

GE Energy

Upstate-Downstate “Superzone” Study

Review of Study Assumptions and Methodology

Resource Adequacy Issues Task Force
August 3, 2006



imagination at work

Draft – For discussion only

Objective

- **Evaluate the reliability of and inter-zonal assistance between two NYCA “superzones” identified as Upstate (Zones A through I) and Downstate (Zones J and K)**
- **Study years 2006 and 2010**

Data

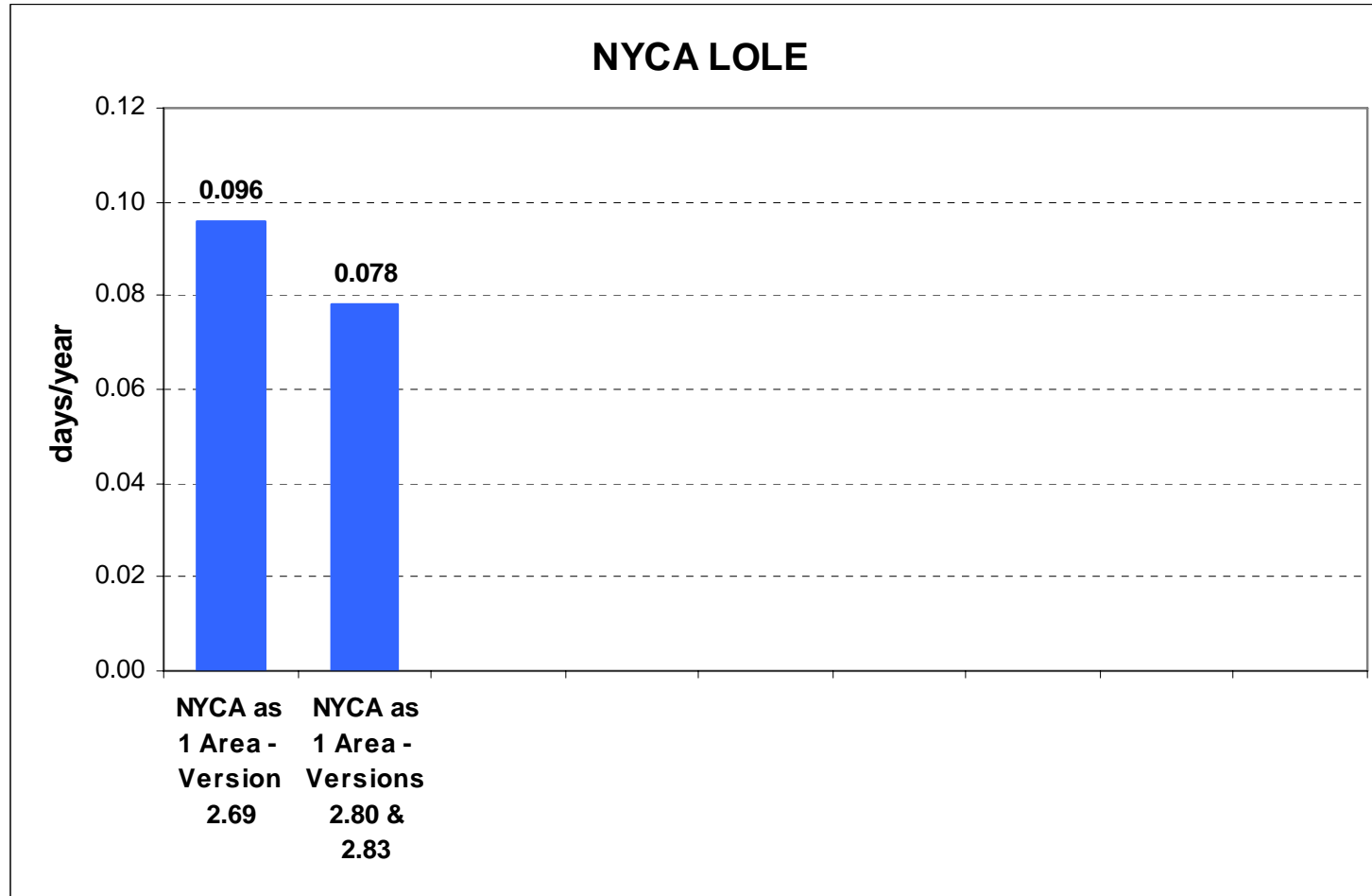
- **Start from MARS data from**
 - *2006 IRM Study (2006)*
 - *CRPP Reliability Needs Assessment (2010)*
- **Modify data as needed to model NYCA as two Areas**

