ATIS-0600321.2020

Electrical Protection For Network Operator-Type Equipment Positions

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American National Standard for Telecommunications

ELECTRICAL PROTECTION FOR NETWORK OPERATOR-TYPE EQUIPMENT POSITIONS

Alliance for Telecommunications Industry Solutions

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American National Standards Institute, Inc.

Abstract

This standard addresses electrical protection at new installations of network operator-type equipment positions, and at buildings housing such positions. Electrical disturbances may appear at network operator-type equipment positions arising either from Electrostatic Discharge (ESD), or from other sources that are internal or external to the building containing these positions, such as lightning or ac power disturbances. Measures are presented that are intended to help to control ESD in the network operator-type environment, and to provide electrical protection measures that are intended to minimize potential differences at the network operator-type equipment position.

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 its scope of work.

Electrical disturbances may appear at network operator-type equipment positions arising either from Electrostatic Discharge (ESD), or from other sources that are internal or external to the building containing these positions, such as lightning or ac power disturbances. Measures are presented that are intended to help to control ESD in the network operator-type environment. Additional measures are presented that are intended to help minimize the effects of lightning, surges from commercial ac power lines, and power switching operations, both at the facility (building) level and at the network operator-type equipment position. In no way is this standard intended, however, to guarantee against damage or injury that may result from ESD or other similar occurrences.

Although a large resource of information exists within the telecommunications industry regarding control of ESD, as well as the electrical protection, bonding, and grounding of telecommunications installations, there are presently no U.S. standards that are specific to the network operator-type equipment position environment. American National Standard National electrical code, NFPA 70® [Ref 10], as well as American National Standard for Telecommunications – Electrical protection applied to telecommunications network plant at entrances to customer structures or buildings, ATIS-0600318 [Ref 4] (formerly T1.318), contain basic safety and electrical protection requirements applicable to network operator-type equipment position installations. It is not intended that this standard supersede NFPA 70® [Ref 10] or ATIS-0600318 [Ref 4], but that it provide additional information to reduce electrical disturbances at network operator-type equipment installations.

The need for this standard was recognized by the Protection Engineers Group of the Alliance for Telecommunications Industry Solutions (ATIS) which submitted the initial project proposal and provided the seed documentation. Subject matter experts were gathered under the auspices of STEP to determine the necessary criteria to minimize electrical disturbances at network operator-type equipment positions.

There is one annex to this standard. Annex A is informative and is not considered a part of this standard.

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 it approved this document, STEP, which is responsible for the development of this Standard, had the following members:

Ernie Gallo, STEP Chair (Ericsson)
John Fuller, STEP Vice-Chair and STEP NEP Vice-Chair (AT&T)
Dan Ashton, STEP NEP Chair (CenturyLink)

The NEP Subcommittee was responsible for the development of this document.

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