Errata to
ANSI/NETA ATS-2017
Standard for Acceptance Testing Specifications for
Electrical Power Equipment and Systems

Issued by the

NETA Standards Review Council

Of the

InterNational Electrical Testing Association

Correction sheet

Issued May 21, 2017

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7.2.2 Transformers, Liquid-Filled
7.2.2.B.7
Perform sweep frequency response analysis tests should be marked (*) as optional.
*Original text incorrectly had the SFRA test as mandatory.*

7.2.2 Transformers, Liquid-Filled
7.2.2.D.5
Change text to read investigate bushing power factor values that vary by more than 50%.
*Original text is incorrectly shown as 150%.*

Cables, Medium- and High-Voltage
7.3.3.B.4
TDR measurements should be marked (*) as optional.
*Original text incorrectly had the TDR test as mandatory.*

Circuit Breakers, Vacuum, Medium-Voltage
7.6.3.B.5 (electrical test)
7.6.3.D.5 (test result)
Dynamic contact resistance test.
*Delete requirement and expected test results section – this test was not intended for medium-voltage vacuum breakers.*
Errata to
ANSI/NETA ATS-2017
Standard for Acceptance Testing Specifications for
Electrical Power Equipment and Systems

Issued by the
NETA Standards Review Council
Of the
InterNational Electrical Testing Association

Correction sheet
Issued January 23, 2019
3. Qualifications of Testing Organization and Personnel

3.1 Testing Organization

3.3.1.4

Section deleted per 3.2 Commercial terms and conditions of the ANSI Essential Requirements.

3. Qualifications of Testing Organization and Personnel

3.1 Testing Organization

3.3.1.5

With deletion of original section 3.3.1.4 text, section 3.3.1.5 becomes 3.3.1.4.
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The following sections of the ANSI/NETA Standard for Acceptance Testing Specifications for Electrical Power Equipment and Systems must be incorporated by reference as part of any subsection:

3. Qualifications of Testing Organization and Personnel
   3.1 Testing Organization
   3.2 Testing Personnel
4. Division of Responsibility
   4.1 The Owner’s Representative
   4.2 The Testing Organization
5. General
   5.1 Safety and Precautions
   5.2 Suitability of Test Equipment
   5.3 Test Instrument Calibration
   5.4 Test Report
   5.5 Test Decal

The purchaser is required to include the above sections with any section(s) of 7.

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Standards Review Council

These specifications were submitted for public comment and reviewed by the NETA Standards Review Council.

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This document should not be confused with federal, state, or municipal specifications or regulations, insurance requirements, or national safety codes. While the Association recommends reference to or use of this document by government agencies and others, use of this document is purely voluntary and not binding.
The InterNational Electrical Testing Association (NETA) was formed in 1972 to establish uniform testing procedures for electrical equipment and apparatus. NETA developed specifications for the acceptance of new electrical apparatus prior to energization and for the maintenance of existing apparatus to determine its suitability to remain in service. The first NETA Acceptance Testing Specifications for Electrical Power Equipment and Systems was produced in 1972. Upon completion of this project, the NETA Technical Committee began work on a maintenance document, and Maintenance Testing Specifications for Electrical Power Equipment and Systems was published in 1975.

NETA has been an Accredited Standards Developer for the American National Standards Institute since 1996. NETA's scope of standards activity is different from that of the IEEE, NECA, NEMA, and UL. In matters of testing electrical equipment and systems NETA continues to reference other standards developers’ documents where applicable. NETA's review and updating of presently published standards takes into account both national and international standards. NETA’s standards may be used internationally as well as in the United States. NETA firmly endorses a global standardization. IEC standards as well as American consensus standards are taken into consideration by NETA's Section Panels and reviewing committees.

The NETA Acceptance Testing Specifications was developed for use by those responsible for assessing the suitability for initial energization of electrical power equipment and systems and to specify field tests and inspections that ensure these systems and apparatus perform satisfactorily, minimizing downtime and maximizing life expectancy.

Since 1972, several revisions of the Acceptance Testing Specifications have been published; in 1989 the NETA Technical Committee, with approval of the Board of Directors, set a four-year review and revision schedule. Unless it involves a significant safety or urgent technical issue, each comment and suggestion for change is held until the appropriate review period. Each edition includes new and completely revised sections. The document uses the standard numbering system of ANSI and IEEE. Since 1989, revised editions of the Acceptance Testing Specifications have been published in 1991, 1995, 1999, 2003, 2007, 2009, and 2013.