Methodology

- Use firm contracts to shift capacity between Upstate and Downstate until the two superzones have equal risk
 - *Model contracts from Zone I to Zones J and K in proportion to transfer limits from I to J and I to K*
 - *Use NYCA average forced outage rate of 5.57% to convert perfect capacity in MARS to real capacity for reserve margin calculations*
- Reserve sharing to allocate assistance between deficient zones done
 1. *between zones within the superzones*
 2. *between superzones*
 3. *with outside Areas*

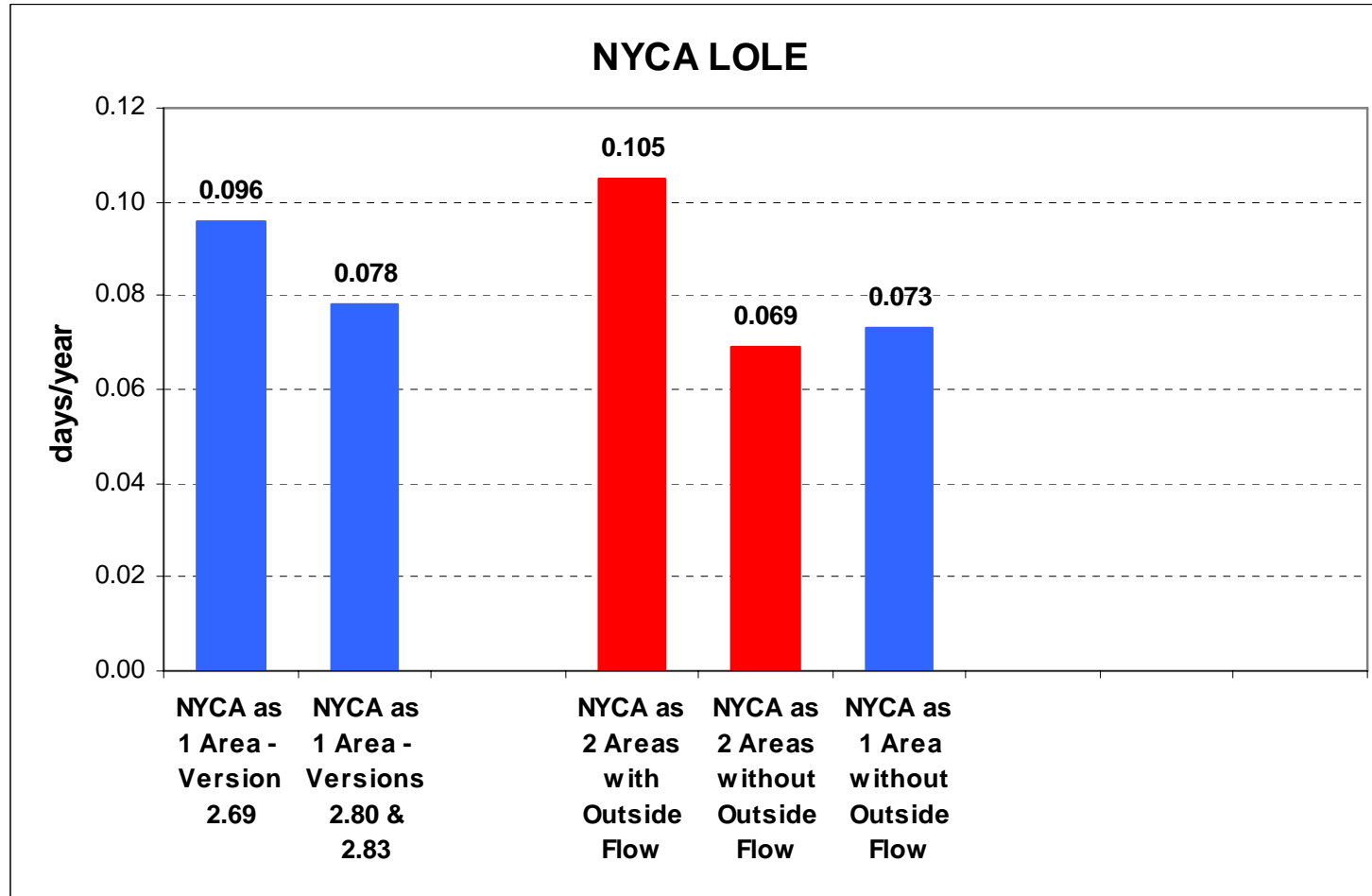
Results from Benchmarking Cases – Program Version

Version 2.69, used for IRM study, had an error in the logic to limit the number of days that an EOP can be used.



Results from Benchmarking Cases – Outside Flow

With NYCA as two Areas, option to allow flow through outside Areas resulted in PJM loading up some NYCA interfaces.

