Enhanced Fast-Start Pricing

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Reposted with corrections & additional data

Market Issues Working Group

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Agenda

- Objectives
- Background
- Methodology
- Tariff Updates
- Next Steps

Objectives

- **This presentation will:**
  1. Describe the NYISO's proposal for fast start pricing compliance.
  2. Describe supporting tariff language updates.

Background

Background

Date	Working Group	Discussion points and links to materials
05-30-19	Market Issues Working Group (MIWG)	Background information about existing fast-start pricing.
09-26-19	Market Issues Working Group (MIWG)	Updated Proposal

Background

- **On December 21, 2017, FERC found that two elements of the NYISO's existing fast-start pricing may be unjust and unreasonable in a 206 proceeding.[1]**
  - On April 18, 2019, FERC issued an Order concerning fast-start pricing in the NYISO's energy markets. FERC is requiring the NYISO to:
    1. Modify pricing logic to allow fast-start resources' commitment costs (*i.e.*, start-up costs and minimum generation (no-load) costs) to be reflected in prices; and
    2. Allow the relaxation of all dispatchable fast-start resources' economic minimum operating limits by up to 100 percent for the purpose of setting prices.
- **The NYISO must submit its compliance filing by December 31, 2019.**
  - Implementation must be completed by December 31, 2020.

1. See FERC Docket No. EL18-33-000.

Overview of Fast-Start Pricing Changes

Today

- **Existing fast-start pricing logic relaxes minimum generation constraints of these resource types in the ideal (pricing) dispatch:**
  1. Fixed Block Units that can start up and synchronize to the grid in 30 minutes or less, that have a minimum run time or one hour or less, and that submit economic offers for evaluation.
- **In the ideal dispatch, RTD adds the start-up costs of eligible offline 10-minute Fixed Block Units to their incremental offers, which impacts the LBMP calculation.**
  - 10-minute Fixed Block Units cannot offer minimum generation costs

Future

- **Revised fast-start pricing will extend the existing logic to dispatchable units.**
- **After implementation, fast-start pricing will apply to:**
  1. All resources that can start up and synchronize to the grid in 30 minutes or less, that have a minimum run time of one hour or less, and that submit economic offers for evaluation.
- **Revised fast-start pricing logic will include the start-up and minimum generation costs of all fast-start resources in the LBMP calculation in the ideal dispatch.**
- **Revised fast-start pricing logic will also apply in the withdrawal state, for fast-start resources that are eligible to submit commitment costs.**

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Overview of Fast-Start Pricing Changes in SCUC and RTS

Start-up Time	Type of Unit	Eligible Today?	Eligible After Changes?	Commitment Costs Included in Pricing when Injecting or Withdrawing?
N/A	Continuously dispatchable	N/A	N/A	N/A
30 min or less	Fixed Block Unit	Y	Y	Today: No Future: Yes
	Dispatchable	N	Y	

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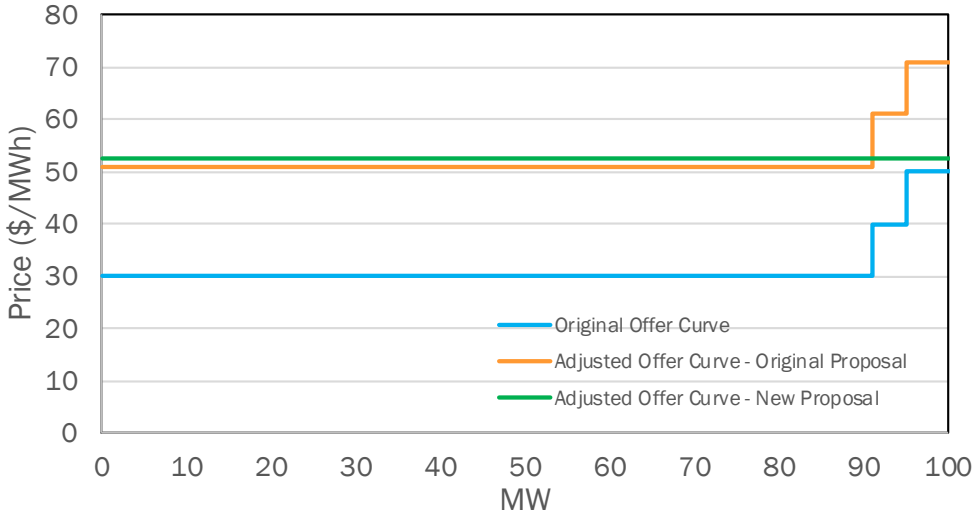
Methodology

