

P2778

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Type of Project: New IEEE Standard

PAR Request Date: 23-Jul-2017

PAR Approval Date: 28-Sep-2017

PAR Expiration Date: 31-Dec-2021

Status: PAR for a New IEEE Standard

1.1 Project Number: P2778

1.2 Type of Document: Guide

1.3 Life Cycle: Full Use

2.1 Title: Guide for Solar Power Plant Grounding for Personnel Protection

3.1 Working Group: Wind and Solar Plant Collector Design Working Group (PE/ED&PG/WSPPCD)

Contact Information for Working Group Chair

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None

3.2 Sponsoring Society and Committee: IEEE Power and Energy Society/Energy Development & Power Generation (PE/ED&PG)

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4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 08/2019

4.3 Projected Completion Date for Submittal to RevCom

Note: Usual minimum time between initial sponsor ballot and submission to Revcom is 6 months.: 02/2020

5.1 Approximate number of people expected to be actively involved in the development of this project: 25

5.2 Scope: This guide is primarily concerned with the grounding system design for photovoltaic solar power plants that are utility owned and/or utility scale (5 MW or greater). The focus of the guide is on differences in practices from substation grounding as provided in IEEE Std 80.

This guide is not intended for the substations to interconnect the plant; however if the substation is included within the plant, portions of this guide may be applicable. Similarly, this guide does not directly cover small scale solar power plants (such as rooftop type systems), substation grounding, or lightning.

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: The intent of this guide is to provide guidance and information pertinent to the grounding practices in solar power plants for personnel protection, specifically to identify differences between substation grounding (covered under IEEE Std 80) and solar power plants. This guide is primarily concerned with safe grounding practices within solar power plants for 50 Hz or 60 Hz systems.

5.5 Need for the Project: Solar power plants cover areas as large as dozens of square kilometers. The approaches presented in IEEE Std 80 for substations do not always directly to these much larger facilities. In the US, the NEC specifically excludes plants 5 MW and greater and the NESC (IEEE C2) does not provide significant guidance for plant design.

5.6 Stakeholders for the Standard: Utilities, developers, consultants

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

8.1 Additional Explanatory Notes: This guide will be complementary to the draft IEEE P2760 (guide for wind plant grounding) nearing completion by the same working group.

Related to 7.1, IEEE 665 (currently withdrawn, but under revision) does cover generation power plant grounding, but the differences to large wind and solar plants are large enough it warrant its own guide. We are in touch with this Working Group and as of now there's no plan to address wind or solar plants in that document.