Energy Market Power Mitigation

Energy & Ancillary Services Workgroup

Meeting 3

May 3, 2018

Agenda

- Received comments from last work group meeting
  - Some were considered in CMD2
  - Others for discussion today
- Issues for discussion today
  - Scarcity and graduated RSI approach
  - Timing
  - Obligations in the residual supplier index formula
  - Elements of the residual supplier index formula and the supply cushion calculation
  - Reporting
- Feedback following today's meeting

Scarcity and graduated RSI approach

Scarcity and graduated RSI approach

- No-look scarcity test in CMD2
  - If the supply cushion is forecast to be less than 500 MW there will be no mitigation
- At the last work group meeting, some stakeholders raised the possibility of using a graduated approach implementing the no-look scarcity test
  - E.g., an intermediate step between the market power screen being RSI = 1 when the supply cushion is 500 MW or greater and no mitigation when the supply cushion is less than 500 MW
- The AESO continues to evaluate the potential this idea, including how it would interact with other elements of the market power mitigation framework

Timing

Timing:
CMD2 and some stakeholder comments

- The AESO has proposed to implement mitigation “after T-2”
  - The market-side no-look scarcity test would be implemented first and, based on the results, the market power screen would be applied on a firm-by-firm basis
- Previously received stakeholder feedback
  - Some stakeholders have suggested that mitigation be implemented, if at all, as close to the beginning of the delivery hour as possible
    - Better information about the nature of the delivery hour
  - Some stakeholders have suggested that mitigation occur in advance of T-2
    - Argument that there could be a response from market participants

Timing:
Practical requirements for the AESO

- Whenever it is implemented, the AESO will need to have the data necessary to calculate / forecast the supply cushion and RSI
  - The AESO information about delivery hour t is more accurate (less uncertain) as the hour approaches
  - In any event, the process will only be run once for each delivery hour, i.e., if market circumstances change thereafter the results will not be updated
- Proposal: the AESO will run the market power mitigation process as soon as practicable before the beginning of the delivery hour
- How the AESO will inform the market and specific market participants of the results is a reporting matter (below)

Elements of the residual supplier index formula and the supply cushion calculation

Data used in calculations

- The calculation of the supply cushion and RSI is required to implement the objective of having a screen that measures structural market power and mitigates it when appropriate
  - CMD2 rationale document provided significantly more context, detail, and discussion
- There are many ways to measure common variables
  - For example, regarding measures of demand, AIL is not equal to the sum of energy dispatched from the Merit Order Snapshot Energy report
- Data must be fit for purpose
  - There are trade-offs regarding the data
  - Current or new data

Elements of the RSI formula

- The residual supplier index for market participant i in delivery hour t is set out in the following formula:

$$RSI_{it} = \frac{\sum_{j=1}^{n} Supply_{jt} + Import\ Capability_t - (Supply_{it} + Imports_{it} - Obligation_{it})}{Total\ Alberta\ Demand_t + Exports_t}$$

  - The first two terms in the numerator is the sum of all supply that is available to the market
  - The last three terms in the numerator is market participant i's net exposure to the pool price (supply net of obligations)
  - Obligations will be discussed separately (below)
  - The denominator is total demand in the market
- As the RSI is used on a forward-looking basis, the elements of the formula are forecast values

Elements of the supply cushion calculation

- The supply cushion in delivery hour t is:

$$Supply\ Cushion_t = Total\ Supply_t - Total\ Demand_t$$

- As the supply cushion is used on a forward-looking basis, the elements of the formula are forecast values

Data consistency

- The data used in the calculation of the supply cushion and RSI is similar
  - For instance, both equations use the concept of total demand
    - There are many ways to measure demand
    - AIL and offers dispatched from the merit order are not equivalent (the latter is lower)
  - The measures of supply and demand should be measured in a comparable way

