

Guide to Strength Loss of Tubular Steel Poles

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Foreword

There are an estimated 900,000 electric utility steel transmission and distribution structures in North America alone. An increasing number of these structures are tubular steel poles. The degradation effects of corrosion can have a significant effect on the structural reliability of this important segment of our infrastructure. While the predictability of strength for a newly installed tubular steel pole is relatively easy to calculate, deterioration of these poles over time due to corrosion presents a different challenge to those calculations.

This standard is intended for use by electric utility personnel, contractors, inspectors, and those interested in the impact of corrosion on the needed strength capacity of a tubular steel pole structure used in transmission, distribution, and/or substation applications.

Scope

This standard provides guidance and a methodology to determine strength loss due to corrosion on a tubular steel pole. It allows informed, cost and risk-based decisions on the primary actionable asset management options available.

Rationale

Prior to the publication of this standard, no industry practice existed to help electric utility personnel evaluate the strength loss of an installed tubular steel pole from the effects of corrosion.

Referenced Standards and Other Consensus Documents

The latest edition, revision, or amendment of the referenced documents in effect shall govern unless otherwise dated.

AMPP/NACE/SSPC, www.ampp.org:

NACE SP0415/IEEE Standard 1895

Below Grade Inspection and Assessment of Corrosion on Steel Transmission, Distribution, and Substation Structures

ASCE/Structural Engineering Institute (SEI), www.asce.org:

ASCE/SEI Standard 48

Design of Steel Transmission Pole Structures

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