

Subsequent to the subregional stakeholder modeling reviews facilitated by PJM, PJM will develop the final set of reliability assumptions to be presented to TEAC for review and comment, after which PJM will finalize the reliability review reference power flow. This model is expected to be available in early January of each year to interested stakeholders, subject to applicable confidentiality and CEII requirements, to facilitate their review of the results of the reliability modeling analyses.

### **2.3.4a Contingency Definitions**

Contingency definitions used in RTEP analysis are the same as applicable NERC TPL contingency definitions. Where the physical design of connections or breaker arrangements results in the outage of more than the faulted equipment when a fault is cleared, the additional facilities were also outaged in the contingency definition. For example, if a transformer is tapped off a line without a breaker, both the line and transformer are removed from service as a single contingency event.

Contingency definitions for tower outages shall include any two or more adjacent (vertically or horizontally) circuits on a common structure but shall exclude circuits that share a common structure or common Right-of-Way for one mile or less. The number of circuits on the common structure may change the classification of the event from a planning to an extreme event.

### **2.3.5 Baseline Thermal Analysis**

Baseline thermal analysis is a thorough analysis of the reference power flow to ensure thermal adequacy based on normal (applicable to system normal conditions prior to contingencies) and emergency (applicable after the occurrence of a contingency) ratings specific to the Transmission Owner facilities being examined. It is based on a 50/50 load forecast from the latest available PJM Load Forecast Report (50% probability that the actual load is higher or lower than the projected load.) It encompasses an exhaustive analysis of all NERC category A, B and C events and the most critical common mode outages. Final results are supported with AC power flow solutions.

For normal conditions, all facilities shall be loaded within their normal ratings. After each single contingency, all control equipment is allowed to adjust. After the first contingency of a multiple-contingency event (NERC category C.3, also referred to as an “N-1-1” event,) all system adjustments are made to achieve a new steady state power flow, including redispatch in preparation for the next contingency. Subsequent to redispatch all facilities must be within normal ratings. After the second contingency of the pair the technique for single contingencies is followed except that phase shifters are locked and do not adjust to hold flow. All violations of emergency ratings are recorded and reported and tentative solutions will be developed. These study results will be presented to and reviewed with stakeholders.

### **2.3.6 Baseline Voltage Analysis**

Baseline voltage analysis parallels the thermal analysis. It uses the same power flow and examines all the same NERC category A, B, and C events. Also, voltage criteria are