Suggestions for improvement of this standard are welcome. They should be sent to the InterNational Electrical Testing Association, 3050 Old Centre Avenue, Suite 102, Portage, MI 49024, or emailed to neta@netaworld.org.
PREFACE

(This Preface is not part of American National Standard ANSI/NETA ATS-2017)

It is recognized by the Association that the needs for acceptance testing of commercial, industrial, governmental, and other electrical power systems vary widely. Many criteria are used in determining what equipment is to be tested and to what extent.

To help the user better understand and navigate more efficiently through this document, we offer the following information:

Notation of Changes
Material included in this edition of the document but not part of the 2013 edition is marked with a black vertical line to the left of the insertion of text, deletion of text, or alteration of text.

The Document Structure
The document is divided into thirteen separate and defined sections:

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Section 7 Structure
Section 7 is the main body of the document with specific information on what to do relative to the inspection and acceptance testing of electrical power distribution equipment and systems. It is not intended that this document list how to test specific pieces of equipment or systems.

Sequence of Tests and Inspections
The tests and inspections specified in this document are not necessarily presented in chronological order and may be performed in a different sequence.

Expected Test Results
Section 7 consists of sections specific to each particular type of equipment. Within those sections there are, typically, four main bodies of information:

A. Visual and Mechanical Inspection
B. Electrical Tests
C. Test Values – Visual and Mechanical
D. Test Values – Electrical
PREFACE (Continued)

(This Preface is not part of American National Standard ANSI/NETA ATS-2017)

Results of Visual and Mechanical Inspections
Some, but not all, visual and mechanical inspections have an associated test value or result. Those items with an expected result are referenced under Section C., Test Values – Visual and Mechanical. For example, Section 7.1 Switchgear and Switchboard Assemblies, item 7.1.A.8.2 calls for verifying tightness of connections using a calibrated torque wrench method. Under the Test Values – Visual and Mechanical Section 7.1.C.2, the expected results for that particular task are listed within Section C., with reference back to the original task description on item 7.1.A.8.2.
Results of Electrical Tests

Each electrical test has a corresponding expected result, and the test and the result have identical numbers. If the electrical test is item four, the expected result under the Test Values section is also item four. For example, under Section 7.15.1 Rotating Machinery, AC Induction Motors and Generators, item 7.15.1.B.2 (item 2 within the Electrical Tests section) calls for performing an insulation-resistance test in accordance with IEEE Standard 43. In section D, Test Values – Electrical, the expected results for that particular task are listed in the Test Values section under item 2.
Optional Tests
The purpose of these specifications is to assure that all tested electrical equipment and systems supplied by either contractor or owner are operational and within applicable standards and manufacturer’s published tolerances and that equipment and systems are installed in accordance with design specifications. Certain tests are assigned an optional classification. The following considerations are used in determining the use of the optional classification:

1. Does another listed test provide similar information?
2. How does the cost of the test compare to the cost of other tests providing similar information?
3. How commonplace is the test procedure? Is it new technology?

Manufacturer’s Instruction Manuals
It is important to follow the recommendations contained in the manufacturer’s published data. Many of the details of a complete and effective testing procedure can be obtained from this source.

Summary
The guidance of an experienced testing professional should be sought when making decisions concerning the extent of testing. It is necessary to make an informed judgment for each particular system regarding how extensive a procedure is justified. The approach taken in these specifications is to present a comprehensive series of tests applicable to most industrial and larger commercial systems. In smaller systems, some of the tests can be deleted. In other cases, a number of the tests indicated as optional should be performed.

Likewise, guidance of an experienced testing professional should also be sought when making decisions concerning the results of test data and their significance to the overall analysis of the device or system under test. Careful consideration of all aspects of test and calibration data, including manufacturer’s published data and recommendations, must be included in the overall assessment of the device or system under test.

The Association encourages comment from users of this document. Please contact the NETA office or your local NETA Accredited Company.

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1. GENERAL SCOPE

1. These specifications cover the suggested field tests and inspections that are available to assess the suitability for initial energization and final acceptance of electrical power equipment and systems.

2. The purpose of these specifications is to assure that tested electrical equipment and systems are operational, are within applicable standards and manufacturer's tolerances, and are installed in accordance with design specifications.

3. The work specified in these specifications may involve hazardous voltages, materials, operations, and equipment. These specifications do not purport to address all of the safety issues associated with their use. It is the responsibility of the user to review all applicable regulatory limitations prior to the use of these specifications.