

## PJM - ConEd Wheel Cancellation Modeling Assumption

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The PJM - ConEd Wheel (Wheel) modeling assumption was developed based on the following points and study results:

1. There are no new operating agreements or specific scheduling ability on the PAR controlled circuit paths impacted by the cancellation of the Wheel (A, B, and C lines and J and K lines, aka A/B/C and J/K). Without these agreements, there are no defined rights to the use of these paths for the flow of emergency assistance(EA) either to or from PJM. In addition, there are also no rights for other use of these paths for the looping of emergency assistance. However, realistically, some assistance will flow over these PAR controlled paths during the scheduling of emergency assistance under present operating agreements. This would occur when tap changes are not implemented when the EA is scheduled, as the flow would distribute over these paths per the impedance of the network.
2. There are no changes to the scheduling ability of the Neptune, VFT, or HTP paths since they are not impacted by the cancellation and they have proxy buses already defined for scheduling.
3. Using a power flow analysis, distribution factors were determined for these impacted circuited paths and other free flowing lines comprising the PJM to NY interface. Based on this, approximately 68 % of the emergency assistance from PJM to NY would distribute over these three PAR controlled interfaces with the individual distribution being roughly 28% for the 5018 line, 20% for the J & K lines, and 20% for the A, B, & C lines. These values are subject to change, but provide a starting point for the IRM and RNA studies.
  - a. The PJM to NY interface has provided for a total of up to 1000 MW of EA delivery based on the observations in the MARS simulations in recent years. These distributions factors were applied to the 1000 MW total to establish the individual limits for these three circuit paths.
  - b. However, The J &K lines have physical constraints within PJM for sending power to NY. Although it is possible to get 200 MW (20% \* 1000 MW) from PJM to Zone G over the J/K lines, it isn't likely, but it is likely that the 5018 line can transfer the full 480 MW (20% for J/K plus 28% for 5018 line). Therefore a 480 MW grouping was placed on the 5018 plus J/K lines.
  - c. Without the contract wheel, up to 1000 MW more will flow from and through Zone G to Zone J, which will put more pressure on the internal Zone J circuits. With that, the NYCA system cannot simultaneously support import over A/B/C lines for more than 200 MW; nor does it support exporting from Zone J to PJM over the A/B/C lines.
4. Without the contract, no power will be scheduled for delivery from Zone G to PJM. Without the injection of 1000 MW from Zone G to PJM, the PJM system cannot provide full emergency assistance for more than what NYCA has been receiving over the past years.
5. The A line plus VFT was split because phase 2 of TOTS (forced cooling refrigeration plants in order to increase transmission capacity over four 345kV feeders) was cancelled concurrent with the PSEG/ConEd wheel cancellation. In order to model this fact, the combination of the A/B/C lines makes more sense as the VFT is no longer physically bottled, as reported by Con Edison. The rating on the VFT pipe is based on the capability of the VFT.
6. Without a contract and the requirement for a wheel balance, the J2 bubble is no longer needed. Any flows across the J/K lines into PJM are independent of the flows into NY from PJM and all the transactions occur within the PJM East bubble.