

Transmission Rates Workshop Follow-Up – “COSA Questions”

Following the [April 26 Transmission Rates Workshop](#), Northern Wasco County People’s Utility District submitted the following questions:

Question from Northern Wasco County People’s Utility District

Did I hear correctly on the phone that transmission planning assumes non-coincidental peak loads in the powerflow planning models? I have a few clarification questions:

- 1) Are the non-coincidental peaks seasonally differentiated? I presume that in the case data preparation process summer peak loads on some busses would not be included with a winter peak loads on other busses.
- 2) Are two basecases (heavy and light) prepared for each season (summer, fall, winter, spring)? Please provide the case description for the set of cases covering all seasons for the planning horizon used for capital project planning.
- 3) Are additional cases prepared for extra heavy load periods? If so, how are they described.
- 4) Are extra heavy load events considered to be a system contingency? Please describe what additional contingencies are studied in these cases and whether Remedial Action Schemes (RAS) or special protection systems are commonly used to address these events.
- 5) Is there a NERC or WECC standard or guideline (e.g. WECC Data Preparation Manual, basecase definitions document) that describes the process for considering load diversity and coincident versus non-coincident load modeling? Can BPA provide a copy of these definitions and cite the relevant sections on dealing with load diversity?
- 6) Load diversity is an important consideration in planning and in actual system operations. Is there a process for reconciling to total system load after eliminating diversity by using non-coincident peak load assumptions in planning models?

BPA’s Response

The range of seasons and conditions that may be studied are winter, summer, and spring; peak and off-peak loads. The peaks are seasonally differentiated.

Planning studies typically focus on the most critical season and load level depending on the particular area being studied. For example, cases with winter peak loads are used to study areas where loads are historically highest in winter. For other parts of the system where summer and winter peak loads are close in magnitude, then winter and summer basecases with peak load conditions are used for studies to cover both conditions. Even if load amounts are similar, one season may be more limiting than another due to changes in generation dispatch or facility ratings. We don’t create light load cases for each of the corresponding peak load cases. Light load cases are created as needed to address certain system operating conditions which may be more limiting, such as a spring run-off scenario when loads are typically lighter.

In some cases, extra heavy load conditions are simulated and these are described as loads with a 1 in 20 year probability of occurrence.



Extra heavy load conditions are not considered a contingency. In Planning, the term "contingency" is typically used in reference to outages being studied. BPA typically studies the outage of a 500 kV transmission line, transformer, or generator as a single contingency to evaluate performance under extra heavy load conditions. Selected common mode contingencies may also be studied, under heavy load conditions, such as a circuit breaker failure.

The NERC Reliability Planning Standards (TPL-001, 002, 003, and 004) specify that the interconnected transmission system should be planned such that the Network can be operated to supply projected customer demands and projected Firm (non-recallable reserved) Transmission Services, at all demand levels over the range of forecast system demands. These Planning Standards are available on the NERC website.

As for question 6, more clarification is needed for BPA to answer this.