Enhanced Scarcity Pricing

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Agenda

- **Review Proposal and Scarcity LBMP Calculation Changes**

- **Review Proposed Tariff Changes**

- **Next Steps**

Recap of Proposed Solution

◆ **Allow activations to be tested and priced for the specific zone(s).**

  ▪ *NYISO will continue to activate EDRP/SCR in the specific zone(s) needed to maintain reliability and allow scarcity pricing to apply to the energy price (LBMP) in the activated zone(s).*

◆ **Align latent reserve calculation in 'but for' Scarcity Pricing test with existing Ancillary Service market rules.**

  ▪ *Remove inclusion of recallable External ICAP Energy sales (i.e., ICAP sales from NYCA generators to external Control Areas) as reserves*

Recap "But for"

- **The Real Time market will run its normal dispatch then immediately test the "but for" scenario:**
  - "But for" will be determined as follows: If Available Reserves – [EDRP/SCR] < 0 then scarcity pricing applies.

- **Available Reserves are defined as the capability of all Suppliers to provide Operating Reserves in that interval and in the relevant location, minus the quantity of scheduled Operating Reserves in that interval.**

Recap Activation Zones and Tests

- ◆ **Tests for Scarcity Pricing can be against specific zone(s), NYCA or SENY.**

  - ▪ *The test will be applied in the Load Zone(s) where the reliability need requiring SCR/EDRP activation is located.*

  - ▪ *If the reliability need is for NYCA or SENY the test will be against those areas even if only a subset of zones are activated.*

  - ▪ *Example 1 (7/18/2012 HB 13-18):*
    - • **Zone J activated 473MW for SENY capacity.**
    - • **Test the 473MW against SENY (zones G-K)**

  - ▪ *Example 2 (7/6/2010 HB 13-19):*
    - • **Zone J activated 480MW for NYC voltage support.**
    - • **Test 480MW against Zone J.**

Revised Calculation

◆ **Energy Calculation**

- *Calculate the price at the Reference Bus (RBP)*
  - *If Zone E was activated and passed the but for test, then the reference bus price is $500, otherwise the reference bus price is the price from RTD.*
- *Losses for all locations will be the losses from RTD.*
- *Calculate congestion at each location*
  - *If the location was activated and passed the but for test, then congestion equals ($500-RBP)*
  - *All other locations congestion will equal (RTD Congestion Component – (RBP – RTD Reference Bus Price))*
    - *Ensures a consistent reference bus price for all locations, while maintaining the original LBMPs at locations unaffected by Scarcity.*

Final price

- **The maximum of the original RTD LBMP and the Scarcity LBMP becomes the Final LBMP.**

- **Example 1 (RBP changes):**
  - *RTD LBMP Gen A = $50 ($48 ref bus - $3 MCL + $5 CC)*
  - *RTD LBMP Gen B = $300 ($48 ref bus + $7 MCL + $245 CC)*
  - *Gen A is not in an activated zone, and Gen B is*
  - *Zone E (the Reference Bus) has been activated and passes the but for test so is set to $500*
  - *Gen A final LBMP = $500-3+(5-(500-48)) = $50*
  - *Gen B final LBMP = $500+7+(500-500) = $507*

- **Note: This does not change the results previously discussed, but does ensure a consistent reference bus price**

Example 2 – RBP the same

- ◆ **Example 2:**
  - ▪ *RTD LBMP Gen A = $50 ($48 ref bus - $3 MCL + $5 CC)*
  - ▪ *RTD LBMP Gen B = $300 ($48 ref bus + $7 MCL + $245 CC)*
  - ▪ *Gen A is not in an activated zone, and Gen B is*
  - ▪ *Zone E (the Reference Bus) has not been activated and so is left at the RTD price of $48*
  - ▪ *Gen A final LBMP = $48-3+(5-(48-48)) = $50*
  - ▪ *Gen B final LBMP = $48+7+(500-48) = $507*

Recap Cont.

- ## Ancillary Calculation

  - ### *For every gen in the scarcity zone (SZ), calculate an Energy Lost Opportunity Cost (ELOC).*
    - **ELOC = Final LBMP - unit's economic bid point**

  - ### *For Regulation:*
    - **Scarcity Regulation Cost (SRC) = ELOC + Regulation bid of the unit**
    - **MAX SRC is the highest SRC for all units eligible to set the Regulation price, in the SZ with an ideal Reg schedule > 0.**
    - **If the MAX SRC is greater than the Real Time clearing price for Regulation, set the MAX SRC clearing price as the Final Regulation clearing price.**

  - ### *For all other ancillary products (Spin and Non Spin, 10 and 30):*
    - **Take the MAX ELOC for all units eligible to set the reserve price, in SZ with an ideal schedule > 0 in that product. If the MAX ELOC is greater than the Real Time clearing price for that product, replace the Ideal clearing price with the MAX ELOC for that product.**

  - ### *Note: These are the same calculations as today.*

Proposed Tariff Changes

- **Revised Definition of Available Reserves to exclude recallable External ICAP Energy sales.**

- **Modified Att B, 17.1.2 thru 17.1.2.3.2**
  - *Eliminated references to Scarcity "A" and "B"*
  - *Indicate the but-for test will be against the areas where load reduction is needed to meet the reliability need*
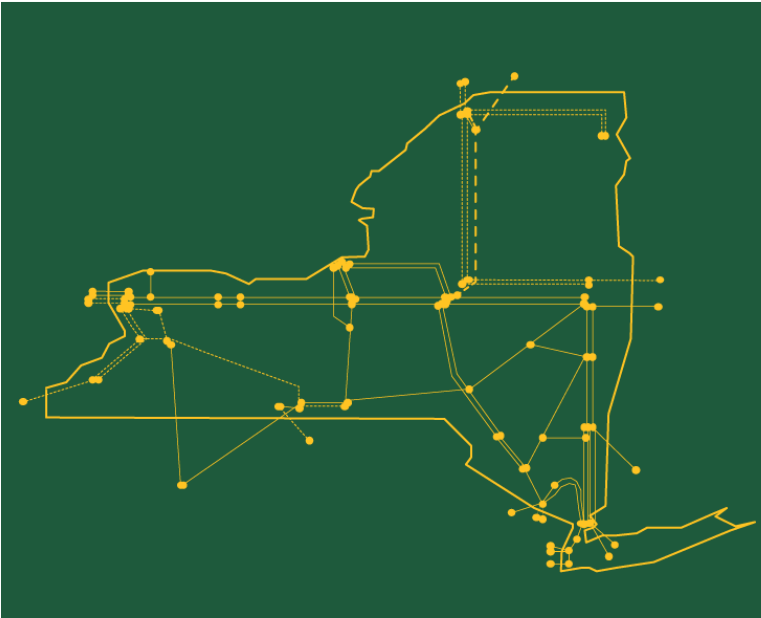 - *Modify LBMP formula to be consistent with new calculation*

Proposed Tariff Changes

- **Modified Rates Schedules 3 and 4 (15.3.5.2 and 15.4.6.2) to remove references to rules "A" and "B" and to condense language to indicate consistency with reserve cascading**

- **Minor format change to 5.12.11.1, removing upper case distinction from "Forecast Reserve Shortage" as it is not a defined term**

Next Steps

- **BIC on 12/5**
- **MC on 12/19**
- **BOD and Filing Q1 2013**
- **Implementation targeted for Q2 2013**

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