

Comprehensive Shortage Pricing Review

Scarcity and Shortage Pricing

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Agenda

- ◆ **Importance of Scarcity and Shortage Pricing**
- ◆ **Benefits of Scarcity and Shortage Pricing**
- ◆ **Current Assessment**
- ◆ **Key Aspects of the Assessment**
- ◆ **Scarcity Pricing**
- ◆ **Operating Reserves**
- ◆ **Reserve Shortage Pricing**
- ◆ **Next Steps**

Importance of Scarcity & Shortage Pricing

- ◆ Scarcity and Shortage prices should incent the correct short term and long term desired responses from all energy resources, but not at the detriment of driving energy away from another short region when region-wide shortages occur
- ◆ Scarcity and Shortage pricing should be coordinated to ensure that the pricing signals align with actions taken to maintain NYCA reliability
 - *Market prices should reinforce/support operators actions required to maintain reliability*
 - *Resources should be provided the correct incentives to follow NYISO instructions for meeting NYCA reliability*

Benefits

- ◆ **Properly designed Scarcity and Shortage pricing rules will allow the New York energy markets to:**
 - *Provide targeted market signals that align with actual reliability needs of the NYCA at times when actions are being taken to maintain reliability*
 - *Create incentives for investment in the areas that need it most, including fuel assurance investment*
 - *Reduce the “missing money” covered by capacity payments*
 - This facilitates a more level playing field for resources that are more dependent on energy revenues to compete in the New York electricity markets
 - *Promote additional response from demand response and distributed energy providers*

Current Assessment

- ◆ The NYISO, with its stakeholders, will complete an evaluation, assessment and prioritization of the following issues by Q2 2014:
 - *(i) the locations for which reserves are procured*
 - Consider adding, removing, or modifying reserve areas
 - *(ii) the reserves (type and amount) procured for those locations*
 - What products need to be secured in those locations?
 - *(iii) the reserve demand curve MW and value set points*
 - Review the Potomac Economics recommendation to raise the 30 minute reserve demand curve to \$500
 - *(iv) the implementation and triggering of scarcity pricing*

Keys Aspects of the Assessment

- ◆ **EDRP/SCR resources are used to protect NYCA operating reserves**
 - *Shortage Pricing of Operating Reserves should account for this market action*

- ◆ **Southeast New York (SENY) constraints can prevent eastern operating reserves from being available in the southeast New York load centers**
 - *Additional reserve areas and reserve quantities should be pursued to address this reliability need*

Scarcity Pricing

Review of Scarcity Pricing

- ◆ Scarcity pricing should be included in the physical and ideal dispatch passes to ensure consistent prices and schedules, account for lost opportunities, minimize uplift, and incent resources to follow NYISO instructions
- ◆ In 2013, more than 97% of SCR resources bid a strike price of \$500/MWh
 - *Scarcity prices should continue to be based on a \$500 price*
- ◆ Scarcity pricing should utilize the expected load reduction from the called SCR/EDRP resources
- ◆ Consistent with the MMU recommendation, Scarcity pricing should apply to Proxy Generator Buses
 - *Today, pricing at the external proxy buses does not always align with NYCA resource needs or regional shortage conditions*
 - *Scarcity pricing should create incentives for imports or a reduction in exports at times of scarce conditions*
 - *Scarcity pricing should continue consider Special Pricing rules to properly account for and price constrained interfaces*

Proposed Design

- ◆ **Model EDRP/SCR calls as a demand curve in the optimization**
 - *Effective during SCR/EDRP activation hours, a scarcity reserve requirement will be set in RT in the amount of the expected load reduction of SCR/EDRP resources for the called zone(s)*
 - *Treated like a 30 minute reserve requirement, where 30 minutes of ramp bounds the resource's available capacity*
 - *Requested SCR/EDRP MWs will drive the scarcity reserve requirement*
 - Scarcity reserve requirements will be created for the activated SCR/EDRP areas as needed
 - *Model scarcity reserve demand curve with a price of \$500, which is equal to the maximum offer allowed by SCRs*
 - Scarcity reserve demand curves will be created for the activated SCR/EDRP areas only; similar to how an eastern reserve demand curve is modeled

Proposed Design

- ◆ **Cross product opportunity costs will be captured by the optimization and impact both energy, operating reserve and scarcity reserve prices**
 - *Cross product lost opportunity costs will result in LBMPs reflecting the \$500 scarcity price in the event there is not enough reserves available to meet the requested load reduction of the scarcity activation*
- ◆ **Resources, if available, will received MW schedules for this additional scarcity reserve product**
 - *Resources will be paid the scarcity reserve prices for any scarcity reserve MW awards to ensure resources are incented to follow dispatch instructions*

