



MMU Comments on the 2020 Reliability Needs Assessment

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Introduction

- NYISO conducted the 2020 Reliability Needs Assessment
 - ✓ Identifies reliability needs on BPTF over 10-year period
 - ✓ Reliability needs identified by RNA may be addressed by market-based and/or regulated solutions
- Tariff requires the MMU to evaluate whether market rule changes are necessary to address a failure in NYISO's competitive markets
- The MMU posted its assessment on October 20 discussing whether market design could better address reliability needs
 - ✓ Market design should reflect planning reliability needs to provide incentives for competitive solutions when possible
 - ✓ The MMU identified deficiencies in NYISO markets that inhibit competitive response to reliability needs identified in 2020 RNA



Overview



2020 RNA Key Findings

- RNA Base Case found violations throughout 2024-2030 in NYC
 - ✓ Driven by impending Peaker Rule retirements and load growth
- Transmission Security violations on ConEd non-BPTF system
 - ✓ Astoria East / Corona 138 kV TLA deficiency: 110 MW (2023) to 180 MW (2030)
 - ✓ Greenwood / Fox Hills 138 kV TLA deficiency: 360 MW (2025) to 370 MW (2030)
- N-1-1 and N-1-1-0 violations on Con Ed 345 kV BPTF system
 - ✓ Deficiency: 700 MW (2025) to 1,075 MW (2030)
- Resource adequacy violation beginning in 2027
 - ✓ Satisfied by 100 MW (2027) to 350 MW (2030) in Zone J



Market Solutions for Reliability Needs

- NYISO market prices should help attract investment to areas with greater reliability needs
 - ✓ If they do not, RMR or regulated transmission may be needed
- Developers are evaluating potential projects across a range of locations in NYC
 - ✓ 1,590 MW of ESRs in Zone J queue in 345 kV/138 kV TLA
 - ✓ BTM solar/storage/DR earn NYISO prices through Value Stack or NYISO participation models
 - ✓ Demand-billed retail customers exposed to capacity prices
- Market design should reward these resources consistently with their contribution to reliability, including transmission security
 - ✓ However, several existing design gaps prevent this



Market Design Gaps



A) Locational Reserve Requirements

- The day-ahead and real-time markets do not reflect the need for reserves in load pockets with violations identified in the 2020 RNA
 - ✓ Out-of-market actions are taken daily to ensure sufficient reserves are available in New York City load pockets
 - ✓ Market prices undervalue resources in these areas
- The MMU has recommended enhancements to value locational reserves more efficiently
 - ✓ Compensate reserve providers that enable higher loading of transmission facilities constrained for N-1 criteria (#2016-1)
 - ✓ Model dynamic N-1-1 reserve requirements in New York City load pockets (#2017-1 and #2015-16)



B) ICAP Accreditation Large Contingency Units

- Individual large generators in constrained areas sometimes provide less reliability value than smaller units
 - ✓ Lines must be secured against largest contingencies
 - ✓ Large unit more likely to be lost at once than many small units
- Ravenswood 3 (989 MW) is primary or secondary contingency for most BPTF N-1-1 and N-1-1-0 contingencies in 2020 RNA
 - ✓ If these MWs were not all part of one contingency, BPTF reliability need would fall by approximately 215 MW in NYC
- Capacity value of large-contingency units should be discounted accordingly
 - ✓ This will be addressed by a recommendation in the 2020 SOM Report



