Circuit Breaker Objectives

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Purpose

- **At the last meeting we heard:**
  - Some stakeholders would like a better definition of the problem
  - Stakeholders in general would like PJM to put forth a proposal

- **We intend to put forth a proposal but have struggled a bit.**
  - We would benefit from a more detailed definition of the problem
  - We would also benefit from a better understanding of the tradeoffs that are acceptable to stakeholders

- **This presentation is intended to promote discussion on those topics.**

Issue Charge

Issue Content

Members will consider whether an administrative mechanism (i.e. a circuit breaker) should be established in PJM's energy market to protect consumers and market participants from undue financial impacts of inactionable scarcity price signals. This focused stakeholder process will support PJM's interest in investigating this potential resilience enhancement as outlined to the U.S. Senate Committee on Energy & Natural Resources on March 11, 2021.

This issue charge addresses education on PJM's downward sloping ORDC, as well as consideration of the potential for a "circuit breaker(s)" or other stop loss approach(es) to limit the duration of inactionable pricing that is not likely to preserve grid reliability.

For the purposes of this issue charge, ***inactionable*** means a situation where is it is not feasible for generators to increase availability and output, and/or load to engage in further voluntary reductions to restore reserves and serve all firm load during an extended involuntary load shedding event.

Some of PJM's Thoughts/Questions

- An interpretation of "***inactionable***" that PJM has considered is a sustained period where extreme emergency procedures are needed to maintain reliability. Something like during a:
  - Voltage Reduction Action
  - Manual Load Dump Action

These procedures have the effect of involuntary load curtailment where supply resources are no longer taking action.

- This focuses on prices that are inactionable to PJM resources ONLY.

- Is this consistent with how members view inactionable prices? What other interpretations or scenarios should we be considering?

Defining the Problem

- Some existing proposals trigger on high prices for a period of time.
  - This suggests to us that a monetary trigger is desired and that the ability to respond to prices may be equally or less important.

- Is the problem we are looking to solve created by high prices related to:
  - Total costs that could be incurred by market participants?
  - Cash flows over some period of time?
  - Both?
- *The answer to this may be relevant to the nature of the trigger, how we handle recurring events, the price level we cut to, etc.*

Targeting Solutions

- **Is there are desire to have a firm cap on prices?**
  - Like the $9,000/MWh in ERCOT but lower.
    - Harder to implement but more certain results. Cutting method needs discussion.
  - Cut penalty factors.
    - Easier to implement. Number of transmission constraints creates uncertainty in max price.

- **How low do prices need to mitigate risk while balancing other objectives of prices?**

- **How do stakeholders value the tradeoffs? (there are likely others)**
  - *Transparency of system conditions through market signals*
  - *Possible increases in uplift payments*
    - This is likely acceptable to a point but beyond that it creates its own issues. See Polar Vortex.
  - *Lack of incentives for imported energy if PJM prices are below the prices in neighboring areas*
    - This may be less acceptable as it could result in perpetuating the shortage condition.

Other Solution Properties

- **Transparency of the trigger**
  - What level of certainty around the CB and its triggering is necessary for market participants?
    - Both monetary and emergency procedure-based triggers have some degree of uncertainty associated with them.
    - Monetary triggers may arguably be more transparent and less driven by operator actions
- **Reactive vs. proactive triggers**
  - Some existing proposals take a reactive approach. This is necessary for unforeseen cases.
  - There may be instances where we can foresee a sustained event in advance. Should we trigger the CB proactively?
    - Provides greater protection against the possibility of high prices.
    - Does not give scarcity pricing a chance to incentivize imports or other activity that may mitigate the operating conditions

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