise market power

Residual Supply Index is overly conservative if used as sole screen

- Frequently can result in "false positives" or type 1 errors
- Type 1 errors could lead to mitigation due to tight supply conditions



Uncompetitive conditions must also be predictable and persistent

- Uncompetitive conditions must occur with a predictable trend
  - (e.g., same hours each day within a season, above a certain load level, etc.)
  - Necessary to know when/how to implement a market power strategy
- Predictable uncompetitive conditions must also be persistent
  - Market participants will not consistently price themselves out of the market intentionally for the chance of capturing a couple high-priced intervals/hours
  - Will not forego selling a 16-hour block at $200 outside the CAISO for the off-chance of capturing a couple $1,000 priced hours

Mitigation should not degrade quality of price signals

- Accurate price signals are key in a well-functioning market, especially under tight supply conditions
  - Prices should increase during tight supply conditions to incent efficient actions, investment, hedging, etc.
- Recent discussions with Market Surveillance Committee highlighted that some of the "suspect hours" may be sending appropriate price signals
- Extremely important given the CAISO's reliance on voluntary supply from outside the CAISO BAA

Inaccurate mitigation has implications on the energy markets west-wide

- Suppliers outside the CAISO BAA compare prices from CAISO with other markets to determine where to offer supply
- What happens if CAISO BAA mitigates for system level market power while others do not?
  - Western interconnect is assumed to be competitive
- The solution to the concern we are talking about today will exacerbate the issue, not resolve the issue
  - Price signals during tight supply conditions in CAISO BAA may be muted
  - Signals to suppliers that supply elsewhere is more valued
  - Supply to CAISO BAA diminishes and becomes more scarce

Several bigger picture concerns warrant further consideration

- Identifying and mitigation for system level market power not as straight forward as local market power
  - An RSI mitigation trigger requires additional assumptions to be made
  - How would the CAISO mitigate offers from voluntary supply?
  - Would the market structure need to be modified to accommodate mitigating external supply offers?
- Is market power the ultimate issue or are there other underlying problems, such as hedging, that will continue to persist?
- Is it appropriate for the CAISO BAA to mitigate for system market power while neighboring BAAs do not?
  - What if the current assumption that the Western Interconnect is competitive is no longer valid?