B) ICAP Accreditation SCRs

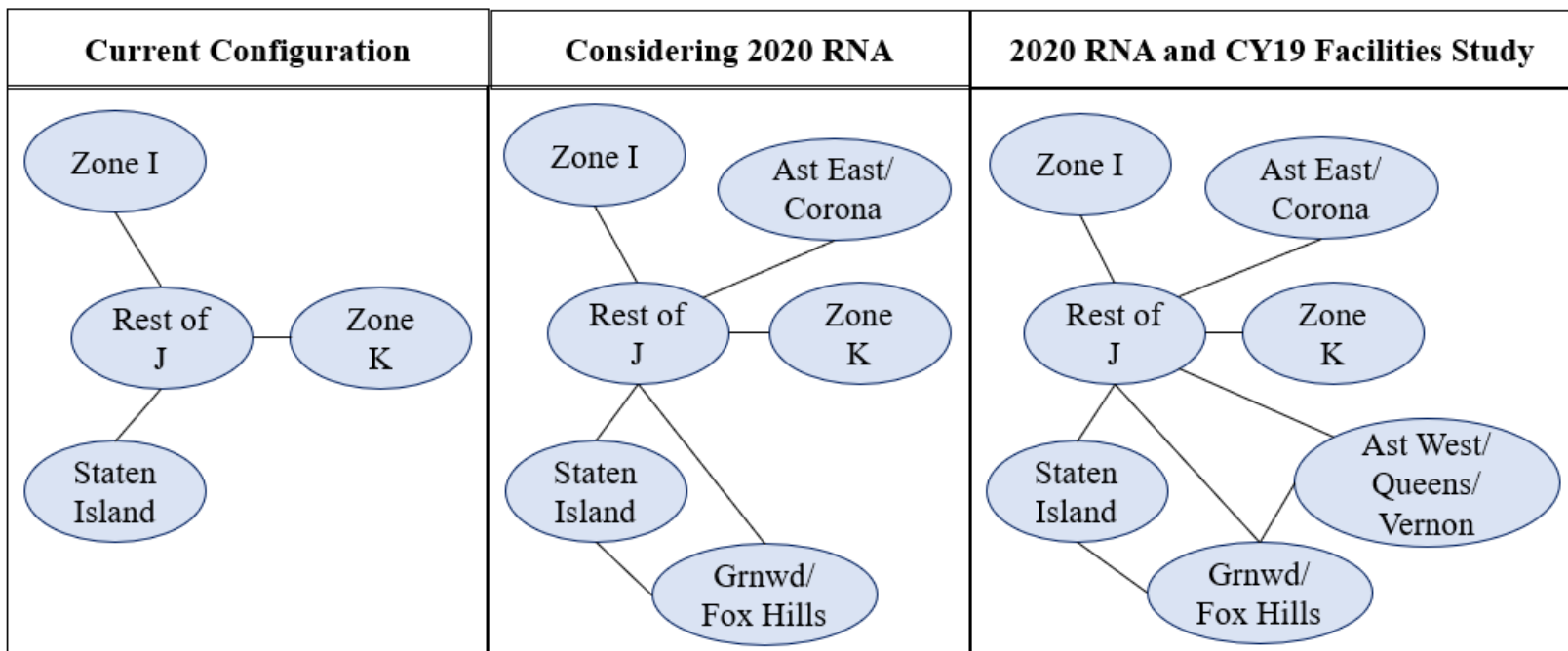
- Special Case Resources (SCRs) are assumed to provide 0 MW of relief in the transmission security analysis
 - ✓ However, SCRs are paid the full price for capacity
- The 476 MW of SCRs in Zone J do not contribute towards satisfying the transmission security needs in the 2020 RNA
 - ✓ Thus, prices will not encourage investment needed for transmission security
 - ✓ This may lead to out-of-market investment to satisfy reliability
- Capacity market credit of SCRs should be modified to be consistent with their planning reliability value
 - ✓ This may encourage some SCRs to register as DERs
 - ✓ This will be addressed by a 2020 SOM recommendation



C) Locational Value of Capacity

- 2020 RNA shows bottlenecks within the NYC capacity zone
 - ✓ Astoria E / Corona 138 kV and Greenwood / Fox Hills 138 kV load pockets
 - ✓ Staten Island to rest-of-NYC bottlenecks
- Current capacity market does not reflect constraints within zones
 - ✓ Projects lack incentive to locate in NYC load pockets
 - ✓ Projects in Staten Island and NYC 345 kV system not deliverable in Class Year studies, assigned large upgrade costs
 - ✓ Existing Staten Island capacity is over-compensated
- Locational marginal price of capacity (C-LMP) would send price signal for value of capacity at each location (see SOM Recommendation #2013-1c)

C) Locational Value of Capacity



- 2020 RNA and Class Year 2019 SUF/SDU study imply the value of capacity varies widely
- C-LMP can be implemented to align capacity pricing with reliability value



Conclusion



Conclusion

- Current NYISO market design is not aligned with transmission security planning and may drive the need for RMR or regulated transmission to address needs identified in 2020 RNA
- Recommendations:
 - ✓ Align reserve markets with transmission security (SOM Recommendations #2016-1, #2017-1, and #2015-6)
 - ✓ Align capacity accreditation rules with reliability studies, including for large units and SCRs (forthcoming #2020-1)
 - ✓ Implement C-LMP framework to represent locational value in capacity market (Recommendation #2013-1c)
- Implementation of these recommendations would likely reduce or eliminate the need for out-of-market investment