

Market-to-Market Coordination (Congestion Management)

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What is Market-to-Market (M2M) Coordination?

- M2M provides the ability for the NYISO to request a neighboring market to re-dispatch generation to solve a NYISO constraint at a lower cost, thereby reducing the overall cost of congestion
 - Same as the concepts conveyed in previous MIWG meetings under Congestion Management.



Benefits of M2M

- M2M is an integral element of the BRM initiative
 - Reduces congestion by expanding the pool of assets that are capable of addressing the region's transmission constraints
 - Provides better price convergence at the borders as a collective set of assets are used to resolve system limitations
 - In conjunction with Buy-Through of Congestion and Interregional Transaction Coordination, the NYISO will be able to reduce and recover congestion management costs associated with loop flows



Where is the NYISO with M2M?

- Work with PJM to identify flowgates that would be coordinated between neighboring control areas
- Continue discussions with PJM on Coordinated Flowgate "Entitlements"
 - Defines an allowable usage of a neighboring control area's flowgate – firm flow allocation
 - NYISO is currently engaged in the NAESB firm flow allocation methodology discussions to determine if the NAESB methodology can be leveraged for establishing flowgate "entitlements"
- Enhance Operating Protocols between PJM and NYISO to include:
 - Exchanging data required for M2M
 - Performing the Market Flow Calculation to determine generation-toload ("GTL") impacts on all Coordinated Flowgates
 - NYISO anticipates leveraging the new NERC IDC Parallel Flow Visualization tools (which includes a Market Flow Calculation)
 - Prioritizing the market flow impacts (firm vs. non-firm)
 - NAESB to create GTL/Market Flow prioritization methodology

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What is Parallel Flow Visualization?

- Supplements the existing NERC IDC with additional functionality which:
 - Intends to provide more visibility on the sources of parallel (loop) flows across the Eastern Interconnection
 - Provides a common methodology for calculating market flow (generation-to-load) impacts across the Eastern Interconnection
 - Creates displays that better illustrate the market flow and tag impacts per flowgate
- NYISO supports the development of Parallel Flow Visualization tools including having the IDC become the source of the Market Flow Calculation as specified in the IDCWG Change Order 283



What is the Market Flow Calculation?

- Each control area shall submit market data to the IDC on a 15 minute basis
 - Current and Projected Load
 - Current and Projected Generation
 - Current and Projected Flowgate Flows
 - Current and Projected Controllable Device (DC, PARs, VFTs) Flows
 - Topology (Outage) Updates
- The information above will be used by the Market Flow Calculator to determine the composite market flow impact (defined by an ISO wide Generation-to-Load Distribution Factor) per flowgate
 - This calculation will be done for all Balancing Authorities and flowgates
 within the Eastern Interconnection
- When the real-time actual flow exceeds the flowgate limit
 - IDC Parallel Flow Visualization tools will establish the amount of market flow contributing to the overload



What is the NERC IDC?

- Interchange Distribution Calculator (IDC)
 - Today, IDC models the Eastern Interconnection for the calculation of the transaction impacts on flowgates by establishing the Transfer Distribution Factors ("TDFs") and as necessary calculates network and native load ("NNL") impacts by establishing Generation-to-Load Distribution Factors ("GLDFs")
 - Transaction impact calculation was established to assist balancing authorities with administering the NERC TLR process.
 - The IDC calculates Network and Native Load (NNL) impacts on flowgates using infrequent updates; the accuracy of this calculation is questionable
 - With CO283, IDC models the Eastern Interconnection for the automated calculation of transaction impacts on flowgates by establishing TDFs and market flow impacts on flowgates by establishing a composite Balancing Authority GLDF
 - The market flow impact is calculated per flowgate and reported by Balancing Authority which replaces the individual generator GLDF impact reporting per flowgate
 - All changes reviewed and approved by NERC
 - OATI is the vendor chosen by NERC to administer the IDC

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Benefits of Parallel Flow Visualization

- With the Broader Regional Markets (BRM) initiative, Parallel Flow Visualization provides the NYISO the tools necessary to more fully understand the impacts and sources of parallel flows
 - For Buy-Through of Congestion
 - the Parallel Flow Visualization tool will provide the impact that transactions outside of the NYISO have on a NYISO flowgate
 - For Market-to-Market Coordination
 - the Parallel Flow Visualization tool will become the source of the Market Flow calculation as well as provide the impact of neighboring market flows on NYISO flowgates



Parallel Flow Visualization (NERC IDCWG CO283) Status

- Parallel Flow Visualization Tool
 - NERC IDCWG established the requirements in CO283
 - NERC ORS Approved CO283 requirements during its November 2009 meeting
 - Includes the requirements for a Market Flow Calculator
 - To be built by a third party vendor on behalf of NERC IDC
 - NERC ORS currently reviewing a proposal from OATI
 - NAESB to support the NERC IDCWG CO283 by
 - Establishing a standard methodology for defining Market Flow prioritization
 - Establishing standards for the calculation of firm flowgate allocations



What's Next?

- NYISO to continue to support the development of the NERC Parallel Flow Visualization tools
 - December 31, 2009 NERC to sign OATI contract
 - February 20, 2010 OATI to finalize functional requirements
 - May 1, 2010 PFV tools ready for registration
 - June 26, 2010 All RCs and BAs ready to submit updates on a 15 minute basis
 - November 1, 2010 Parallel Testing of PFV and NNL calculations begin and continue for 12 -18 months
- NYISO to continue to work with PJM on Market-to-Market Coordination concepts
 - M2M between the NYISO and PJM currently relies on the successful implementation of the Parallel Flow Visualization tools
 - *Review List of Coordinated Flowgates*
 - Establish settlement rules



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 conducts comprehensive planning for the state's bulk electricity system.



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