ATIS-0600003.2024

Battery Enclosure and Rooms/Areas

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American National Standard for Telecommunications

Battery Enclosure and Rooms/Areas

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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 contaminates 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:

J. Jackson, STEP Chair and STEP NPS Vice Chair (Southwire)
E. Gallo, STEP Vice Chair and STEP NPS Chair (NEBScore)
E. Gallo, (NEBScore) Technical Editor with review by C. Ashton (American Power Systems)

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*

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 *Background & 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 contaminates 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 on possible outgassing, heat dissipation and electrolyte control should be obtained from the manufacturer and/or NFPA 1635 / ASHRAE 21 as it is updated to include other technologies. National and International Fire Codes provide some criteria for alternative battery technologies.

1.3 *Application*

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 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 1188, *IEEE Recommended Practice for Maintenance, Testing, and Replacement of Valve-Regulated Lead-Acid (VRLA) Batteries for Stationary Applications.*

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