

2010 Upstate / Downstate
Study
Progress Report

June 1, 2010

*NYSRC ICS Meeting
NYSERDA Headquarters*

Discussion Outline

- 1. Purpose**
- 2. Methodology**
- 3. Results**
- 4. Conclusion**



Purpose:

To Update Previous Upstate/Downstate “Super Zone” Studies, by GE and the NYISO

- **Evaluate Reliability of, and Inter-zonal assistance between, a NYCA Superzone comprised of zones A-I, and a NYCA superzone comprised of zones J and K**
- **Satisfy FERC decision in 2005 National Grid complaint that Upstate customers were subsidizing cost of maintaining reliability Downstate**
 - **Complaint dismissed**
 - **NYSIO directed to re-evaluate potential subsidization issue annually for three years**
 - **This is the final year of the study**



Methodology:

- **Start with 2010 – 2011 IRM Base Case database**
- **Divide NYCA into two Pools**
 - **Upstate: Zones A – I, Athens-Gilboa bubble**
 - **Downstate: Zones J & K, Astoria East bubble, and other Zone J & K related dummy zones as appropriate (for UDR contracts)**
- **Use firm contracts to reduce Upstate capacity and increase Downstate capacity**
- **Vary contract amounts and record LOLE and reserve margins at these different contract levels**
- **The first 1,000 MW is contracted through PJM to represent Con Ed wheel.**

Methodology (cont'd):

Contracts:

1. Con Ed Wheel: 1st 1000 MW of contract
Path: G to PJM-East, PJM-East to J (see next slide)
2. I to J and
3. I to K
Balance of total contract split according to Dunwoodie South (4,000 MW) and Y49/Y50 (1,290 MW) interface limits

Example:

