

IEEE Guide for Generating Station Grounding

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Abstract: Grounding practices that have generally been accepted by the electric utility industry as contributing to effective grounding systems for personnel safety and equipment protection in generating stations are identified. A guide for the design of generating station grounding systems and for grounding practices applied to generating station indoor and outdoor structures and equipment, including the interconnection of the station and substation grounding systems, is provided.

Keywords: electric utilities, generating stations, grounding, grounding systems, personnel safety, substation grounding systems

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Introduction

(This introduction is not part of IEEE Std 665-1995, IEEE Guide for Generating Station Grounding.)

This guide is intended to complement the recommendations and information presented in existing grounding practices for industrial and commercial power systems (IEEE Std 142-1991, IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems), substations (IEEE Std 80-1986, IEEE Guide for Safety in AC Substation Grounding), and measurements (IEEE Std 81.2-1991, IEEE Guide for Measurement of Impedance and Safety Characteristics of Large, Extended or Interconnected Grounding Systems), while drawing particular attention to specific requirements for generating stations.

This guide was prepared by a Task Force of the Grounding Practices Working Group. The working group is part of the Station Design Subcommittee and was sponsored by the Energy Development and Power Generation Committee of the IEEE Power Engineering Society. Comments were also solicited from the following groups:

- National Electric Safety Code[®] Committee
- Power System Communications Committee
- Power System Instrumentation and Measurements Committee
- Power System Relaying Committee
- Transmission and Distribution Committee
- Surge Protective Devices Committee
- Substation Committee
- Industry Applications Society
- Edison Electric Institute

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