AMERICAN NATIONAL STANDARD

NECA 405-2001

Recommended Practice for
Installing and Commissioning

Interconnected Generation Systems

NEIS®

Published by
National Electrical
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NECA

An American National Standard

NECA 405–2001

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(This foreword is not a part of the standard)

Foreword

National Electrical Installation Standards™ are designed to improve communication among specifiers, purchasers, and suppliers of electrical construction services. They define a minimum baseline of quality and workmanship for installing electrical products and systems. *NEIS*™ are intended to be referenced in contract documents for electrical construction projects. The following language is recommended:

> Interconnected generation systems shall be installed in accordance with NECA 405-2001, *Recommended Practice for Installing and Commissioning Interconnected Generation Systems* (ANSI).

Use of *NEIS*™ is voluntary, and the National Electrical Contractors Association assumes no obligation or liability to users of this publication. Existence of a standard shall not preclude any member or nonmember of NECA from specifying or using alternate construction methods permitted by applicable regulations.

This publication is intended to comply with the edition of the National Electrical Code (NEC) in effect at the time of publication. Because they are quality standards, *NEIS* may in some cases go beyond the minimum safety requirements of the NEC. It is the responsibility of users of this publication to comply with state and local electrical codes when installing electrical products and systems.

Suggestions for revisions and improvements to this standard are welcome. They should be addressed to:

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This recommended practice was developed in conjunction with T.A. Engineering Inc. of Baltimore, Maryland. T.A. Engineering has extensive experience designing distributed power systems and combined heat/power generation systems for industrial and commercial clients. Projects have included both conventional co-generation installations up to 10 Megawatts and a 200 kilowatt fuel cell installation.

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1. Scope

This recommended practice describes procedures for installing, commissioning, relaying, and metering of electric power production sources operating in parallel with an electric utility source. It does not cover the use of on-site generators for emergency, legally-required standby, or optional standby systems.

This recommended practice should be used together with other *NEIS*™ documents to ensure the proper installation of equipment. When installing generator sets refer to NECA/ EGSA 404-2000, *Recommended Practice for Installing Generator Sets.* When installing switchboards refer to NECA/EGSA 400-1998, *Recommended Practice for Installing and Maintaining Switchboards.* (See Annex B for related references.)

1.1 Systems and Equipment Included

This recommended practice includes, but is not limited to, the following:

a) Protective relays for disconnecting generation equipment from the utility electrical system under specified conditions.

b) Metering for local and remote indication of generation system operation.

1.2 Systems and Equipment Excluded

While this recommended practice generally covers most interconnected generation systems, the following are specifically excluded:

a) Protective equipment for the prime mover, generator, and regulator.

b) Protective equipment for the electrical utility service equipment.

Some discussion of generator and other protective devices is included to the extent necessary to describe the interconnection system.

1.3 Regulatory and Other Requirements

All recommendations of the publication are intended to comply with the National Electrical Code (ANSI/NFPA 70) and in general the typical recommendations of industrial equipment manufacturers. Installers should always comply with the NEC, applicable state and local codes, manufacturer's installation instructions, electric utility interconnection regulations, and contract obligations when installing these systems.