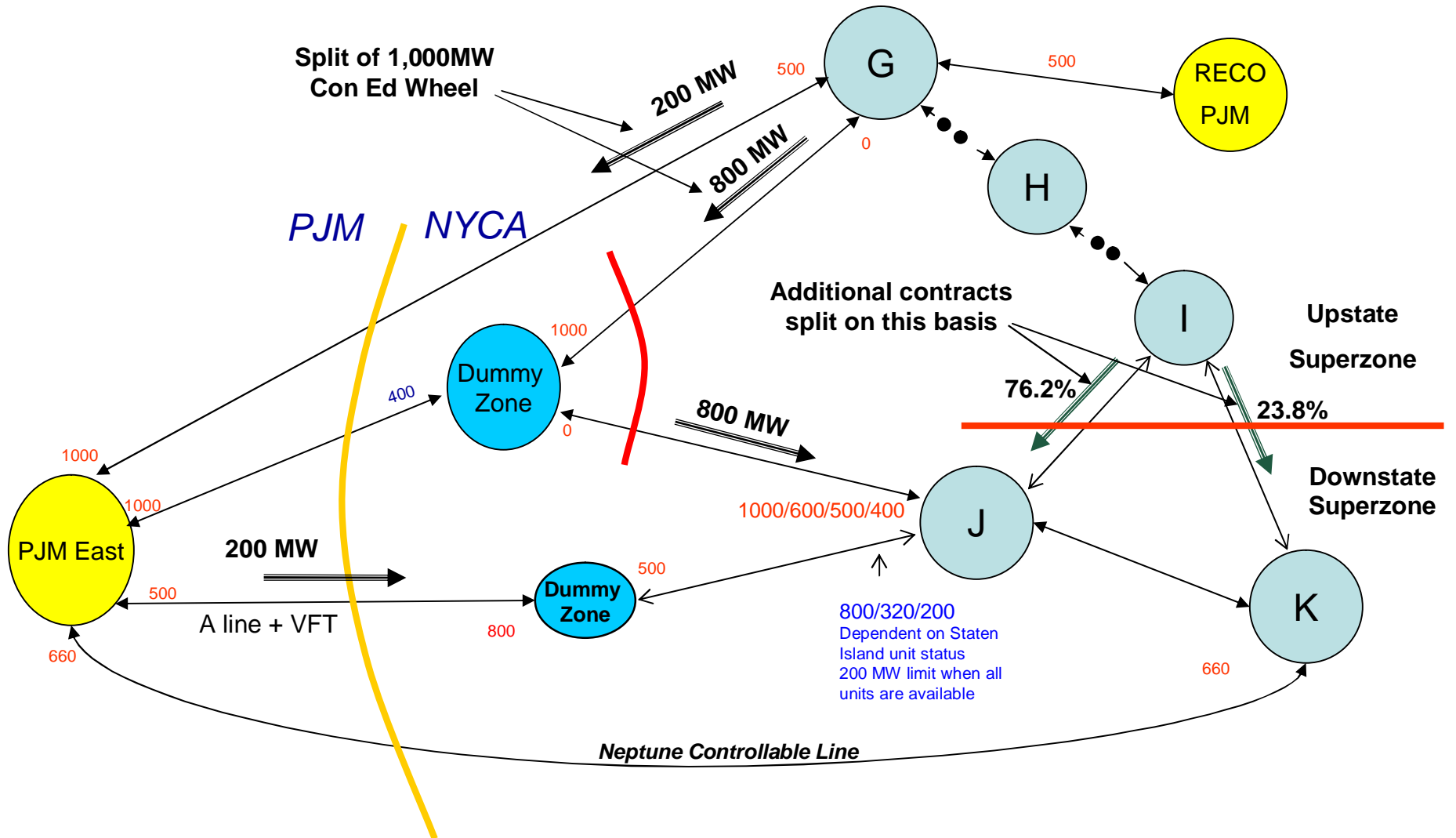
For Total Contract = 2500 MW

PJMWHEEL = 1000 MW

I to J = 1500 MW x (4,000)/(4,000 + 1,290) = 1134 MW

I to K = 1500 MW x (1,290)/(4,000 + 1,290) = 376 MW

2010 PJM-NYCA MARS Model - 5/10/2010
 Showing Upstate/Downstate modeled contracts



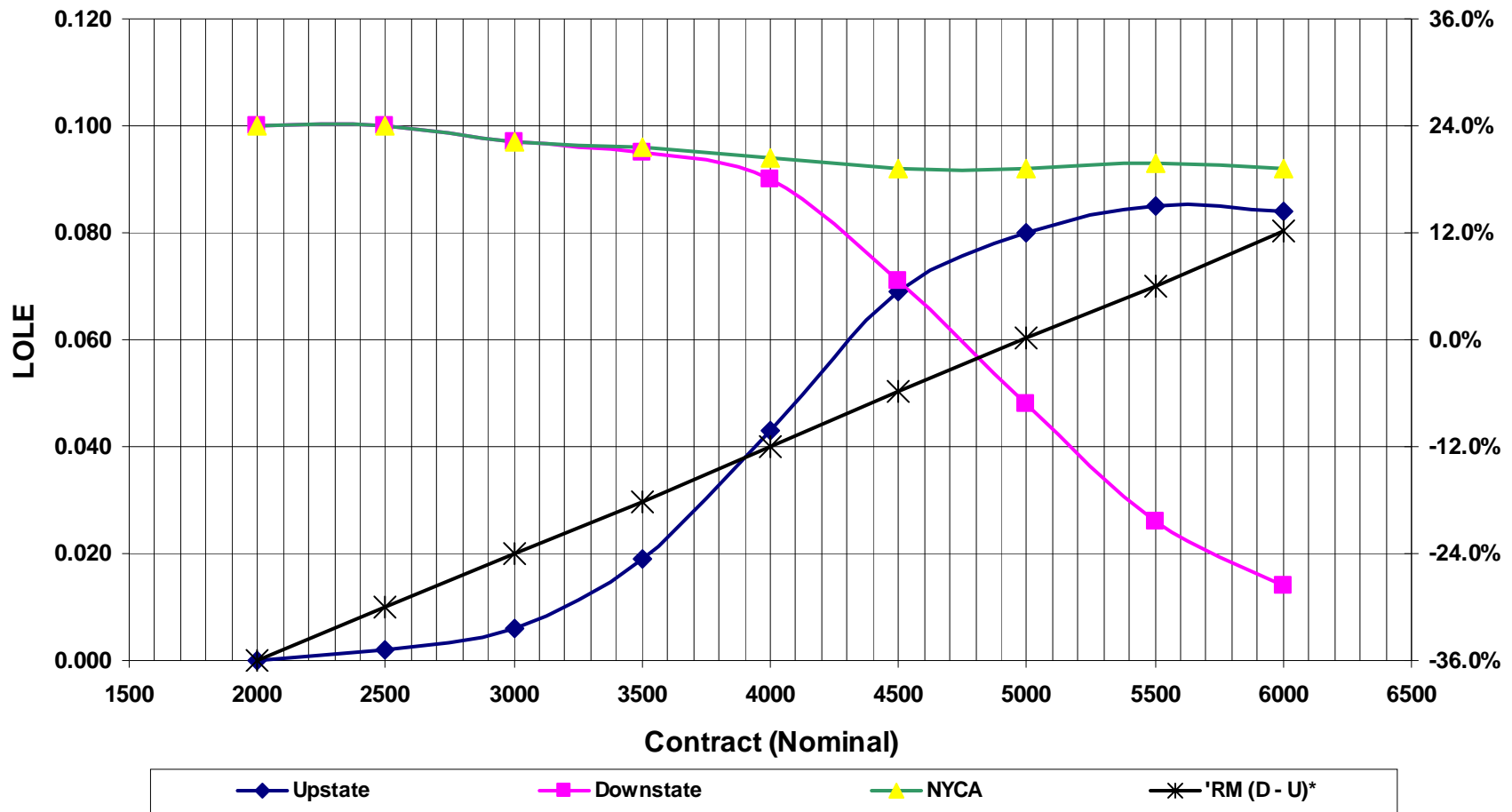
Final Draft

Results:

From 2010 IRM Study Base
Case - all points at a NYCA
wide Reserve Margin of 118%

LOLE for NYCA, Up and Down Zones

Equal risk at 4500 MW contract
Equal RM at 5000 MW contract





Results (cont'd):

Comparison of 2007 through 2010 U/D Assumptions & Results				
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
<u>Key Assumptions</u>				
Dunwoodie South	3,700 MW	3,925 MW	4,000 MW	4,000 MW
ICAP - Downstate	14,842 MW	14,577 MW	14,764 MW	14,943 MW
ICAP - Upstate	24,067 MW	24,123 MW	24,561 MW	23945 MW
NCP - Downstate	17,147 MW	17,309 MW	17,334 MW	16,930 MW
NCP - Upstate	16,485 MW	16,510 MW	16,558 MW	16,130 MW
EFOR	6.06%	5.88%	6.58%	per zone*
<p>Note: The above values are taken at the IRM base case levels. For example, in 2010 the IRM was 117.9% while the locational reserve margins were 79.6% and 104.9% for zones J and K, respectively.</p>				
<u>Results</u>				
Equilibrium LOLE Point	0.046	0.060	0.068	0.07
(Down - UP) RM at Equilibrium LOLE	0.0%	-4.3%	-6.5%	-5.8%
Equilibrium Contract Amount	4,960 MW	4,600 MW	4,500 MW	4,500 MW
Upstate LOLE at Equal RMs	0.046	0.074	0.085	0.080
Downstate LOLE at Equal RMs	0.046	0.033	0.034	0.048

* the per zone methodology does not use a single EFOR to translate perfect to real capacity. It uses the weighted EFOR of each zone.



Conclusions:

