Copyright Information and
Alteration of Content

The *2003 NETA Acceptance Testing Specifications* are protected under the copyright laws of the United States, and all rights are reserved. Further, the *Specifications* may not be copied, modified, sold, or used except in accordance with such laws and as follows:

Purchasers may reproduce and use all or a portion of the *Specifications* after paying the charges so long as the *2003 NETA Acceptance Specifications* are clearly and obviously identified in writing as the source of all such uses or reproductions.

In all events, the following sections of the *2003 NETA Acceptance Testing Specifications* are incorporated by reference in each subsection of the *2003 NETA Acceptance Testing Specifications* as though set out in full in each subsection:

3.0 Qualifications of Testing Organization and their Personnel
- 3.1 Testing Organization
- 3.2 Testing Personnel

4.0 Division of Responsibility
- 4.1 The Owner's Representative
- 4.2 The Testing Organization

5.0 General
- 5.1 Safety and Precaution
- 5.2 Suitability of Test Equipment
- 5.3 Test Instrument Calibration
- 5.4 Test Report

The purchaser is advised to include the above sections along with any section(s) of 7.0.

NETA intends that Section 7.0 of the *2003 NETA Acceptance Testing Specifications* be reproduced and used on a "cut and paste" basis for the particular type of equipment to be tested, in all events so long as the clear and obvious identification of the course described above is provided in writing.

InterNational Electrical Testing Association
PO Box 687, 106 Stone Street
Morrison, CO 80465
Voice: 303.697.8441 Facsimile: 303.697.8431
E-mail: neta@netaworld.org • Web: www.netaworld.org

Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems

These specifications have been developed by the InterNational Electrical Testing Association for use by electrical power distribution system engineers.

Voice: 303.697.8441 Facsimile: 303.697.8431
E-mail: neta@netaworld.org • Web: www.netaworld.org

— This page intentionally left blank —

NETA Standards Review Council

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

Charles K. Blizard	Diane W. Hageman	Roderic L. Hageman
Mary R. Jordan	Ralph Patterson	Alan D. Peterson
	Ron Widup	

Contributors

Those who contributed and commented concerning this document include:

David Asplund	Gerald DeAngelo	Robert Madding	John Snell
Ken Bassett	Thomas DeGenaro	Sam Mancuso	Richard Sobhraj
Barry Bell	Lyle Detterman	Neil McCord	Brooke Stauffer
Robert Bell	Melvyn Foster	Pete McKenzie	Alan Storms
Thomas Bishop	Robert Ganser	Nigel McQuin	Joseph Svoboda
Scott Blizard	Ruben Garzon	Michael Mercer	Ron Thomas
Mike Bowers	Gerald Gentle	Mark Meyer	Kurt Uhlir
Eldridge Byron	Norbert Gilbert	Georges Montillet	David Heath
John Cadick	Brad Grebin	Paul Notarian	Wally Vahlstrom
Marie Calwise	Kaveh Haghkerdar	Ted Olsen	Michael Velvikis
Steven Camber	Wayne Hansen	Mark Pustejovsky	Chris Werstiuk
Kent Choma	David Heath	Mark Rizzi	James (Jim) R. White
Larry Christodoulou	Stuart Jackson	Tony Rosato	Chuck Williams
Glen Chynoweth	Andrew Kobler	Randall Sagan	Jean-Pierre Wolff
Joseph Cocke	Mark Lautenschlager	Sandy Sanor	John Wood
Timothy Cotter	David C. LeClair	Marc Schneider	Steve Yovanov
Neil Coward	William Long	John Shanks	
John Davis	Jeff Lord	Mel Smith	

NETA Full Member Companies

Full Member Companies of NETA at the time this document was approved:

American Electrical Testing Co.	Charles Blizard
Apparatus Testing and Engineering	James Lawler
Applied Engineering Concepts	Michel Castonguay
ASET Power Systems Services, Inc.	F.E. Dickens
Burlington Electrical Testing Company, Inc.	Walter Cleary
DYMAX Service, Inc.	Gene Philipp
Eastern High Voltage	Barbara Wilson
ECP Tech Services Inc.	Mike McDaniel
EISEC	Angel Gonzalez
Electric Power Systems, Inc.	Charles Reed
Electric Power Testing, Inc.	Keith Henderson
Electrical and Electronic Controls	Michael Hughes
Electrical Energy Experts, Inc.	William Styer
Electrical Engineering & Testing Services, Inc.	Glen Chynoweth
Electrical Equipment Upgrading, Inc.	Michael Carbo
Electrical Technology Services, Inc.	Eric Hansen
Electrical Testing Services	Frank Plonka
Electrical Testing, Inc.	Steve Dodd
Electro-Test, Inc.	John White
Elemco Testing Co. Inc.	Robert White
Hampton Tedder Technical Services	Matt Tedder
Harford Electrical Testing Co., Inc.	Vincent Biondino
High Energy Electrical Testing, Inc.	James Ratshin
High Voltage Maintenance Corp.	Dick Lussier
HMT, Inc.	Peter Thiemann
Industrial Electric Testing, Inc.	Gary Benzenberg
Industrial Electronics Group	Butch Teal
Infra-Red Building and Power Service	Thomas McDonald
Instel Power Services	Stuart Jackson

NETA Full Member Companies (cont.)

M&L Power Systems Maintenance, Inc.	Milind Bagle
Magna IV Engineering Ltd.	John Hodson
MET Electrical Testing Co., Inc.	William McKenzie
Michigan Switchgear Service, Inc.	Ronald Hoder
Nationwide Electrical Testing, Inc.	Sashi Bagle
Northeast Electrical Testing	David Asplund
North Central Electric, Inc.	Robert Messina
Northern Electrical Testing, Inc.	Lyle Detterman
Orbis Engineering Field Services	Jonathan Martin
Phasor Engineering	Rafael Castro
Potomac Testing, Inc.	Ken Bassett
Power Engineering, Inc.	Felix Velazquez
Power Plus Engineering, Inc.	Salvatore Mancuso
Power Systems Testing Co.	David Huffman
PRIT Service, Inc.	Roderic Hageman
Reuter and Hanney, Inc.	Michael Reuter
SETA-AC Testing	Ralph Patterson
Shermco Industries, Inc.	Ron Widup
Substation Test Co.	Frank Ceci
Taurus Power and Controls, Inc.	Scott Kinney
Utilities Instrumentation Service, Inc.	Gary Walls
Utility Service Corporation	Alan Peterson

NOTICE

In no event shall the InterNational Electrical Testing Association be liable to anyone for special, collateral, incidental, or consequential damages in connection with or arising out of the use of these materials.

This document is subject to periodic review, and users are cautioned to obtain the latest edition. Comments and suggestions are invited from all users for consideration by the Association in connection with such review. Any such suggestions will be fully reviewed by the Association after giving the commenter, upon request, a reasonable opportunity to be heard.

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.

InterNational Electrical Testing Association
106 Stone Street • PO Box 687 • Morrison, CO 80465
Voice: 303.697.8441 Facsimile: 303.697.8431
Email: neta@netaworld.org • Web: www.netaworld.org
Mary R. Jordan, EdD - Executive Director

PREFACE

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 tolerances and that equipment and systems are installed in accordance with design specifications.

The need for acceptance testing of electrical power systems is very clear to those with extensive startup and/or operating experience. Shipping and installation damage, field and factory wiring errors, manufacturing defects, and systems and components not in accordance with drawings and specifications are some of the many problems that can be detected by appropriate testing. When these defects are found before startup they can be corrected under warranty and without safety hazards, possible equipment damage, and of loss of production that could occur after startup. In addition, test results obtained during acceptance testing are invaluable as base reference data for the periodic testing that is an essential element of an effective maintenance program.

It is the intent of this document to list a majority of the field tests available for assessing the suitability for service and reliability of the power distribution system. 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?

While acknowledging the above, it is still 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 that is applicable to most utility, industrial, commercial, and government facilities. The guidance of an experienced testing professional should be sought when making decisions such as how extensive testing should be. In smaller systems, some of the tests may be deleted. In other cases, a number of the tests indicated as optional should be performed.

As a further note, it is important to follow the recommendations contained in the manufacturer's instruction manuals. Many of the details of a complete and effective maintenance testing procedure can only be obtained from that source.

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

Alan D. Peterson, Chair
Standards Review Council

InterNational Electrical Testing Association

— This page intentionally left blank —

CONTENTS

TABLES

APPENDICES

— This page intentionally left blank —

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 problems associated with their use. It is the responsibility of the user to review all applicable regulatory limitations prior to the use of these specifications