Operating Reserves

Importance of Reserve Regions

- ◆ Properly defined reserve regions increase the likelihood reserves will be deliverable when needed, thus increasing system reliability
 - *Reserves should be available in the area of need*
 - *Appropriate price signals are sent to incent reserve availability within the defined reserve region*

Review of Reserve Region Granularity

- ◆ **Southeast New York (SENY) constraints can prevent eastern operating reserves from being available in the southeast New York load centers**
 - *Additional reserve areas and reserve quantities need to be considered to address this reliability need*
- ◆ **There have been multiple reliability SCR/EDRP activations for SENY transmission security over the past few years**
- ◆ **Potomac Economics supports a market requirement to reflect SENY's 30-minute reserve needs (Q3 2013 SOM)**
 - *Reliability need driven by Hudson Valley contingent constraint of Leeds - Pleasant Valley Line for the loss of Athens – Pleasant Valley Line or Leeds – Hurley Avenue Line*

Proposed Reserve Region Granularity

- ◆ Keep current NYCA, East, and LI regions
- ◆ Define SENY reserve region within East due to Hudson Valley transmission constraints that often bind separately from Central East interface constraints
- ◆ The SENY reserve region would include zones G-K
 - *Requirement would be based on the interface capability reduction resulting from the Leeds-PV contingency event*
 - Should SENY reserves be procured every market day is still under review
 - Adjusting the NYCA Total Reserve requirement for procuring up to 2 times the largest supply contingency is still under review
- ◆ The SENY reserve demand curve costs would be set less than the NY Spin and East 10 Minute shortage prices

Reserve Shortage Pricing

Importance of Reserve Shortage Pricing

- ◆ **Scarcity and Shortage pricing should be coordinated to ensure that the pricing signals align with actions taken to maintain NYCA reliability**
 - *Market prices should reinforce/support operators actions required to maintain reliability*
 - *Resources should be provided the correct incentives to follow NYISO instructions for meeting NYCA reliability*
- ◆ **EDRP/SCR resources are used to protect NYCA operating reserves**
 - *Shortage Pricing of Operating Reserves should account for this market action*

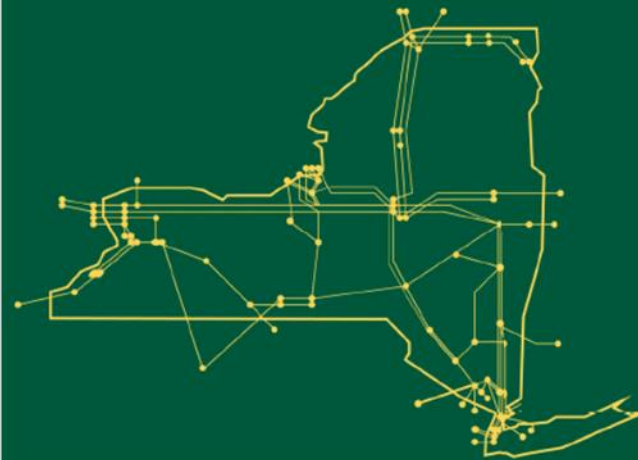
Proposed Reserve Shortage Pricing

- ◆ **Since EDRP/SCR activations are used to protect reserves, the current reserve demand curve prices should be updated to ensure that Operating Reserves are properly coordinated with the proposed scarcity reserve pricing and the proposed new SENY reserve area**
- ◆ **The NYISO is still reviewing how the existing shortage prices should be adjusted to account for the proposed design**

Next Steps

- ◆ ~~January 8th, 2014~~
 - ◆ ~~*Solicit feedback from stakeholders on scope and approach for Comprehensive Shortage Pricing Review*~~
- ◆ ~~February 10th, 2014~~
 - ◆ ~~*Review list of opportunities for review*~~
- ◆ ~~March 4th, 2014~~
 - ◆ ~~*Provide clarification on purpose and plan for the Comprehensive Shortage Pricing Review*~~
- ◆ **May 6th, 2014 – Proposal Review**
 - ◆ *Present analysis and review recommendations*
- ◆ **May 19th, 2014 – Continue Proposal Review**
 - ◆ *Present analysis and review recommendations*
- ◆ **June 2014 BIC**
 - ◆ *Comprehensive Shortage Pricing Review and concept due*
- ◆ **Comments and feedback are requested throughout this review process**

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.



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