P1863

Submitter Email: xiaogang-wang@sgcc.com.cn
Type of Project: New IEEE Standard
PAR Request Date: 24-Oct-2014
PAR Approval Date: 26-Mar-2015
PAR Expiration Date: 31-Dec-2019
Status: PAR for a New IEEE Standard

1.1 Project Number: P1863
1.2 Type of Document: Guide
1.3 Life Cycle: Full Use

2.1 Title: Guide for Overhead AC Transmission Line Design

3.1 Working Group: Overhead AC Tranmission Line Design (BOG/CAG/AC_LineDesign)
Contact Information for Working Group Chair
Name: Jun Yuan
Email Address: jun-yuan@sgcc.com.cn
Phone: 86-10-66597731
Contact Information for Working Group Vice-Chair
None

3.2 Sponsoring Society and Committee: IEEE-SA Board of Governors/Corporate Advisory Group (BOG/CAG)
Contact Information for Sponsor Chair
Name: Philip Wennblom
Email Address: philip.c.wennblom@intel.com
Phone: 408-765-4437
Contact Information for Standards Representative
None

4.1 Type of Ballot: Entity
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 04/2017
4.3 Projected Completion Date for Submittal to RevCom: 12/2017

5.1 Approximate number of entities expected to be actively involved in the development of this project: 4
5.2 Scope: This guide applies to three-phase overhead AC transmission line (110 - 1000 kV) design, construction, and it can be used for other voltage levels as reference. This guide specifies the overhead transmission line conductors and lightning conductors, insulators and fittings, insulation coordination, lightning protection and grounding, conductor arrangement, tower types, tower loads and materials, tower structure, tower foundation design, line-to-ground distance, and methods and procedures for line crossing.

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: On the basis of operation security and economic rationality, this guide recommends three-phase overhead AC transmission lines design methods and associated calculation methods, and the basic principle of design has been put forward.

5.5 Need for the Project: This guide is required for the design and construction of overhead AC transmission line. It has referred to related standards, research results, and the engineering experience of AC transmission line projects all around the world, including the research conclusions in China and engineering design experience of UHV AC transmission pilot demonstration projects. Also, the guide can help designers for OHL engineering in practice, and guide the later research direction.

5.6 Stakeholders for the Standard: Electric utilities, energy services companies, providers of AC transmission equipment and services.

Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

7.1 Are there other standards or projects with a similar scope?: No
7.2 Joint Development
Is it the intent to develop this document jointly with another organization?: No

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8.1 Additional Explanatory Notes (Item Number and Explanation): Reference Standard:
1) IEEE Guide for Transmission Structure Foundation Design and Testing (IEEE 691)
2) IEEE Guide for Determining the Effects of High-Temperature Operation on Conductors CConnectors, and Accessories (IEEE 1283)
3) IEEE Guide for Installation CMaintenance and Operation of Irrigation Equipment Located Near or Under Power Lines (IEEE 1542)
4) Guide for Reducing Bird-related Outages (IEEE 1651)
5) IEEE Guide for the Preparation of a Transmission Line Design Criteria Document (IEEE 1724)
6) Standard for Below-Grade Inspection and Assessment of Corrosion on Steel Transmission, Distribution, and Substation Structures (IEEE 1895)
7) Guide on the Selection of Transmission and Distribution Insulators with Respect to Cold Weather Conditions (IEEE P1820)
8) Approved Draft of Proposed NACE/IEEE Joint Standard for Atmospheric (Above-Grade) Corrosion Control of Existing Electric Transmission, Distribution, and Substation Structures by Coating Systems(IEEE P1835)
9) Code for Design of 110kV `750kV Overhead Transmission Line (GB 50545), China
10) Code for Design of 1000kV Overhead Transmission Line (GB 50665), China
11) Design Criteria of Overhead Transmission Lines (IEC 60826)