Consumer Impact Analysis Using the 2018 Base case: Alternative Methods for Determining LCRs

Tariq N. Niazi

Senior Manager, Consumer Interest Liaison

THIS PPT UPDATES THE PPT POSTED FOR THE FEBRUARY 22 ICAPWG MEETING. The update is to the Long Term Cost at Historic Excess (Slide 12 and 16). The slides presented on February 22 were based on inadvertently transposing Localities' and ROS historic LOEs.

Installed Capacity Working Group

February 22, 2018 - REVISED February 27, 2018

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY

Background/Overview

- The initial Consumer Impact Analysis for Alternative Methods for Determining LCRs was presented to stakeholders at the October 11, 2017 ICAPWG meeting
- During that presentation, some stakeholders requested additional information which was provided to stakeholders in another presentation (Additional Consumer Impact Analysis) at the November 6, 2017 ICAPWG meeting
- At the February 6, 2018 ICAPWG meeting the NYISO presented updated LCRs based on the 2018 base case
- During the February 14 BIC meeting, some stakeholders requested that the consumer impact analysis be updated using the 2018 base case since the prior analyses were based on the 2017 base case
- This presentation updates the Consumer Impact Analysis based on the 2018 base case as requested by stakeholders

Changes from the 2017 to the 2018 Base Case

- As discussed at the February 6, 2018 ICAP meeting, the 2018 base case required more capacity in southeast New York to meet the reliability criteria of LOLE<0.1 days/year than the 2017 base case required
  - This was observed using both the current and optimized LCR methodologies
- The increase from 2017 to 2018 were mainly a result of the following:
  - Increase in Load Forecast Uncertainty in Zones J and K
  - Changes in Interface Limits
  - Increased EFORd on underground transmission cables and UDRs
- The following changes were also made between 2017 to 2018:
  - Increase in Demand Curve Net CONE cost curves
  - Transmission Security LCR Floors

2017 and 2018 LCRs (%)

	Approved LCRs			Optimized LCRs		
	G-J	J	K	G-J	J	K
2017	91.5%	81.5%	103.5%	90.7%	80.2%	104.2%
2018	94.5%	80.5%	103.5%	90.8%	79.7%	107.5%

NEW YORK INDEPENDENT SYSTEM OPERATOR

2017 and 2018 LCRs (MW)

	Approved LCRs (MW)			Optimized LCRs (MW)		
	G-J	J	K	G-J	J	K
2017	14,696.1	9,511.1	5,617.0	14,569.8	9,354.7	5,652.5
2018	15,042.5	9,288.9	5,605.6	14,432.0	9,198.2	5,856.1
Δ Locality MW	346.4	-222.2	-11.5	-137.9	-156.5	203.6
Δ Southeast New York MW	334.9			65.7		

- While both the current and optimized methodology required an increase in southeast New York capacity from 2017 to 2018, the optimized methodology was able to achieve a solution that minimizes this increase in capacity while also reducing total statewide cost

Cost Impact Analysis

- The tables that follow provide the Consumer Impact Analysis based on the 2018 base case
- The Consumer Impact Analysis follows the following format
  - Short term consumer impact assumes no changes in generation from the 2017 Consumer Impact Analysis
  - Long term cost impact
    - Long-run equilibrium modelled at the Level of Excess condition (defined in the Demand Curve reset)
    - Historic excess defined as a percentage of excess above the requirement (observed in the last 3 Capability Years in each of the different Localities)
- This analysis looks only at the base case both in the short and long run. Sensitivities around changes in generation, transmission and net CONE would require MARs runs

Cost Impact Analysis, Contd.

- The cost of capacity shown in the tables for both the current LCRs and optimized LCRs with the updated Transmission Security Limit (TSL) are based on the individual Locality requirement and total capacity that cleared in each Locality
- Additionally, the tables that follow show the delta between the cost of capacity for the current and optimized LCRs
- Assumptions for the analysis
  - 2018 load forecast
  - 2018 approved and optimized LCRs
  - 2018 Reference prices
  - 2017 Supply assumptions used for the Consumer Impact Analysis presented on November 6, 2017 ICAPWG meeting

NEW YORK INDEPENDENT SYSTEM OPERATOR

2018 Total Cost of Capacity

2018 Total Cost of Capacity

- The following costs presented assume that all capacity is purchased at the spot market auction clearing price, and therefore could differ from observed costs if capacity was purchased through other methods (*i.e.*, bilateral contracts or self supply)
- The cost of capacity presented is for the 2018 Capability Year and is to provide a hypothetical outcome based on the described assumptions and using the optimization methodology
- This analysis was based on the 2018 load forecast, projected 2018 reference prices, 2018 approved LCRs and optimized LCRs while utilizing the 2017 supply assumptions from the Consumer Impact Analysis presented at the ICAPWG on November 6, 2017