Incremental Offer Curve Adjustment

- **Atlantic Economics proposed an alternative methodology that would require one additional step:**
  1. A fast-start resource would submit an offer with minimum generation costs and MWs, start-up costs, and incremental cost components
     a) The NYISO would then calculate the average production cost in $/MWh for each step of the incremental offer curve, and determine which step in the curve has the minimum average cost.
  2. The NYISO would determine how the minimum generation costs and start-up costs should be adjusted prior to adding these costs to the incremental energy cost curve.
  3. For points on the offer curve that are less than the minimum average cost, in $/MWh, the NYISO would adjust the offer curve to be equal to the minimum average cost.
     - For points on the offer curve that are greater than the point with the minimum average cost, the NYISO would not make any adjustments.
- **An illustration is provided on the next slide**
- **A write up of the Atlantic Economics proposed alternative method is provided with the meeting materials**

Revised Incremental Offer Curve Adjustment

- **Illustration of revised incremental offer curve adjustment:**
  - Assumption: the lowest average production cost is $52.4/MWh
  - Since the lowest average production cost is greater than the production cost at all segments of the curve, all of them are adjusted.



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Revised Incremental Offer Curve Adjustment

- The NYISO proposes to adopt the alternative method, because it should:
  1. Reduce gaming opportunities resulting from manipulation of the minimum generation and startup cost blocks
  2. Promote better convergence between ideal and physical dispatch
  3. More accurately reflect commitment costs in pricing.
- This approach is not expected to impact solve times or add significant complexity to implementation

Startup Cost Amortization

- In its initial brief, the NYISO stated that it would adjust the incremental energy offer curves of fast-start units to:
  - Incorporate start-up costs during each fast-start unit's minimum run time.
  - Incorporate minimum generation costs for the duration of the run time.
- In its April 2019 order, FERC allowed the NYISO to seek stakeholder feedback on a cost amortization methodology.
  - The presentation will discuss approaches to amortizing commitment costs for both Fixed Block and dispatchable fast-start units.
- Based on discussions at the September 26, 2019 MIWG, the NYISO is proposing to amortize start-up costs over the first fifteen minutes of its real-time schedule or first hour of its day-ahead schedule
  - This will improve ability for fast start resources to recover operating costs through LBMPs
  - This methodology is also more consistent with offline GT pricing impacts on LBMPs
  - Historically, startup costs have generally accounted for less than 10% of all as-Bid costs

1. For more information on offline GT pricing, please refer to the presentation below: https://www.nyiso.com/documents/20142/1404014/agenda_06_pres_re_rtd_gt_treatment.pdf/3c2d9156-54ca-6af8-5620-b1a46e803d88

Tariff Updates

Tariff Amendments

- Draft Tariff Sections are posted with the materials for this meeting
- The NYISO proposes to add a definition of Fast-Start Resources to MST Section 2.6
- The NYISO also proposes to make several modifications to MST Section 17.1 LBMP Calculation
  - These changes include describing the adjusted cost curves for the purposes of pricing and updates to the RTD and SCUC processes for pricing Fixed Block Units and Fast Start Resources

Next Steps

Next Steps

- **November 2019**
  - Receive feedback on proposed tariff language
  - If necessary, return to a working group to review any modifications to the proposed tariff language
- **December 2019:**
  - Submit compliance filing by 12/31/19

Feedback/Questions?

- Email additional feedback or questions to:
  - Debbie Eckels, deckels@nyiso.com

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