Assumptions Matrix:Transmission Security for 2024 Reliability Needs Assessment ("RNA")

Parameter	2022 RNA Transmission Security Studies Modeling Assumptions	2022 Source	2024 RNA Transmission Security Studies Modeling Assumptions	2024 Source
Criteria	The criteria for transmission security determination are based on a deterministic approach, which must meet the reliability requirements defined by NERC, NPCC, and NYSRC. The applicable design criteria can be found in the NYSRC Reliability Rules, the NPCC Directory 1, the NERC TPL-001 and other relevant standards.	NYISO RPP Manual	The criteria for transmission security determination are based on a deterministic approach, which must meet the reliability requirements defined by NERC, NPCC, and NYSRC. The applicable design criteria can be found in the NYSRC Reliability Rules, the NPCC Directory 1, the NERC TPL-001 and other relevant standards. Consideration will be given to NYSRC Proposed Reliability Rules 153a and 154a, which are expected to become effective during the RNA.	NYISO RPP Manual
Load Forecast	The 2022 Gold Book publishes the baseline coincident peak load forecasts (summer and winter) including the impact (reduction) of behind-the-meter (BtM) generation (solar, non-solar, and storage adjustments) at the time of NYCA peak as well as energy efficiency and codes & standards. The midday light load forecast utilizes the BtM solar generation from the 2022 Gold Book Table 1-9d and includes expected load during the midday light load hour.	2022 Gold Book	No Change in methodology from 2022	2024 Gold Book
Load Model	ConEd: voltage varying	2022 FERC 715 filing	No Change from 2022	2024 FERC 715 filing
	Rest of NYCA: constant power		No Change from 2022	
System Representation	Per updates received through the annual database update process (subject to RNA Base Case inclusion rules)	NYISO RAD Manual, 2022 FERC 715 filing	No Change from 2022	NYISO RAD Manual, 2024 FERC 715 filing
Inter-area Interchange Schedules	Consistent with ERAG MMWG interchange schedule	2022 FERC 715 filing, MMWG	Consistent with ERAG MMWG interchange schedule to the extent possible. However, Hydro Quebec to New York interchange for the winter period will be 0 MW.	2024 FERC 715 filing, MMWG
Inter-area Controllable Tie Schedules	Consistent with applicable tariffs and known firm contracts or rights	2022 FERC 715 filing	No Change from 2022	2024 FERC 715 filing
NYC Series Reactors	Consistent with Con Edison series reactor status in their 2021 Local Transmission Plan update presented at the November 19, 2021 ESPWG/TPAS [here]. 2021-2023 Series Reactor Status • 71, 72, M51, M52 are bypassed • 41, 42, Y49 are in-service Post-2023 Series Reactor Status • 71, 72, M51, M52 are in service	2022 FERC 715 filing, Con Edison protocol	No Change from 2022	2024 FERC 715 filing, Con Edison protocol

