PJM DEDSTF Lines Sub-group

Environmental/General

Ambient Temperature Range

No mention in the NESC. The PJM TSDS Guidelines state (-30 C to + 40 C, from -40 CN&W of Blue Mountain)

Status: validate closed

Keranuic Level

PJM TSDS = 40.

Conversation at 4/14/16 meeting centered around viability of this parameter as there is better data available as described below:

The **keraunic number** is a system to describe lightning activity in an area based upon the audible detection of thunder. It is defined as the average number of days per year when thunder can be heard in a given area, and the likelihood thereby of a thunderstorm. An isokeraunic map plots contours of equal keraunic number. The keraunic number has been used to set standards for safe design of electrical systems in structures connected to the local power grid.

Before technology was developed to accurately detect and record lightning flashes, keraunic measurements were the standard means to assess the probability of lightning at a location. However, a keraunic number does not distinguish between forms of lightning, such as cloud-to-cloud, or cloud-to-ground, and is limited by the requirement for the thunder to be audibly detected. For these reasons, the keraunic number has been replaced by more accurate Flash Density maps, which collect data from both ground-based and satellite lightning detectors.

Status – Use software based programs such as TFlash which utilize flash density data to model performance.

Minimum Extreme Wind Loading

NESC and PJM TSDS recommend NESC 250C WIND MAP

Status: Still in discussion

Heavy Ice Load (No Wind)
NESC = 1"
PJM TSDS = as required by the TO

Status = there was discussion regarding the use of other values in specific geographic areas – especially mountainous terrain. The sub – group will need to discuss how to address capturing the incumbent TO knowledge in these instances. to de discussed at 5-16-16 mtg.

Code Requirements
NESC = NESC Grade "B" Heavy
PJM TSDS = NESC Grade "B" Heavy

Status = accepted

Provisions for Live Line Maintenance
NECS = NESC Rule 441

PJM TSDS = as required by the TO

Status = following discussion there was a recommendation that all new overhead line construction shall be live line compatible. However, additional discussion is needed to identify what should be included in the standard.

Access Requirements

Line crossings

Line cascade mitigation

Structure Finish