

NYISO/PJM Congestion Management Process Overview of Concept Discussions

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Presentation Outline

- ◆ NYISO Efforts to Date
- ◆ Concept Overview
- ◆ Process Overview
- ◆ Key Considerations
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NYISO Efforts to Date

The NYISO has been working with PJM to determine if there is a Congestion Management Process (CMP) concept that is feasible to allow coordination of re-dispatch to address transmission constraints between the two control areas.

The NYISO and PJM have not yet reached agreement on one significant concept for a straw proposal – the baseline for settlements.

Concept Overview

A Congestion Management Process (CMP) is based on the following ideas:

- ◆ **For certain transmission constraints under certain circumstances, the redispatch of generators within a neighboring control area may address transmission constraints more effectively than the redispatch of generators or other control action within the monitoring control area.**
- ◆ **Leveraging the security-constrained economic dispatch models of both control areas to solve transmission constraints provides opportunities to decrease the overall production costs of both systems.**

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Concept Overview cont.

- ◆ **The transmission constraints that can be significantly impacted by generation shifts in the neighboring control area would be eligible for coordination as part of a pre-determined list agreed to by both control areas.**
- ◆ **The control areas would compensate one another for the redispatch provided.**
- ◆ **The coordination of scheduled interchange is not included as part of CMP.**

Concept of Entitlements

- ◆ **The PJM/MISO approach to Congestion Management includes the concept of historical entitlements.**
 - ***Flow entitlements are used in market settlements to determine compensation based on comparison of actual market flows to entitlements determined based on historical models.***
- ◆ **The NYISO and PJM are continuing discussions to try to identify a mutually acceptable approach to entitlements for settlement purposes.**

Process Overview

- 1. In real time operations, a PJM transmission constraint develops that is part of a predetermined NYISO/PJM set eligible for coordination.**
- 2. PJM Operators decide to request coordination with NYISO.**
- 3. PJM provides the transmission constraint, shadow price limit (\$/MW), and the amount of relief (MW) requested.**

