Forecast Enhancements in the Buyer-side Mitigation Rules - Example

Julia Popova, PhD

ICAP Market Mitigation & Analysis Department

ICAPWG

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DRAFT – FOR DISCUSSION PURPOSES ONLY

Background and Objective

- **Stakeholder meetings:**
  - ***December 12, 2014, March 18, 2015, May 18, 2016, July 6, 2016, August 10, 2016, September 7, 2016***
- **Today's presentation provides**
  - ***Proposal Overview***
  - ***Hypothetical Example***
- **Draft tariff revisions are also being presented today**
- **Next steps**

Proposal

- **Include in forecast:**
  - ***Currently operating Generators and UDR projects (i.e., most recently published Gold Book):***
    - **Including Forced Outage and Inactive Reserve unless there is publicly available information, demonstrating with reasonable certainty that the Generator or UDR project will permanently cease operations**
  - ***Units with "positive indicators" of repair and return to service:***
    - **This Includes:**
      - *Generators in an: 1) ICAP Ineligible Forced Outage (IIFO) including Catastrophic Failure units; 2) Mothball Outage (MO); 3) Retired; 4) long-term partial long-term derate;*
      - *UDR projects in states similar to Generators (provisions being developed)*

Proposal cont'd

- **Exclude from forecast:**
  - *Retired if a Generator or a similar status for a UDR project*
  - *Generators or UDR projects with expired CRIS*
  - *Relinquished and transferred CRIS*
  - *Generators and UDR projects that are transferring their CRIS*
  - *Other publicly available information indicating that a Generator or UDR project will cease operation*
- **Include in forecast if "inclusion test" is passed:**
  - *Generators and UDR projects without "positive indicators" of repair and return to service:*
    - **Any of the existing and noticed (as applicable) IIFO, MO, and Retired (and similar for UDR projects)**
  - *RMR Generators with an expiration date during Mitigation Study Period*

Hypothetical Example (p1)

- **There are 3 Class Year Examined Facilities**
  - ***U1, U2, and U3***
- **There are 5 existing units currently not in the market and which have ability to re-enter the market:**
  - ***G1, G2, G3 – significant capital investment necessary***
  - ***G4 – small capital investment needed***
  - ***G5 – sizable CapEx and long lead time required***

Hypothetical Example (p2)

- **Step 0:**
  - ***Units with small capital expenses and/or short lead time to return to the market will be included at (seasonally shaped) "in-service price"***
    - **G4 at it's in-service price "P"**
  - ***Units with significant capital expenses and/or long lead time to return to the market will be "tested"* iteratively***

**** "Testing" is solely for purposes of determining whether the unit should be included in the BSM forecasts***

Hypothetical Example (p3)

- **Step I:**
  - *if inclusion test is not passed when ONLY the tested generator is in the forecast, then it will not be included in the BSM forecast*
  - *if inclusion test is passed with ALL existing but out-of-service generators and Examined Faculties are in the forecast, then it will be included in the BSM forecast as "in-service"*

G1	G2	G3	G4	G5	U1	U2	U3	Outcome
✓								NPV_{G1} >0, G1 tested further
	✓							NPV_{G2} >0, G2 tested further
		✓						NPV_{G3} >0, G3 tested further
			✓ at "P"					"Clears" so G4 tested further at its in-service price
				✓				NPV_{G5} <0, G5 is not included
✓	✓	✓	✓ at "P"	-	✓	✓	✓	NPV_{G1} >0, G1 is included

Hypothetical Example (p4)

- **Step II:**
  - ***Perform iterative testing***
    - **Purpose is to efficiently account for competition with proposed new units (those remaining in completed prior Class Years , that have not yet entered service, and the Examined Facilities)**

Hypothetical Example (p5)

- **Results from Step I:**
  - *G1 is modeled as in-service for the BSM forecast*
  - *G5 is not included into the BSM forecast*
- **Step II: test G2 and G3**
  - *G2 and G3 have non-negative NPV when G1 and G4 included (tested individually and collectively)*
  - *NPV of G2 is not positive if U1 included in addition to G1, G2, G3, and G4*
  - *Test G3*
    - **NPV of G3 is negative if G1, G4, and all three CY units U1, U2, U3 modeled. Thus, do not include G3**
  - *Retest G2*
    - **If NPV of G2 is positive when G1, G4, U1, U2, and U3 modeled then included G2**

G1	G2	G3	G4	G5	U1	U2	U3	Outcome
+	✓		✓ at "P"	-				$NPV_{G2} > 0$
+		✓	✓ at "P"	-				$NPV_{G3} > 0$
+	✓	✓	✓ at "P"	-				$NPV_{G2} > 0$ and $NPV_{G3} > 0$
+	✓	✓	✓ at "P"	-	✓			$NPV_{G2} < 0$ and $NPV_{G3} > 0$
+		✓	✓ at "P"	-	✓	✓		$NPV_{G3} > 0$
+		✓	✓ at "P"	-	✓	✓	✓	$NPV_{G3} < 0$
+	✓	-	✓ at "P"	-	✓	✓	✓	If $NPV_{G2} > 0$ then include, exclude otherwise

Next Steps

- The NYISO will consider input received during today's ICAPWG meeting
- Stakeholders can also provide additional comments in writing to deckels@nyiso.com by Nov 11, 2016
- BIC/MC

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefit to consumers by:

- ***Maintaining and enhancing regional reliability***
- ***Operating open, fair and competitive wholesale electricity markets***
- ***Planning the power system for the future***
- ***Providing factual information to policy makers, stakeholders and investors in the power system***

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