2018 Short Term Cost

Methodology	2018 Short Term Cost of Capacity (million $)				
	LI	NYC	GHI	ROS	Total
Current Methodology	$303	$1,179	$576	$649	$2,706
Optimized Methodology	$553	$668	$308	$649	$2,178
Delta	$251	-$511	-$268	$0	-$528

- Given the slope of the demand curve, approximately 200 MW of additional capacity, load reduction, or a combination of additions and reductions in Long Island could return the Long Island cost back to that observed under the current method (*i.e.*, about $303 MM), all else equal
- This analysis was based on the 2018 load forecast, 2018 reference prices, 2018 approved and optimized LCRs while utilizing the 2017 supply assumptions from the Consumer Impact Analysis presented at the ICAPWG on November 6, 2017

2018 Long Term Cost at LOE

Methodology	2018 Long Term Cost of Capacity at LOE (million $)				
	LI	NYC	GHI	ROS	Total
Current Methodology	$765	$2,061	$972	$2,017	$5,815
Optimized Methodology	$802	$2,037	$880	$2,060	$5,780
Delta	$37	-$23	-$91	$43	-$35

- This analysis was based on the 2018 load forecast, 2018 reference prices, 2018 approved and optimized LCRs while utilizing the 2017 supply assumptions from the Consumer Impact Analysis presented at the ICAPWG meeting on November 6, 2017

Updated -
2018 Long Term Cost at Historic Excess

Methodology	2018 Long Term Cost of Capacity at Historic Excess (million $)				
	LI	NYC	GHI	ROS	Total
Current Methodology	~~$507~~ $383	$1,121	~~$308~~ $521	~~$731~~ $551	~~$2,667~~ $2,576
Optimized Methodology	~~$527~~ $398	$1,109	~~$281~~ $473	~~$748~~ $562	~~$2,665~~ $2,542
Delta	~~$20~~ $15	-$11	~~-$27~~ -$48	~~$17~~ $11	~~-$2~~ -$34

- This analysis was based on the 2018 load forecast, 2018 reference prices, 2018 approved and optimized LCRs while utilizing the 2017 supply assumptions from the Consumer Impact Analysis presented at the ICAPWG meeting on November 6, 2017

NEW YORK INDEPENDENT SYSTEM OPERATOR

2017 Total Cost of Capacity

2017 Short Term Cost

Methodology	2017 Short Term Cost of Capacity (million $)				
	LI	NYC	GHI	ROS	Total
Current Methodology	$313	$1,011	$348	$714	$2,385
Optimized Methodology	$365	$796	$322	$714	$2,197
Delta	$52	-$215	-$26	$0	-$189

- These results were presented for the Consumer Impact Analysis at the November 6, 2017 ICAPWG meeting

2017 Long Term Cost at LOE

Methodology	2017 Long Term Cost of Capacity at LOE (million $)				
	LI	NYC	GHI	ROS	Total
Current Methodology	$689	$1,887	$782	$1,888	$5,245
Optimized Methodology	$697	$1,855	$789	$1,893	$5,234
Delta	$8	-$32	$7	$5	-$12

- These results were presented for the Consumer Impact Analysis at the November 6, 2017 ICAPWG meeting

Updated -
2017 Long Term Cost at Historic Excess

Methodology	2017 Long Term Cost of Capacity at Historic Excess (million $)				
	LI	NYC	GHI	ROS	Total
Current Methodology	~~$456~~ $344	$1,023	~~$249~~ $418	~~$685~~ $514	~~$2,412~~ $2,299
Optimized Methodology	~~$460~~ $347	$1,007	~~$251~~ $423	~~$687~~ $516	~~$2,405~~ $2,293
Delta	~~$4~~ $3	-$15	~~$2~~ $5	~~$2~~ $1	~~-$7~~ -$6

- These results were presented for the Consumer Impact Analysis at the November 6, 2017 ICAPWG meeting

Feedback?

- Email additional feedback to:
- deckels@nyiso.com

Questions?

We are here to help. Let us know if we can add anything.

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

www.nyiso.com

NEW YORK INDEPENDENT SYSTEM OPERATOR

DRAFT – FOR DISCUSSION PURPOSES ONLY