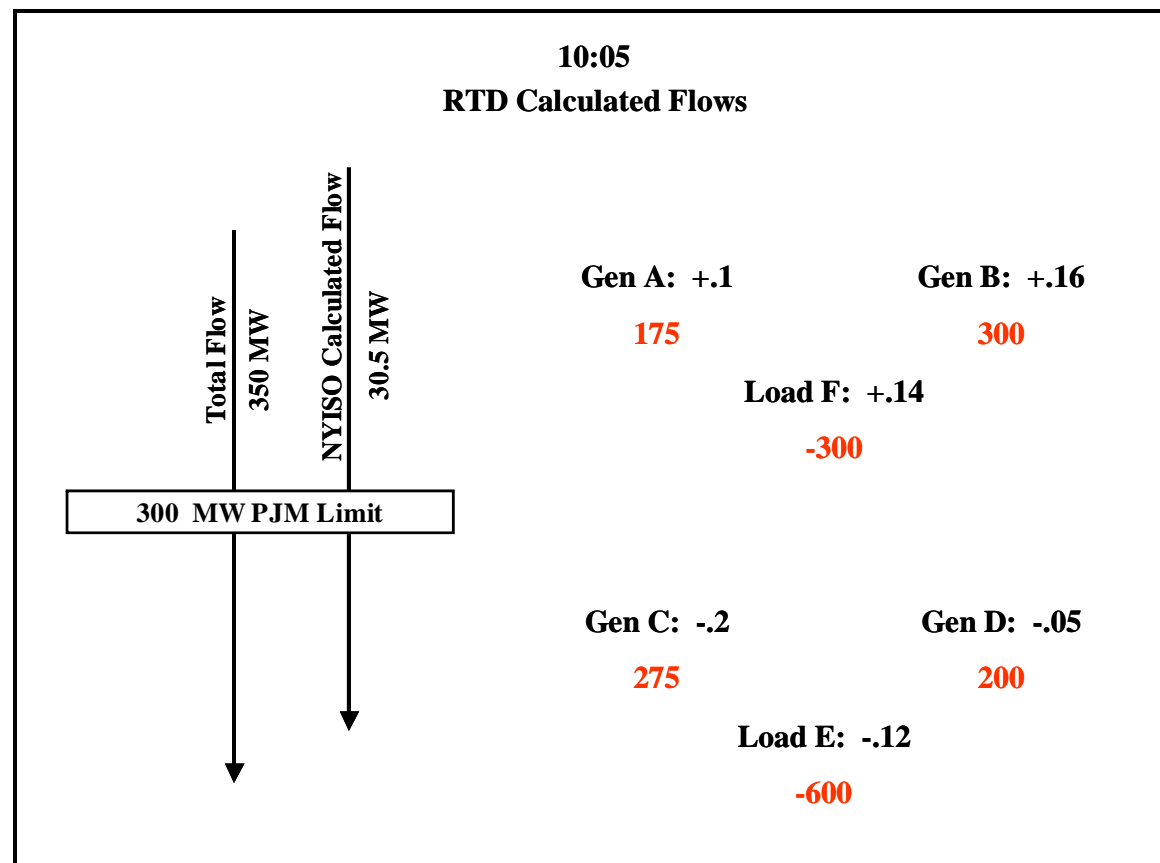


Process Overview

- 4. NYISO determines that they can provide congestion relief for less than the shadow price limit by completing a system redispatch.**
- 5. As the relief provided by NYISO is realized, PJM sees reduced congestion and shadow costs on the constraint.**
- 6. Iterative process until NYISO or PJM choose to cease coordination.**
- 7. PJM compensates NYISO for costs incurred during redispatch (shadow cost) based on actual market flow reductions realized.**

