

Below are comments to the draft transmission line standards for designated entities that were presented to the Planning Committee on Thursday. Our impression is the substation and protection standards are still a work in progress and, as such, we haven't reviewed those yet. Please let us know when they are to a point where we can review and provide comments. We are also open for a discussion on these comments if that would be helpful.

Section 1.0/2.0 (Purpose/Scope)

A general concern is these standards are applied only to designated entities (e.g. greenfield solutions) and not to transmission owner upgrades. We wouldn't want a situation where a greenfield project is disadvantaged relative to a transmission owner upgrade due to more stringent design standards. We would suggest adding some language to the Purpose/Scope such as:

"The intent of these design standards is to capture standards commonly used by all existing PJM transmission owners. While these minimum design standards do not apply to projects outside of the PJM competitive process, it is expected that all PJM transmission owners design consistent with these standards."

Section 5.1.1.1 (NESC Loading)

This section should indicate the following, "The load factors shall be in accordance with NESC Rule 253."

Section 5.1.2 (Extreme Wind) and Section 5.1.3 (Concurrent Ice With Wind)

These sections identify a 100 year return period and Load Factor minimum of 1.0 – these two statements are inconsistent. A 100 year return period would necessitate a minimum Load Factor greater than 1.0. Typical utility practice would be to design to a 50 year return period, which corresponds to the identified Load Factor minimum of 1.0. As such, we would suggest replacing the 100 year return period with a 50 year return period.

Section 5.1.6.1 (Bound Stringing Block)

This section appears to indicate that the Bound Stringing Block loads are only applied to voltages over 230kV. Was it the intent that this load case be applied to voltages equal to or greater than 230kV?

Section 5.1.7 (Foundation Loading)

Instead of stating "a minimum of 1.0.", the text should read, "as identified in Section 5.1.1 through 5.1.6."

Section 5.2.1 (Strength Design Standards & Guides)

Need to add "National Electric Safety Code". The NESC defines material strength factors for transmission line hardware, insulators, foundations, guy wires etc.

This section references "ACI 318 Building Code Requirements for Structural Concrete and Commentary". This should be removed as it is not applicable to typical foundations for transmission lines – see Section 1.4 of ACI 318 (Applicability) and more specifically Section 1.4.6.

Section 5.2.2 (Line Cascading Mitigation)

This section appears to indicate that Section 5.1.5 will not apply if an anti-cascading structure is used every 5 miles. If this is the case, please clarify Section 5.1.5 to address this point (i.e. add a statement in Section 5.1.5 that it does not apply if anti-cascading structure is used every 5 miles in accordance with Section 5.2.2).

It also may be helpful to clarify anti-cascading structure loads. Leaving it up to the bidder to define which weather cases to consider would create a high level of variability in structure performance between bidders.