Acceptance Testing Specifications
for
Electrical Power Distribution
Equipment and Systems

These specifications have been developed
by the
InterNational Electrical Testing Association

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   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 Precaution
   5.2 Suitability of Test Equipment
   5.3 Test Instrument Calibration
   5.4 Test Report

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ATS-2007
Standards Review Council

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<table>
<thead>
<tr>
<th>Company Name</th>
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</tr>
</thead>
<tbody>
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<tr>
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PREFACE

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:

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

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>General Scope</td>
</tr>
<tr>
<td>Section 2</td>
<td>Applicable References</td>
</tr>
<tr>
<td>Section 3</td>
<td>Qualifications of Testing Organization and Personnel</td>
</tr>
<tr>
<td>Section 4</td>
<td>Division of Responsibility</td>
</tr>
<tr>
<td>Section 5</td>
<td>General</td>
</tr>
<tr>
<td>Section 6</td>
<td>Power System Studies</td>
</tr>
<tr>
<td>Section 7</td>
<td>Inspection and Test Procedures</td>
</tr>
<tr>
<td>Section 8</td>
<td>System Function Test</td>
</tr>
<tr>
<td>Section 9</td>
<td>Thermographic Survey</td>
</tr>
<tr>
<td>Section 10</td>
<td>Electromagnetic Field Testing</td>
</tr>
<tr>
<td>Tables</td>
<td>Reference Tables</td>
</tr>
<tr>
<td>Appendices</td>
<td>Various Informational Documents</td>
</tr>
</tbody>
</table>

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.

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

1. Visual and Mechanical Inspection
2. Electrical Tests
3. Test Values
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 3.1 Test Values – Visual and Mechanical. For example, Section 7.1 Switchgear and Switchboard Assemblies, item 7.1.1.7.2 calls for verifying tightness of connections using a calibrated torque wrench method. Under the Test Values – Visual and Mechanical Section 7.1.3.1.2, the expected results for that particular task are listed within Section 3.1, with reference back to the original task description on item 7.1.1.7.2.
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 7.15.1.2.2 (item 2 within the Electrical Tests section) calls for performing an insulation-resistance test in accordance with IEEE Standard 43. Under the Test Values – Electrical section, 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 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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## CONTENTS

1. **GENERAL SCOPE** ............................................................................................................................................... 1

2. **APPLICABLE REFERENCES**
   2.1 Codes, Standards and Specifications ........................................................................................................ 2
   2.2 Other Publications .......................................................................................................................................... 8
   2.3 Contact Information ....................................................................................................................................... 8

3. **QUALIFICATIONS OF TESTING ORGANIZATION AND PERSONNEL**
   3.1 Testing Organization ..................................................................................................................................... 11
   3.2 Testing Personnel ......................................................................................................................................... 11

4. **DIVISION OF RESPONSIBILITY**
   4.1 The Owner’s Representative ..................................................................................................................... 12
   4.2 The Testing Organization .......................................................................................................................... 12

5. **GENERAL**
   5.1 Safety and Precautions ............................................................................................................................. 13
   5.2 Suitability of Test Equipment ................................................................................................................... 13
   5.3 Test Instrument Calibration ....................................................................................................................... 14
   5.4 Test Report ................................................................................................................................................ 15

6. **POWER SYSTEM STUDIES**
   6.1 Short-Circuit Studies .................................................................................................................................. 16
   6.2 Coordination Studies ................................................................................................................................ 17
   6.3 Arc-Flash Hazard Analysis ....................................................................................................................... 18
   6.4 Load Flow Studies .................................................................................................................................... 20
   6.5 Stability Studies ....................................................................................................................................... 21
   6.6 Switching Transients Studies - Reserved ............................................................................................... 22
   6.7 Motor-Starting Studies - Reserved ........................................................................................................ 22
   6.8 Harmonic-Analysis Studies ..................................................................................................................... 23
   6.9 Ground-Mat Studies - Reserved ............................................................................................................. 24
   6.10 Cable-Ampacity Studies - Reserved ..................................................................................................... 24
   6.11 Reliability Studies - Reserved ............................................................................................................... 24

