

NYISO
External Control Area
Proxy Bus Representation

Market Structures WG

ISO Market Operations
January 14, 2003

Draft--For Discussion Only

External Proxy Bus

- External Control Area Modeling Review
- NYISO Marketplace
- IMO Marketplace
- PJM Marketplace
- ISONE Marketplace
- Summary

External Control Area Modeling

- Review of Northeast ISO Practices
 - Each ISO has unique external transaction scheduling practice
 - Transmission service, ramp, reservation based evaluation– PJM & ISONE
 - Transmission service, ramp, economic offer based – NYISO & IMO
 - All ISOs have a single LMP settlement price for each ‘scheduling interface’
 - Each ‘scheduling interface’ represents a unique scheduling path between two control areas (typically all AC interconnections constitute a single path)
 - There may be multiple scheduling interfaces between two control areas (I.e . radial AC interconnections or HVdc interconnections)
 - Gaming issues may arise with multiple settlement prices for a single scheduling interface

NYISO Marketplace

- DAM and RT (HAM) Scheduling of external transactions is consistent with settlement price at each proxy bus
- Import/export/wheel-through bid offers are used to allocate scarce inter-ISO transfer capability when congestion occurs
- Single Proxy bus model has no impact on scheduling capability because there is only a single scheduling interface and limit for each external CA
- Proxy bus location has little impact on pricing due to consistent PAR modeling assumptions in all scheduling systems (DAM/HAM/RT)

- PJM – Keystone 500kV
- IMO – Bruce 500kV
- ISONE – Sandy Pond 345kV
- HQ - Chateauguay 765kV

IMO Marketplace

- RT scheduling of external transactions is based on constrained system model
 - RT Settlement price at each inter-tie zone (external proxy bus) is based on unconstrained model LMP
 - There are no pricing consequences of multiple proxy bus locations
 - 142 control areas are mapped to a number of specific model locations in IMO network model
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- NYISO – Roseton or Niagara
 - ISONE – Roseton
 - PJM – Calvert Cliffs
 - HQ - Radial HQ Interconnections
 - TVA, Tampa Electric – Gavin

ISONE Marketplace

- RT scheduling of external transactions is based on transmission/ramp reservation model
- Single proxy bus model has no impact on scheduling capability because of reservation based scheduling model
- Settlement price at each external scheduling interface is based on constrained model LMP at the specified proxy bus

- NYISO – Roseton
- NYISO Cross Sound Cable - Shoreham
- New Brunswick - Keswick
- HQ - Radial HQ Interconnections – Sandy Pond, Highgate

PJM Marketplace

- RT scheduling of external transactions is based on transmission/ramp reservation model
- Single proxy bus model has no impact on scheduling capability because of reservation based scheduling model
- Settlement price at each external scheduling interface is currently based on ‘blended’ constrained model LMP
 - NYISO: 80% Roseton LMP + 20% Niagara LMP
- Proposed settlement price at each external scheduling interface would be based on ‘flow-weighted’ interconnection values of the constrained model LMP

Summary

- All ISOs have a single LMP settlement price for each ‘scheduling interface’ to address the potential for gaming issues
- Each ‘scheduling interface’ represents a unique scheduling path between two control areas (typically all AC interconnections or a radial HVdc interconnection constitute a single path)
- Single proxy bus model has no impact on scheduling capability because of reservation based scheduling model (PJM, ISONE) or the single scheduling interface and associated limit (NYISO, IMO)
- Single LMP settlement price for each ‘scheduling interface’ may be representative of the selected proxy bus (NYISO, ISONE) or a ‘blend’ of several LMP locations (PJM)