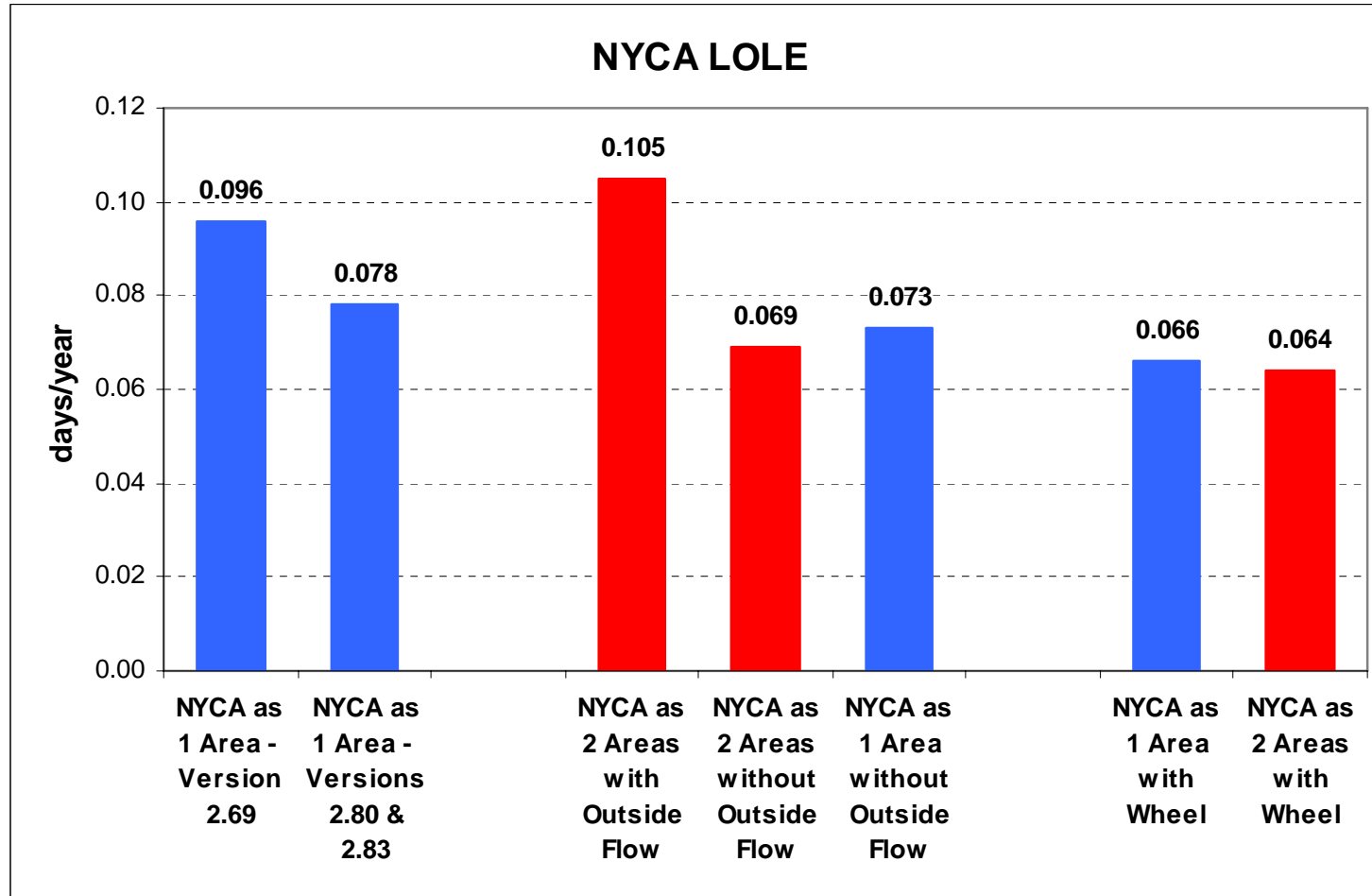


Methodology Refinement

- Preliminary simulations showed reliability balance not achievable using only the NYCA ties due to
 - *transfer limits*
 - *forced outages on ties*
- Model first 1,000 MW of firm contracts from Upstate to Downstate as a wheel from Zone G through PJM-East to Zone J
 - *not adjusted by forced outage rate for reserve margin calculations*

Results from Benchmarking Cases – PJM Wheel

1,000 MW contract from Zone G to PJM-East to Zone J added to help achieve reliability balance between superzones.



Additional Concerns

- **From May 2006 ICS meeting**
 - ***inability to simultaneously import into Zone B from Zone A and Zone C***
 - ***Oswego bottled capacity***
 - ***revisions to Athens transmission nomogram***
 - ***near term Upstate unit retirements and increased Upstate load growth***
 - ***possible need for LCR in Zones B and I***
- **Concerns raised in the past**
 - ***outside world representation***
 - ***Downstate retirements or installation slippages***
 - ***whether current load forecast uncertainty is sufficiently broad***