

ASCE Standard for Structures Supporting Overhead Power Lines & Telecommunications Infrastructure

Key Highlights

- The American Society of Civil Engineers is starting an effort to write a Design Standard for overhead utility structures including distribution.
- Methods included are likely to make use of existing ASCE wind and ice loading maps, which call for extreme wind and/or ice regardless of structure height.
- The effect of the Standard could ultimately be to supersede the NESC District Loading rule 250B and require all distribution structures to be built to existing transmission standards.
- Cooperatives are encouraged to participate in this effort with their own staff representation, through their G&T, and/or through NRECA, to ensure sufficient representation of distribution engineering.

What has changed?

The American Society of Civil Engineers (ASCE), through the Structural Engineering Institute, is initiating an effort to write a Design Standard for overhead utility structures: [ASCE Design Standard - Call for Members](#).

This appears to be another part of an ongoing effort by ASCE to override the NESC 60' exclusion, which has exempted most distribution lines from extreme ice and wind loading requirements for many years. There is currently no design standard that can be referenced which calls for this. One of the goals of this new/revised design standard will be to require distribution facilities to meet ice and wind loading requirements, so that the stricter standard can be incorporated into future editions of the NESC. ASCE seems to suggest that FEMA and other state and federal agencies continue to request a design standard following major weather-related outages and they are simply responding to a need.

Use of the NESC (a safety code) as a *de facto* design standard by some utilities is seen as the culprit. ASCE seeks to address the lack of a design standard, which is commendable; the manner in which ASCE is doing it seems questionable to those more familiar with distribution. This presents an opportunity for some who do not necessarily see the larger resilience picture for distribution to add structural purity to the line design process for distribution. In ASCE's view, the current status of structural standards is "woefully inadequate" as it stands (see background information provided in the [link](#)). Other proven methods of providing resilience,

such as line and ROW maintenance, mutual aid agreements, material stocking, line routing, etc., are not likely to be included in this effort.

What is the impact on electric cooperatives?

If this effort results in an ANSI approved design standard, utility system owners may be required to alter their own design standards to conform to this new standard. In many cases, this may mean that utilities could not rely on ANSI Standard C2 – National Electrical Safety Code as their minimum design limit. The end result would likely be additional costs incurred by the utilities. It may also impact who might be “qualified” to engineer such structures.

The NESC presents itself as a Safety Code, not a Design Code. However, due to a lack of a uniform design standard, the NESC has been treated as a design standard by many in our industry. Please read the text provided by ASCE as to the rationale for the proposed design standard. It emphasizes the structural engineering community’s perceptions of reliability and resiliency, and reference to ASCE Standards and Design Guides such as ASCE 7.

What do cooperatives need to know or do about it?

Co-ops should consider participation in this effort either with their own staff representation, or through their G&T, and/or through NRECA. To do so, visit the ASCE membership website: [Join ASCE](#). You will need to add the “Structural Engineering Institute” to your membership. The application and instructions for joining the Working Group are included within the [ASCE Design Standard - Call for Members](#). You need to be an ASCE member to be considered for the Working Group. We encourage any concerned members to join ASCE and their Structural Engineering Institute, so they can apply to join the Working Group.

The biggest concern at this point is having sufficient distribution engineering representation on this committee. The transmission engineering community will likely be well represented with consultants and the investor owned utilities (IOUs). This may not be the case for distribution cooperatives representing the majority of the facilities that are classified as distribution structures.

Additional Resources

- [ANSI C2-2017 National Electrical Safety Code](#) (NESC)

Contact for Questions

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