OVERVIEW of TO Consensus Proposal for Cost Allocation of Regulated Reliability Solutions under the NYISO Comprehensive Reliability Planning process

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The Approach

- Intended to meet elements "a" through "k" as designated in Attach Y of the NYISO Tariff
- Intended to address the identified reliability violation(s) rather than solutions
  - Independent of the solutions selected – can be computed beforehand
  - Neutral towards different types of solutions

Cost Allocation Scenarios

Based upon type of reliability violation ...

- **Primary Scenarios**
  - **A. Capacity Deficiency resulting in NYCA LOLE violation**
  - **B. Voltage or Thermal Problems resulting in NYCA LOLE violation or transmission security violations (n-x)**
  - **C. Combination of A and B above**
- **Secondary Scenarios**
  - **Short Circuit Available Exceeds Fault Duty**
  - **Stability Problems**

(A) Cost Allocation for Resource Adequacy Violation w/o Reduced Transfer Limits

1. Forecast NYCA required IRM and associated LICAP using prevailing rules
   - If IRM/LICAP determination rules/procedures change, affected cost allocation would change accordingly
2. Sub-Zones with LICAP requirements (Localities) allocated total cost to eliminate their LICAP deficiency
   - LSEs within Localities cost allocated based on load ratio share of coincident peak load
3. Presuming elimination of LICAP deficiencies, any remaining NYCA IRM deficiency allocated to all NYCA Sub-Zones based upon load ratio share of peak coincident load
   - LSEs within Sub-Zones cost allocated based on load ratio share of coincident peak load
   - LICAP MW deficiency responsibilities assigned to Locality Sub-Zones would serve as a credit against their contribution to NYCA IRM deficiencies
4. Cost allocations for more than one LICAP and/or IRM deficiencies would take differences in Demand Curve prices into account

(B) Cost Allocation for Voltage or Thermal Reliability Criteria Violation

- If decreasing a Sub-Zone's load helps alleviate a voltage or thermal violation, that Sub-Zone is deemed to contribute to that violation.
- Cost Allocation should be determined on an impact basis (similar to using a Generator Shift Factor) which is dependent upon both load share and load location
- **Load Decrements Can Determine Relative Impact**

  Decrementing loads at various locations is a legitimate way to ascertain which and to what degree individual loads contribute to a reliability violation.

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(B) Cost Allocation for Voltage or Thermal Reliability Criteria Violation (cont'd)

Load Decrements in the context of cost allocation …

- **Loads that Contribute Proportionally More to a Violation (per MVA) Should Be Allocated Proportionately More Cost**

  A decremented load that is twice as effective (per MVA of load drop) as another decremented load in alleviating a violation should be allocated costs for the solution at a rate twice as high.

- **A Larger Load that Contributes to a Violation Equally as a Smaller Load (per MVA) Should be Allocated Proportionately More Cost**

  If two decremented loads are equally effective (per MVA of load drop) in alleviating a violation, and one load is twice as large as the other, the larger load should be cost allocated twice as much.

(B) Cost Allocation for Voltage or Thermal Reliability Criteria Violation (cont'd)

Decremented loads should be proportional to a *Sub-Zone's Net Own Load Local Real and Reactive Power Needs* defined as the Sub-Zone's Summer Peak Coincident …

a) **Gross real and reactive load (including distribution losses and rate based reactive resources co-mingled with load) excluding local generation other than load modifiers, *plus***

b) **Transmission real and reactive losses to serve local load in the same Sub-Zone, but excluding GSU (Generator Step-Up Transformer) losses; *less***

c) **TO rate based reactive power resources including:**

   i. **Sub-Zonal line charging on both local lines and bulk transfer lines**

   ii. **Sub-Zonal reactive resources such as capacitor banks, SVCs, etc.**

(B) Cost Allocation for Voltage or Thermal Reliability Criteria Violation (cont'd)

1. **Determine relative impact by decrementing loads on an MVA basis individually in each Sub-Zone to determine which Sub-Zones help alleviate the voltage or thermal limit.**
2. **Decrement loads on a percentage of a *Sub-Zone's Net Own Load Local Real and Reactive Power Needs***
3. ***Subsequently*, simultaneously decrement loads (on the same percentage basis) in all Sub-Zone's whose load decrements help alleviate the voltage or thermal violation**
4. **Determine cost allocation for this violation based on the relative proportional impact that each Sub-Zone has on alleviating the voltage or thermal violation**

(C) Cost Allocation for Combined Resource Adequacy/Reduced Transfer Limit LOLE Violation

1. Proceed with Method (B) to cost allocate load decrement needed to return transfer limits (that result in LOLE violations) to pre-RNA levels
2. If LOLE violation is not fully alleviating, proceed with Method (A) using IRM and LICAP forecast requirements and LOLE associated with …
    a) Reduced transfer limit case
    b) System with transfer limits (causing LOLE violation) returned to pre-RNA levels

(C) Cost Allocation for Combined Resource Adequacy/Reduced Transfer Limit LOLE Violation

3. **Portion attributable to reduced transfer limits =**

   $(LOLE_{Reduced} - LOLE_{Pre\text{-}RNA}) / (LOLE_{Reduced} - LOLE_{0.10})$

   This would be cost allocated on the MVA Impact Approach "B"

4. **Remaining amount for the NYCA LOLE deficiency not attributable to a transfer limit reduction would be allocated according to Approach "A"**

5. **The two separate allocations above would be combined into one overall percentage**