Discussion of specific data used

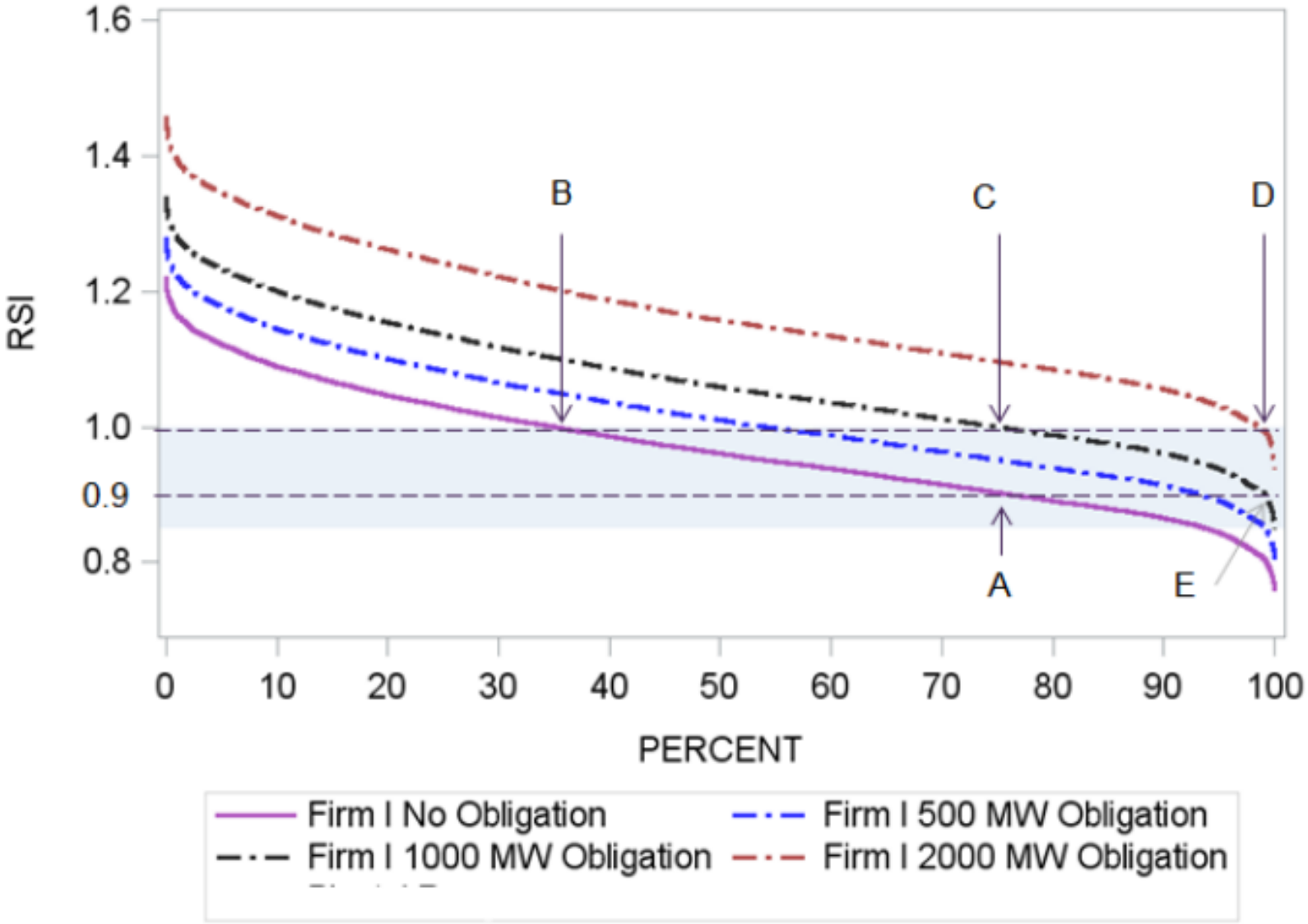
- What supply data should the AESO use?
  - How should wind be treated?
    - Some wind is part of large portfolios
  - How should long lead time units be treated?
    - Not on outage; but not available for dispatch
- What measure of demand should the AESO use?
  - AESO publishes day-ahead forecast AIL
  - But greater accuracy is possible just before the beginning of the delivery hour and so this could be updated

Obligations in the residual supplier index formula

Obligations: Impact of including obligations in RSI formula

- Inclusion of obligations can materially impact the RSI calculation
- The figure on the next slide illustrates the impact of including various obligation quantities in the RSI for the largest firm
  - Point A: With RSI = 0.9 and no supply obligations, the RSI test would be failed in ~25% of hours
  - Point B: With RSI = 1 and no supply obligations, the RSI test would be failed in ~65% of hours
  - Point C: With RSI = 1 and 1,000 MW of supply obligations (~one-quarter of its capacity), the RSI test would be failed in ~25% of hours
  - Point D: With RSI = 1 and 2,000 MW of supply obligations (~one-half of its capacity), the RSI test would be failed in ~1% of hours
  - Point E: With RSI = 0.9 and 1,000 MW of supply obligations, the RSI test would be failed in ~1% of hours

Obligations: Impact of including obligations in RSI formula



Obligations:
CMD2 and some stakeholder comments

- The AESO has proposed that firms be allowed to voluntarily submit supply obligation data for inclusion in the RSI calculation
  - Proposal was that “physical” supply obligations be allowed
- There are broader definitions of supply obligation
  - Could include all financial obligations
  - These obligations also reduce the incentive to exercise market power to raise the pool price
- Would it be possible to measure all obligations? Can these data be audited?
- Are there adverse effects? E.g., market manipulation?

Obligations: Proposal

- Market participant specific
- Voluntary
- Physical and financial obligations are eligible
  - Affiliate or other related-party transactions are ineligible
  - Conduct that evades the mitigation framework is market manipulation that results in non-competitive market outcomes
- Requirement would be that the claimed obligation be no greater than the actual obligation
  - The market participant would not be required to state precisely what are its obligations; they must not be less than the submitted value
  - Market participant would be responsible to ensure that information is accurate

Reporting

Reporting

- The AESO has said that it “may provide reports on ex ante market power mitigation” (CMD2 Proposal, section 10.7.5)
- Reporting can take a variety of forms
  - Forward-looking variables
  - Backward-looking outcomes (i.e., things that happened)

Reporting:
Information related to future delivery hours

- Information is available to help market participants form an expectation about whether mitigation is likely to occur
  - AESO published the Supply Adequacy Report
    - Hourly data for all hours of today and the next six days
    - Related to the market-wide no-look scarcity test
    - Is the definition of supply cushion consistent?
  - AESO publishes ATC information, outage information, and demand forecasts for various periods
    - Related to the calculation of RSI
    - Are definitions consistent?
- Firms will have the data necessary to calculate their own asset-specific reference prices

Reporting:
Outcomes from the mitigation framework

- Backward-looking outcomes (i.e., things that happened)
  - The market-wide no-look scarcity test
    - Publicly available
  - Firm-specific RSI calculations
    - Only available to the relevant firm
  - Asset-specific mitigation of offer prices
    - Only available to the relevant firm
- AESO published the Merit Order Snapshot – Energy (MOSR)
  - 60 days after delivery hour
  - Contains offer prices (and other information)
  - If an offer price was mitigated, this would be the price that is reported in the MOSR

Questions?

Thank You