

# Transmission Congestion Impacts

For Discussion Purposes Only

# Transmission Congestion

- NY OATT: A characteristic of the transmission system produced by a constraint on the economic operation of the power system, such that the marginal price of Energy to serve the next increment of Load, exclusive of losses, at different locations on the transmission system is unequal.
- *In general, congestion* is the result of physical limitations of discrete transmission grid components that limits the amount of power that can flow over portions of the transmission lines without jeopardizing the reliability of the system. Ideally, the goal of "*economic dispatch*" is to supply load utilizing resources which result in the lowest overall cost. However, because system conditions can result in transmission delivery limitations into a particular location or zone in the grid, lower cost generation that is available to supply the load cannot be utilized and higher cost generation must be operated to meet the demand at that location.

# Proposed Transmission Congestion Impacts

Impact On	Description	Determination	Report
Bid production costs	Societal impact of congestion – a.k.a. the Societal Impact Test	Constrained PROBE simulation minus unconstrained PROBE	Statewide impact (change only)
Load Payments	The difference between the load payments and the unconstrained simulated load payments	Same as above including “what ifs” and normalized (all lines in)	Difference by zone & limiting element (all contingencies) and by contingency
Congestion Payments	Total, hedged, unhedged and net hedged	Same as above	Difference by zone & limiting element (all contingencies) and by contingency
Physical flows	Flow duration vs limit for key flow gates	Real time operations	As per NYISO Transmission Performance Report