

# Highlights of Termination Selection Guide, P-1637

By  
Bill Taylor

# Agenda

- Update Status of Guide
- Briefly Discuss What is Covered in Guide
- Discuss Topics for Next Revision of Guide
- Summary

# Status of Guide

- Was approved by IEEE RevCom at January meeting
- IEEE is now doing final editing of document and preparing for publication
- It will be published later this year

# Guide

- Guide has 11 sections, of which first three are the overview, references and definitions
- We briefly touch on each of the other sections

# Section 4. Termination

- This section is divided into two parts.
- The first part discusses termination theory and how different types of terminations control the electrical stress created by ending the cable insulation shield
- Stress plots are provided to aid in this explanation

# Section 4. Termination - continued

- Second section, 4.2, discusses the parts of a termination
- Four parts are discussed
  - The environmental seal
  - The lug, discusses the different types
  - The electrical stress control component
  - The outer track resistant housing

# Section 5. Mounting

- This section addresses three different categories
  - 5.1 Riser pole mounting
  - 5.2 Structure mounting
  - 5.3 Enclosures
- Each section goes into specific detail about some of the requirements to consider

# Section 6. Operating Environment

- This section is also divided into four different subsections
  - 6.1 Indoor terminations
  - 6.2 Outdoor terminations
  - 6.3 Highly contaminated areas
  - 6.4 Radiation exposure

# Section 7. Sizing

- This section lists the items that need to be considered when selecting the correct size of termination, such as voltage, conductor size, type of shielding, etc.

# Section 8 – Cable Preparation

- This section just states the importance of cable preparation to ensure the long term reliable performance of the termination.
- We'll reference the cable preparation guide in the next revision, once that guide is released.

# Section 9 - Grounding

- This section is divided into three subsections of things to consider when grounding terminations
  - 9.1 Shield type
  - 9.2 Fault current
  - 9.3 Special features

# Section 10 – Termination Types

- This section is divided into five areas:
  - 10.1 Tape terminations
    - 10.1.1 High dielectric constant tapes
    - 10.1.2 Geometric taped stress cone
  - 10.2 Cold shrink terminations
  - 10.3 Porcelain terminations
  - 10.4 Heat shrink terminations
    - 10.4.1 Stress relief filler & stress relief tube
    - 10.4.2 Integrated stress relief
  - 10.5 Force fit slip on molded terminations

# Section 11 – Summary of Selecting a Termination

- Contains a selection flow chart that can be followed to select a termination for the application

# Future Topics/Items to Consider Adding to Guide During Next Revision

- Many of these recommendations for additions or changes came from the balloting process
- Some of these should definitely be incorporated, but some will have to be discussed to see if they should be added

# Possible Additions to the Guide

- Cutaway drawing of a termination on a cable showing the areas discussed in section 4
- Add a section on contamination requirements for a nuclear power plant
- Add information on inverted terminations
- Add pictures of the different types of terminations

# Possible Additions to the Guide - continued

- Add information that sometimes outdoor terminations are used indoors where extra creepage distance is required
- Review special grounding considerations

# Summary

- Guide will be published later this year
- We'll continue discussing what should be included on the next revisions to the guide