



ATIS-0600003.2018

Battery Enclosure and Rooms/Areas

AMERICAN NATIONAL STANDARD FOR TELECOMMUNICATIONS



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Battery Enclosure and Rooms/Areas

Alliance for Telecommunications Industry Solutions

Approved May 2018

American National Standards Institute, Inc

Abstract

The purpose of this standard is to develop industry-wide requirements including methods and procedures for the control of battery room and enclosure environments. This includes adequate ventilation of battery-generated gases, the dissipation of battery-generated heat, the control of room and enclosure temperature, the management of battery electrolyte spills, and – in general – the control of any contaminants within the battery room or enclosure.

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 carriers, customers, and manufacturers. The Network Interface, Power, and Protection Committee (NIPP) -- formerly T1E1 -- develops and recommends standards and technical reports. The standards and technical reports are related to power systems, electrical and physical protection for the exchange and interexchange carrier networks, and interfaces associated with user access to telecommunications networks.

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 welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, STEP, 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time of initiation or issuance of the letter ballot for this document, STEP, which was responsible for its development, had the following leadership:

- E. Gallo, STEP Chair and STEP NPS Chair (Ericsson)
- J. Fuller, STEP Vice Chair (AT&T)
- 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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American National Standard for Telecommunications –

Battery Enclosure and Rooms/Areas

1 Scope, Purpose, & Applications

1.1 Scope

This standard covers requirements including procedures to identify and manage contaminants and atmospheric conditions that can be present in telecommunications battery rooms and enclosures.

1.2 Purpose

The purpose of this standard is to highlight industry-wide requirements including methods and procedures for the control of battery room and enclosure environments. This includes adequate ventilation of battery-generated gases, the dissipation of battery-generated heat, the control of room and enclosure temperature, the management of battery electrolyte spills, and – in general – the control of any contaminants within the battery room or enclosure.

The calculations and guidance pertain to lead-acid and nickel-cadmium battery systems that comprise the vast majority of stationary battery systems in the telecommunications industry. For alternative battery chemistries such as lithium, sodium, flow, or other emerging technologies, details of possible outgassing, heat dissipation and electrolyte control should be obtained from the manufacturer. National and International Fire Codes provide some criteria for alternative battery technologies.

1.3 Applications

This standard is intended to:

- a) Establish maximum limits of battery room or enclosure contaminants and atmospheric conditions;
- b) Provide reference to guide engineering documents for the management and control of the battery room and enclosure environment; and
- c) Provide guidance for the battery room and enclosure design.

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.

IEEE C2, *National Electrical Safety Code*®.¹

IEEE 1578, *IEEE recommended practice for battery electrolyte spill containment and management*.¹

IEEE 1335 and ASHRAE 21, *Guide for the Ventilation and Thermal Management of Batteries for Stationary Applications*.

CEI/FLEC EN 50272-2:2001, *Safety requirements for secondary batteries and battery installations. Stationary Batteries*.²

¹ This document is available from the Institute of Electrical and Electronics Engineers (IEEE). < <http://shop.ieeeusa.org/> >.

² Available at < <http://products.ihs.com/BS-SEO/19984534.htm> >.