7. **INSPECTION AND TEST PROCEDURES**
   7.1 Switchgear and Switchboard Assemblies ............................................................................................... 25
   7.2.1.1 Transformers, Dry-Type, Air-Cooled, Low-Voltage, Small ........................................................... 29
   7.2.1.2 Transformers, Dry-Type, Air-Cooled, Large.................................................................................... 31
   7.2.2 Transformers, Liquid-Filled .................................................................................................................. 34
   7.3.1 Cables, Low-Voltage, Low-Energy - Reserved .................................................................................. 38
   7.3.2 Cables, Low-Voltage, 600-Volt Maximum ......................................................................................... 39
   7.3.3 Cables, Medium- and High-Voltage ....................................................................................................... 41
   7.4 Metal-Enclosed Busways .......................................................................................................................... 44
   7.5.1.1 Switches, Air, Low-Voltage ............................................................................................................. 46
   7.5.1.2 Switches, Air, Medium-Voltage, Metal-Enclosed ....................................................................... 48
   7.5.1.3 Switches, Air, Medium- and High-Voltage, Open ....................................................................... 51
   7.5.2 Switches, Oil, Medium-Voltage ........................................................................................................... 54
   7.5.3 Switches, Vacuum, Medium-Voltage ................................................................................................. 57
   7.5.4 Switches, SF₆, Medium-Voltage ........................................................................................................... 60
   7.5.5 Switches, Cutouts ................................................................................................................................ 63
   7.6.1.1 Circuit Breakers, Air, Insulated-Case/Molded-Case ...................................................................... 65
   7.6.1.2 Circuit Breakers, Air, Low-Voltage Power ................................................................................... 68
   7.6.1.3 Circuit Breakers, Air, Medium-Voltage ......................................................................................... 71
CONTENTS (continued)