Parameter	2022 RNA Transmission Security Studies Modeling Assumptions	2022 Source	2024 RNA Transmission Security Studies Modeling Assumptions	2024 Source
	• 41, 42, Y49 are bypassed			
SVCs, FACTS	Set at zero pre-contingency; allowed to adjust post-contingency	NYISO T&D Manual	No Change from 2022	NYISO T&D Manual
Transformer & PAR taps	Taps allowed to adjust pre-contingency; fixed post-contingency	2022 FERC 715 filing	No Change from 2022	2024 FERC 715 filing
Switched Shunts	Allowed to adjust pre-contingency; fixed post-contingency	2022 FERC 715 filing	No Change from 2022	2024 FERC 715 filing
Fault Current analysis settings	Per Fault Current Assessment Guideline	NYISO Fault Current Assessment Guideline	No Change from 2022	NYISO Fault Current Assessment Guideline
Thermal Generation (includes fossil and nuclear) Unavailability	The impact of thermal generation unavailability is captured in the transmission security margin calculations (aka "tipping points") and incorporates the NERC five-year class-average forced outage rate values (EFORd).	NERC Generating Unit Statistical Brochures, most recently available Brochure 4 [here]. Reference May 5, 2022 TPAS/ESPWG meeting materials [here] and May 23, 2022 ESPWG meeting materials [here].	The impact of thermal generation unavailability is captured in the transmission security margin calculations (aka "tipping points") and incorporates the NERC five-year class-average forced outage rate values (EFORd). Consideration will be given to NYSRC Proposed Reliability Rules 153a and 154a, which are expected to become effective during the RNA.	NERC Generating Unit Statistical Brochures, most recently available Brochure 4 [here]. Reference May 5, 2022 TPAS/ESPWG meeting materials [here] and May 23, 2022 ESPWG meeting materials [here]. Reference January 23, 2024 ESPWG meeting materials [here] and March 1, 2024 ESPWG/TPAS meeting materials [here].
Wind Generation	Dispatch land-based wind (LBW) generation and off-shore wind (OSW) generation to the following percentage of nameplate capacity: LBW • Summer 5% • Winter 10% • Light load 10% OSW • Summer 10% • Winter 15% • Light load 15%	Reference May 5, 2022 TPAS/ESPWG meeting materials [here] and May 23, 2022 ESPWG meeting materials [here].	Dispatch land-based wind (LBW) generation and off-shore wind (OSW) generation to the following percentage of nameplate capacity: LBW • Summer 5% • Winter 15% • Light load 10% OSW • Summer 10% • Winter 20% • Light load 15%	Reference May 5, 2022 TPAS/ESPWG meeting materials [here] and May 23, 2022 ESPWG meeting materials [here].

Parameter	2022 RNA Transmission Security Studies Modeling Assumptions	2022 Source	2024 RNA Transmission Security Studies Modeling Assumptions	2024 Source
Solar Generation	BtM solar reductions in load forecast are included in the Gold Book (Table I-9d) along with nameplate capacity (Table I-9a). Utility-scale solar resources are dispatched at the same factor as the BtM solar resources for a given transmission security case.	Reference May 5, 2022 TPAS/ESPWG meeting materials [here] and May 23, 2022 ESPWG meeting materials [here].	No Change from 2022	Reference May 5, 2022 TPAS/ESPWG meeting materials [here] and May 23, 2022 ESPWG meeting materials [here].
Hydro Generation	Large hydro and pumped storage are dispatchable up to the stated seasonal capabilities published in the Gold Book. Run-of-river hydro are fixed at their 5-year average based on GADS data (roughly 50% of the capability stated in the Gold Book).	Reference May 5, 2022 TPAS/ESPWG meeting materials [here] and May 23, 2022 ESPWG meeting materials [here].	Large hydro and pumped storage are dispatchable up to the stated seasonal capabilities published in the Gold Book. Run-of-river hydro units are fixed at their 5-year average based on GADS data for production during specific peak or light load hours. Dispatches are roughly the following percentage of the capability stated in the Gold Book: • Summer 40% • Winter 60% • Light load 55%	Reference May 5, 2022 TPAS/ESPWG meeting materials [here] and May 23, 2022 ESPWG meeting materials [here].
Battery Storage	As the starting point in transmission security analysis utility-scale battery storage resources are modeled at 0 MW output. If a potential transmission security violation is observed, post-processing analysis is performed to understand the nature of the need and how the characteristics of the battery storage resources may address the need. BtM storage resources are netted with load consistent with the forecasts published in the Gold Book.	2022 Gold Book Reference May 5, 2022 TPAS/ESPWG meeting materials [here] and May 23, 2022 ESPWG meeting materials [here].	No Change from 2022	2024 Gold Book Reference May 5, 2022 TPAS/ESPWG meeting materials [here] and May 23, 2022 ESPWG meeting materials [here].