

# Market Power and Thermal Unit De-Commit Practices

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June 8, 2020

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# Market Power

- ▶ Market Power is often viewed as the ability to sell during conditions of scarcity when prices become very high
  - ▶ In electricity markets such events tend to become media events
    - ▶ “The Polar Vortex” sounds good, even if it is just a cold snap that caused scarcity
    - ▶ “The California Meltdown” had Enron’s “Grandma Millie” catch headlines
  - ▶ Market Monitors now have pretty clear mandates and tools to address these situations
- ▶ Less intuitive, but also insidious, are situations where surplus or oversupply has impact on market price formation
  - ▶ Not immediately clear to many folks why low prices should be considered a problem
  - ▶ Low prices, particularly negative prices, are not consistent with the notion of “workably competitive wholesale markets. They create barriers to new entry and provide false fundamental signals to resources like storage.
  - ▶ When low/negative prices are formed due to market participants’ behavior, and not due to unanticipated supply/demand variability within acceptable forecast accuracy criteria, they should be investigated as a form of market price manipulation, just as with scarcity conditions
- ▶ These comments are focused on regulated utilities in regional wholesale markets and reflect the opinions of the speaker

# Market Practices Related to Unit Commit of Thermal Generation

- ▶ Most US RTO markets leave the unit commit option to the resource owner (and Energy Imbalance Markets may require this of the resource owner)
- ▶ When the owner self-commits the unit the market operator does not have the authority to de-commit the resource; the market can only dispatch it within its online operating range
  - ▶ In contrast, if the unit owner offers the resource commit decision to the market, then the market operator has the flexibility to de-commit/stop the unit to address oversupply conditions
- ▶ Thermal resources which cannot be shut down by the regional market operator can contribute to oversupply conditions
- ▶ Oversupply conditions result in negative market price for energy, which creates an opportunity cost for any online resource that burns fuel

# Regulatory considerations for oversupply

- ▶ Depending on utility retail-side power cost recovery mechanisms, the utility may be indifferent to the opportunity costs to their retail customers associated with oversupply conditions
  - ▶ They may pass through the higher variable costs of their self-committed thermal resource operation in their fuel accounting
  - ▶ State-level retail rate regulators may see the occurrences of negative regional market prices for energy and think: “Yea, electricity is cheap!”
    - ▶ Do they understand that in some cases this may be driven by higher costs being passed through to their regulated retail utility customers?
- ▶ This discussion is not intended to imply that the initial thermal capacity investment decision of the incumbent utility was imprudent; resource adequacy is a separate, longer-run issue
- ▶ The regulator’s check/validation, however, should be the extent to which the regulated capacity investment is being used as a barrier to new entry or to prevent supply competition through regional wholesale markets, or even simply creating undue opportunity costs for retail customers

# Regulatory questions

- ▶ Questions for state-level retail regulators to ask:
  - ▶ Does the thermal resource owner self-commit?
  - ▶ Does the resource owner have the ability to pass-through the higher variable costs associated with a failure to participate in regional market commit optimization?
  - ▶ Does the owner's supply portfolio include other resources that make a material contribution to the oversupply conditions in the market?
- ▶ Questions for regional market monitors or federal regulators to ask:
  - ▶ To what extent are there correlations between negative market prices and the level of utility self-committed resources in the market?
  - ▶ And on a somewhat related note - to what extent are regional markets failing to maximize oversupply exports due to ineffective or non-existent seams coordination and failure to address border price convergence?

# Regional market operator issues

- ▶ Granted, oversupply conditions could occur in regional market operations even if the market operator had full unit commit authority for all thermal resources
  - ▶ But the number of occurrences would likely be lower...
- ▶ One factor at both the utility and market-operator level is risk intolerance
  - ▶ There may be a perception that negative prices are a better devil than scarcity prices
- ▶ Also there is the issue of recrimination potential
  - ▶ Scarcity makes headlines and leads to regulatory review, but if a utility creates surplus inefficiency, regulators and market monitors seem to assert less oversight
  - ▶ But there are no rewards for any risky decisions at the regional market operator level, so the market operator tendency would be to bias towards oversupply
- ▶ Question for market operators to ask:
  - ▶ What sort of forecast certainty must be available to permit confident commit decisions that do not bias towards oversupply conditions?

# Regional market participant related issues

- ▶ Resource owners may argue they must have the ability to commit their thermal unit, else they could be exposed to market prices higher than their resource supply costs and be harmed
- ▶ This argument is seldom applicable to quick-start resources like gas turbines, but has legitimacy for long-start resources like coal plants
- ▶ But note, regional markets have developed mechanisms to hedge other price impacts, for example: congestion costs
- ▶ A question for regional market operators, is could a de-commit hedge be developed for long-start resources that are shut off by the market operator, to cover above-offer market costs during the period until startup could be completed during unanticipated scarcity?
  - ▶ If such products were available, should resource owners still hold the option to self-commit?

# SPP Winter 2020 State of the Market Report

- ▶ Favorable trend identified in SPP, per this excerpt from:  
<https://www.spp.org/documents/62193/winter%202020%20quarterly%20state%20of%20the%20market%20report.pdf>
- ▶ Resources were in “market” commitment status in nearly 62 percent of all intervals, up from 51 percent in winter 2019.
- ▶ Offered capacity in “self” commitment status fell, with approximately 21 percent of commitments with this status in winter 2020, down from nearly 32 percent in winter 2019.
- ▶ Discuss: What sort of statistics are demonstrated in other regional markets?



# Concerns with Energy Imbalance Markets

- ▶ The western states will soon have two regional energy imbalance markets in operation (CAISO-EIM and SPP-WEIS)
- ▶ These market designs do not feature consolidation of Balancing Areas nor do they include universal network transmission access, lack of these features contributes to inefficiency
- ▶ At this stage, it appears the two EIMs also are quite limited in seams coordination, market-to-market optimization and price convergence details
- ▶ Both markets establish that each Balancing Area should commit sufficient resources to cover its local load and they do not feature an optimized unit commitment design
  - ▶ This lack of unit commit coordination may worsen the oversupply conditions

**END**