- 1) The 2007 Study stated, “A driving force for this study was the concern that Upstate was carrying additional reserves in order to offset capacity deficiencies Downstate or insufficient transmission capability into Downstate. While this seemed to be true when NYCA reserves were at 18%, it appears to have gone away when the reserves are lowered to 16%.”
- 2) The previous graph shows that if more than 4500 MW are secured by Downstate LSEs, there is no potential subsidy. Currently 80% of the zone J peak and 104.5% of the zone K peak result in 14,990 MW needing to be secured from resources in the localities (MLCRs). In addition, the minimum statewide resources needed by Downstate LSE’s are (118% of their peak load) equal to 20,170 MW. Since this difference (20,170 – 14,900 MW) represents a purchase greater than 4500 MW, there is no Upstate subsidy.



Conclusions (con't):

- 3) For 2010, with the reserves restored to 18% and transmission capability into downstate improved (vs. 2007), the conclusion that Upstate is not carrying extra reserves for the benefit of Downstate remains valid.
- 4) The original conclusion that a potential subsidy would exist if the IRM is high enough, is not valid. Over all the IRMs studied, any potential Upstate to Downstate subsidy has not materialized. This is a strong indication that the method employed by the NYSRC and the NYISO in setting the IRM and the LCRs, respectively, arrive at a balanced point between the benefits of choosing a point closer to either end of the LCR-IRM curve.



The New York Independent System Operator (NYISO) is a nonprofit corporation that began operations in 1999 to facilitate the restructuring of New York's electric industry. The NYISO operates the state's bulk electricity grid and administers New York's wholesale electricity markets.

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