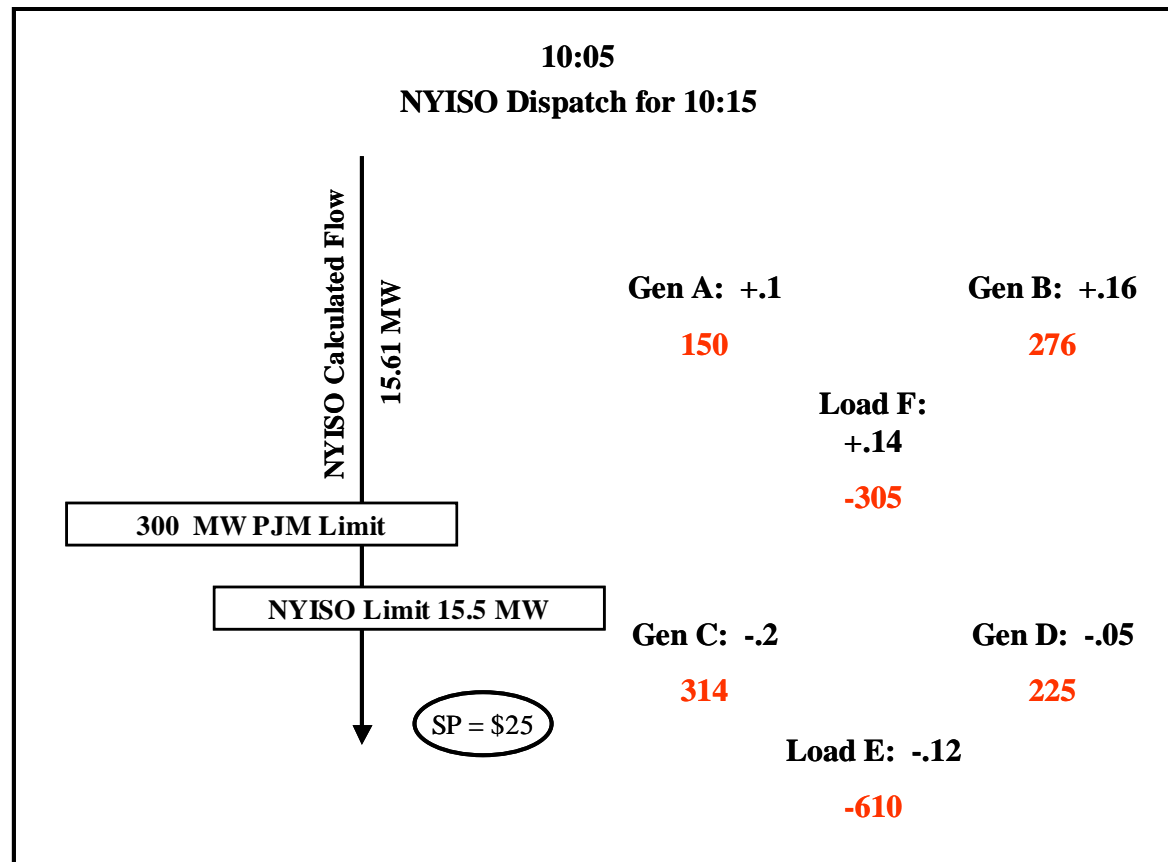
Example - Initial Conditions

- 10:02 - PJM requests 15 MW of relief at a shadow cost of \$40/MW or less
- 10:05 - RTD initializes & incorporates PJM request. Initial conditions at 10:05 establish baseline for settlements.



Example - Redispatch

- The RTD that initializes at 10:05 determines the dispatch for 10:15
- A market flow limit of 15.5 is included resulting in a \$25/MWh shadow cost and a reduction of 14.89 MW of market flow



Example - Settlement with “Dynamic Entitlement” approach

- Assume for simplicity that actual market flow for 10:15 equals expected market flow shown in prior slide
- Coordination would continue beyond 10:15 with 10:05 baseline market flows being used for settlements throughout

	Shift Factor	10:05		10:15	
		Output Load	Baseline Market Flow	Output Load	Market Flow
Gen A	0.1	175	17.5	150	15
Gen B	0.16	300	48	276	44.16
Load F	0.14	-300	-42	-305	-42.7
Gen C	-0.2	275	-55	314	-62.8
Gen D	-0.05	200	-10	225	-11.25
Load E	-0.12	-600	72	-610	73.2
Total			30.5		15.61
Shadow Price				25	
Market Flow Relief Provided				14.89	
Hourly Cost				372.25	
Interval Cost (PJM owes NYISO)				31.02	

Key Considerations

The following points are being carefully considered as part of the straw man development:

- ◆ **Entitlements/Transmission Usage Rights – Concept of normal usage rights (that NY has the right to a certain percentage of PJM’s transmission system and vice versa). Interaction with TCCs/FTRs.**
- ◆ **Technical Feasibility – Ensure that process can be integrated with existing commitment, dispatch and settlement software.**
- ◆ **Economics – Validity of overall concept with respect to price convergence and minimizing regional production costs.**
- ◆ **Proposal Analysis – Evaluate process impact on NYISO stakeholders (Possible reduction of PJM TLRs, opportunities for coordination)**

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Key Considerations cont.

- ◆ **Market Differences – Understand the impact of PJM and NYISO market differences on potential design (ex: ex post pricing in PJM vs. ex ante pricing in NY).**
- ◆ **Cost Recovery – Identify the appropriate cost recovery mechanism.**
- ◆ **Impact on Market Solution – Impact of redispatch on market outcomes (LBMP).**
- ◆ **Operating Agreements – Existing Operating Agreements remain in place**
- ◆ **Seams issues**
- ◆ **Tariff modifications required**

Next Steps

- ◆ **Continued discussions with PJM to develop straw proposal**
- ◆ **Identify opportunities for coordination**
- ◆ **Review of data to inform entitlements discussion**
- ◆ **Analysis of proposal**
- ◆ **Bring forward for Stakeholder consideration**
- ◆ **Establish project priority**



The New York Independent System Operator (NYISO) is a not-for-profit corporation that began operations in 1999. The NYISO operates New York's bulk electricity grid, administers the state's wholesale electricity markets, and provides comprehensive reliability planning for the state's bulk electricity system.

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