ATIS-0600311.2017(R2023)

DC Power Systems – Telecommunications Environment Protection

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American National Standard for Telecommunications

DC Power Systems – Telecommunications Environment Protection

Alliance for Telecommunications Industry Solutions

Approved December 23, 2016

American National Standards Institute, Inc.

Abstract

This standard addresses the installation of dc power systems within controlled or limited access areas that convert commercial ac to dc voltages of 160 volts or less and those that convert from one dc level to another of 160 volts or less.

Foreword

The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

The Alliance for Telecommunication Industry Solutions (ATIS) serves the public through improved understanding between providers, customers, and manufacturers. The Sustainability in Telecom: Energy and Protection (STEP) Committee – formerly the Network Interface, Power, and Protection Committee (NIPP) – engages industry expertise to develop standards and technical reports for telecommunications equipment and environments in the areas of energy efficiency, environmental impacts, power, and protection. The work products of STEP enable vendors, operators and their customers to deploy and operate reliable, environmentally sustainable, energy efficient communications technologies. STEP is committed to proactive engagement with national, regional, and international standards development organizations and forums that share the scope of work.

ANSI guidelines specify two categories of requirements: mandatory and recommendation. The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages.

Suggestions for improvement of this document are welcomed. They should be sent to the Alliance for Telecommunications Industry Solutions, STEP, 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time it approved this document, STEP, which was responsible for its development, had the following leadership:

K. Biholar STEP Chair (Nokia)
J. Krahner, STEP Vice Chair (Cisco)
E. Gallo, STEP NPS Chair (Ericsson)
J. Jackson, STEP NPS Vice Chair (AT&T)

The Network Power Systems (NPS) Subcommittee was responsible for the development of this document.

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1 Scope, Purpose, & Application

1.1 Scope

The standard addresses the installation of dc power systems within controlled or limited access areas that convert commercial ac to dc voltages of 160 volts or less and those that convert from one dc level to another of 160 volts or less.

This standard identifies reasonable means of minimizing hazards associated with the interconnection of dc power systems. Compliance with the standard will not assure the absence of hazards or harm resulting from the installation, interconnection, or operation of dc power systems.

1.2 Not Covered

Alternating current distribution and equipment that is part of the telecommunication power distribution system will not be covered by this standard. This standard will not address individual pieces of equipment such as standby ac equipment, dc to ac inverters, power supplies, or power supplies embedded in telecommunications equipment.

1.3 Purpose

This document is a standard for use in the design, engineering, installation, and acceptance of dc power systems for telecommunications environments.

1.4 Application

The dc power system protection standard shall be applied to the engineering, installation, and acceptance of centralized dc power systems owned or operated by exchange and interexchange carriers. This standard is not intended to be a specification or an instruction manual for untrained persons.

The wire sizes in this standard are based on copper conductors. If other materials are used, the size shall be adjusted accordingly.

DC power systems existing prior to the date of this standard shall not be required to comply with its requirements.

2 Normative References

The following standards contain provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

International Building Code (IBC).[1]

[1] Available from the International Conference of Building Officials, 5360 South Workman Mill Road, Whittier, CA 90601.