7.6.2 Circuit Breakers, Oil, Medium- and High-Voltage ................................................... 75
7.6.3 Circuit Breakers, Vacuum, Medium-Voltage ............................................................ 80
7.6.4 Circuit Breakers, SF₆ ................................................................................................. 84
7.7 Circuit Switchers........................................................................................................ 88
7.8 Network Protectors, 600-Volt Class ........................................................................... 91
7.9.1 Protective Relays, Electromechanical and Solid-State ............................................ 94
7.9.2 Protective Relays, Microprocessor-Based ................................................................ 101
7.10 Instrument Transformers.......................................................................................... 103
7.11 Metering Devices ...................................................................................................... 108
7.12.1.1 Regulating Apparatus, Voltage, Step Voltage Regulators .................................... 110
7.12.1.2 Regulating Apparatus, Voltage, Induction Regulators ........................................ 114
7.12.2 Regulating Apparatus, Current - Reserved ............................................................ 118
7.12.3 Regulating Apparatus, Load Tap-Changers ............................................................ 119
7.13 Grounding Systems .................................................................................................. 122
7.14 Ground-Fault Protection Systems, Low-Voltage ...................................................... 124
7.15.1 Rotating Machinery, AC Induction Motors and Generators .................................... 127
7.15.2 Rotating Machinery, Synchronous Motors and Generators ................................... 131
7.15.3 Rotating Machinery, DC Motors and Generators .................................................. 137
7.16.1.1 Motor Control, Motor Starters, Low-Voltage ....................................................... 140
7.16.1.2 Motor Control, Motor Starters, Medium-Voltage ................................................ 142
7.16.2.1 Motor Control, Motor Control Centers, Low-Voltage ......................................... 146
7.16.2.2 Motor Control, Motor Control Centers, Medium-Voltage .................................... 147
7.17 Adjustable Speed Drive Systems .............................................................................. 148
7.18.1.1 Direct-Current Systems, Batteries, Flooded Lead-Acid ......................................... 151
7.18.1.2 Direct-Current Systems, Batteries, Nickel-Cadmium - Reserved ......................... 154
7.18.1.3 Direct-Current Systems, Batteries, Valve-Regulated Lead-Acid ............................ 155
7.18.2 Direct-Current Systems, Chargers .......................................................................... 157
7.18.3 Direct-Current Systems, Rectifiers - Reserved ...................................................... 159
7.19.1 Surge Arresters, Low-Voltage ................................................................................ 160
7.19.2 Surge Arresters, Medium- and High-Voltage ........................................................ 162
7.20.1 Capacitors and Reactors, Capacitors .................................................................... 164
7.20.2 Capacitors and Reactors, Capacitor Control Devices - Reserved ............................ 166
7.20.3.1 Capacitors and Reactors, Reactors, Shunt and Current-Limiting, Dry-Type .......... 167
7.20.3.2 Capacitors and Reactors, Reactors, Shunt and Current-Limiting, Liquid-Filled ...... 169
7.21 Outdoor Bus Structures ............................................................................................ 173
7.22.1 Emergency Systems, Engine Generator ................................................................. 175
7.22.2 Emergency Systems, Uninterruptible Power Systems ........................................... 177
7.22.3 Emergency Systems, Automatic Transfer Switches ............................................... 180
7.23 Communications - Reserved ................................................................................... 183
7.24.1 Automatic Circuit Reclosers and Line Sectionalizers, Automatic Circuit Reclosers, Oil/Vacuum .......................................................... 184
7.24.2 Automatic Circuit Reclosers and Line Sectionalizers, Automatic Line Sectionalizers, Oil .......................................................... 188
8. SYSTEM FUNCTION TESTS ........................................................................................... 192
9. THERMOGRAPHIC SURVEY ....................................................................................... 193
10. ELECTROMAGNETIC FIELD TESTING ......................................................................... 194
11. CORONA STUDIES - Reserved .................................................................................. 196
TABLES
100.1 Insulation Resistance Test Values, Electrical Apparatus and Systems........................................198
100.2 Switchgear Withstand Test Voltages..........................................................................................199
100.3 Recommended Dissipation Factor/Power Factor at 20° C; Liquid-Filled Transformers,
Regulators, and Reactors, Acceptance Test Values........................................................................200
100.4 Insulating Fluid Limits
100.4.1 Test Limits for New Insulating Oil Received in New Equipment ...........................................201
100.4.2 Test Limits for Silicone Insulating Liquid in New Transformers...........................................201
100.4.3 Typical Values for Less-Flammable Hydrocarbon Insulating Liquid.................................202
100.5 Transformer Insulation Resistance, Acceptance Testing............................................................203
100.6 Medium-Voltage Cables, Acceptance Test Values
100.6.1 DC Test Voltages ..................................................................................................................204
100.6.2 AC Test Voltages ..................................................................................................................205
100.6.3 Partial Discharge Requirements ............................................................................................206
100.6.4 Very Low Frequency Testing Levels .......................................................................................206
100.7 Inverse Time Trip Test at 300% of Rated Continuous Current,
Molded-Case Circuit Breakers........................................................................................................207
100.8 Instantaneous Trip Tolerances for Field Testing of Circuit Breakers..........................................208
100.9 Instrument Transformer Dielectric Tests, Field Acceptance....................................................209
100.10 Maximum Allowable Vibration Amplitude..............................................................................210
100.11 Reserved ..................................................................................................................................211
100.12 US Standard Fasteners, Bolt Torque Values for Electrical Connections
100.12.1 Heat-Treated Steel - Cadmium or Zinc Plated ......................................................................212
100.12.2 Silicon Bronze Fasteners ..................................................................................................213
100.12.3 Aluminum Alloy Fasteners ...............................................................................................213
100.12.4 Stainless Steel Fasteners ................................................................................................214
100.13 SF6 Gas Tests ............................................................................................................................215
100.14 Insulation Resistance Conversion Factors
100.14.1 Test Temperatures to 20° C.................................................................................................216
100.14.2 Test Temperatures to 40° C.................................................................................................217
100.15 High-Potential Test Voltage, Automatic Circuit Reclosers........................................................218
100.16 High-Potential Test Voltage for Acceptance Test of Line Sectionalizers.................................219
100.17 Dielectric Withstand Test Voltages, Metal-Enclosed Bus..........................................................220
100.18 Thermographic Survey, Suggested Actions Based on Temperature Rise..............................221
100.19 Dielectric Withstand Test Voltages, Electrical Apparatus Other than Inductive Equipment...222
100.20 Rated Control Voltages and their Ranges for Circuit Breakers
100.20.1 Circuit Breakers....................................................................................................................223
100.20.2 Solenoid-Operated Devices.................................................................................................224
100.21 Accuracy of IEC Class TP Current Transformers Error Limit....................................................225
100.22 Minimum Radii for Power Cable, Single & Multiple Conductor Cables with Interlocked
Armor, Smooth or Corrugated Aluminum Sheath or Lead Sheath...................................................226
CONTENTS (continued)

APPENDICES
Appendix A - Definitions.........................................................................................................................229
Appendix B - Reserved............................................................................................................................231
Appendix C - About the InterNational Electrical Testing Association ...................................................232
Appendix D - Form for Comments..........................................................................................................234
Appendix E - Form for Proposals ............................................................................................................235
Appendix F - NETA Affiliate and Publications Information ..................................................................236
Appendix G - Affiliate Application and Publications Order Form..........................................................237
1. GENERAL SCOPE

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

2. The purpose of these specifications is to assure that tested electrical equipment and systems are operational and within applicable standards and manufacturer’s tolerances and that the equipment and systems 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.