ATIS-0600010.01.2017

Temperature, Humidity, Altitude, and Salt Fog Requirements for Network Telecommunications Equipment Utilized in Outside Plant Environments

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Is an American National Standard developed by the **Network Physical Protection (NPP)** Subcommittee under the ATIS **Sustainability in Telecom: Energy and Protection Committee (STEP)**.

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American National Standard on

Temperature, Humidity, Altitude, and Salt Fog Requirements for Network Telecommunications Equipment Utilized in Outside Plant Environments

Alliance for Telecommunications Industry Solutions

Approved January 4, 2017

Abstract

This standard covers the minimum temperature, humidity, altitude, and salt fog criteria for telecommunications network equipment to be installed and utilized by service providers in Outside Plant (OSP) environments. These environments include those in OSP cabinet enclosure, pedestals, etc.

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 (NIPP) Committee– 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.

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 consensus on this document, STEP, which was responsible for its development, had the following roster:

K. Biholar, STEP Chair (Alcatel-Lucent)
J. Krahner, STEP Vice Chair (Cisco)
C. Forbes, STEP NPP Chair (NTS)
C. Von Hagel, STEP NPP Vice Chair (Intertek)

The Network Physical Protection (NPP) Subcommittee was responsible for the development of this document.

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1.1 Scope

This standard covers the minimum temperature, humidity, altitude, and salt fog criteria for telecommunications network equipment to be installed and utilized by service providers in Outside Plant (OSP) environments. These environments include those found in OSP cabinets, enclosures, pedestals, etc., as well as those outside of protective enclosures. Test methodologies and test report criteria necessary for proper evaluation by interested parties and those intending to deploy equipment in such environments are also provided.

This document defines Environmental Classifications based on the temperature, humidity, altitude, and salt fog ranges in which the equipment must operate, and provides test methodologies to evaluate equipment operation in those environments. Based on the intended usage, network equipment could be placed in one or more of the "Environment Classifications".

The expectation is that equipment will continue to function properly and without any unexpected degradation of performance when placed in these environments. Regardless of the operational environmental classification, equipment is expected to function properly after exposure to other environmental stresses, such as operational altitude and storage/transportation temperature-humidity. The test criteria defined in this document apply to all equipment.

1.2 Purpose

The purpose of this document is to provide the end-users, manufacturers, test labs, etc., a means of testing OSP equipment to the expected environmental conditions encountered in normal deployment.

1.3 Application

This document applies to network equipment intended to be installed and utilized by service providers in OSP locations.

Equipment originally designed for Class 1 Environments shall not be deployed in Class 2, Class 3, or Class 4 Environments unless they are evaluated to the criteria applicable to that Class of environment as outlined in this document.

Environmental Classes 1, 2, and 3 as defined in this standard are in an ascending hierarchy. Therefore, equipment evaluated to a higher Class is acceptable for deployment in lower Class environments – e.g., equipment evaluated for a Class 3 Environment is acceptable in a Class 2 environment. Engineering judgment and analysis may be used to determine if subassemblies in a product tested in a Class 4 Environment meet the requirements of the Class in which it is to be installed.

Specific test methods may deviate from the general procedures set forth in each of the testing clauses. In the case where the specific test methods deviate from those general procedures, the specific test methods take precedence.

Ramp rates can exceed those specified at the discretion of the manufacturer.