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ANSI/MSE 50021-2012

# American National Standard

*Superior Energy Performance<sup>cm</sup> —  
Additional Requirements for Energy  
Management Systems*

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*Adopted February 22, 2012*

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American National Standard

**Superior Energy Performance<sup>cm</sup> –  
Additional Requirements for Energy Management Systems**

Secretariat  
**Georgia Tech Energy & Environmental Management Center (GTEEMC)**

Approved February 22, 2012  
**American National Standards Institute, Inc.**

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## American National Standard

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## Foreword

The American National Standards Institute (ANSI) is a private, non-profit organization [501(c) (3)] that administers and coordinates the U.S. voluntary standardization and conformity assessment system. ANSI is the official U.S. representative to the International Accreditation Forum (IAF), the International Organization for Standardization (ISO) and, via the U.S. National Committee, the International Electro technical Commission (IEC). ANSI is also the U.S. member of the Pacific Area Standards Congress (PASC) and the Pan American Standards Commission (COPANT).

ANSI approval of a standard verifies that the principles of openness and due process have been followed in the approval procedure and that a consensus of those directly and materially affected by the standards has been achieved. A Draft National Standard was circulated to the Georgia Tech Energy & Environmental Management Center (GTEEMC) Consensus Board, consisting of a balanced group of materially affected interests and to those responding to the public announcements in ANSI Standards Action. Approval of this Standard as an American National Standard requires acceptance by a minimum of 80 percent of the Consensus Board members casting a vote.

ANSI/MSE 50021-2012, Superior Energy Performance<sup>em</sup> — Additional Requirements for Energy Management Systems, was developed by GTEEMC.

This Standard contains one normative annex (Annex A) which is considered a required part of the Standard.

Submit formal requests for interpretations of ANSI/MSE 50021-2012 requirements to GTEEMC Standards Coordinators, Holly Grell-Lawe or Deann Desai, Georgia Tech Energy & Environmental Management Center (GTEEMC), 75 Fifth Street, N. W., Suite 300, Atlanta, GA 30332-0640; E-Mail: [energy@innnovate.gatech.edu](mailto:energy@innnovate.gatech.edu); Telephone: 404-894-5217; Web: [www.mse2000.net](http://www.mse2000.net). The GTEEMC Interpretations Committee will review and determine disposition of each request.

ANSI/MSE 50021-2012 has been developed with the assistance of the following cooperating organizations:

3M	Lawrence Berkeley National Laboratory
Sterling Energy Management	Modular Process Control
American Council for an Energy-Efficient Economy	R.W. Beck
ARCADIS U.S., Inc.	Resource Dynamics Corporation
ASHRAE	Siemens Infrastructure and Cities, Building Technologies Division
DEKRA Certification, Inc.	Southern Company Services, Inc.
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Dow Chemical TCO	Texas Industries of the Future, Center for Energy and Environmental Resources, The University of Texas at Austin
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Ford Motor Company, Purchasing--Lean Supplier Optimization	University of Florida, College of Engineering, ISE Dept.
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## Introduction

Third party conformity assessment to Superior Energy Performance<sup>cm</sup> (SEP) is an ANSI-ASQ National Accreditation Board (ANSI-ANAB) accredited program (Note: The accreditation is in process and not final at the time of this draft) that allows organizations to demonstrate the achieved continual improvement in energy performance during the performance period. SEP provides a transparent, globally accepted system for verifying energy performance improvements and management practices. A central element of SEP is implementation of ISO 50001 with additional requirements to achieve and document energy performance improvements.

The purpose of this American National Standard, ANSI/MSE 50021-2012, is to specify the additional SEP requirements beyond the ISO 50001 requirements that are needed for SEP certification. Additional SEP requirements are related to energy management and energy performance and include performance achievement requirements. Annex A is a normative annex (i.e. contains requirements) that provides SEP requirements as it relates to the sectors for SEP. The normative reference section of this document identifies the required documents needed to successfully understand and demonstrate the requirements of SEP.

Superior Energy Performance is applicable to organizations of all sizes and levels of experience in managing energy.

The SEP program requirements will vary based on the selected sector, and the applicant's desired level of verification, facility energy performance level, and maturity of energy program. The details of the sector-specific requirements are described in Annex A. To encourage organizations to achieve greater energy performance reductions, SEP also recognizes achievement for Certified Partners based on improved performance.

Conforming to the SEP requirements helps organizations achieve their sustainability goals providing organizations with tools to manage their carbon footprint, energy use and related costs.

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# Superior Energy Performance<sup>cm</sup> – Additional Requirements for Energy Management Systems

## 1. Scope

This American National Standard specifies requirements for an organization to establish, implement, maintain and improve energy performance through Superior Energy Performance<sup>cm</sup> (hereinafter, "SEP") and an energy management system (EnMS). This American National Standard references specific performance criteria with respect to energy performance.

This American National Standard for SEP has been designed to be used in conjunction with ISO 50001 Energy management systems – Requirements with guidance for use, and it can be aligned or integrated with other management systems.

This American National Standard is applicable to any organization that wishes to ensure that it conforms to the requirements of SEP and desires to demonstrate such conformance to others. This can be confirmed by certification of the Superior Energy Performance Energy Management System by an SEP-qualified organization called a verification body.

## 2. Normative references

Superior Energy Performance<sup>cm</sup> Measurement and Verification Protocol for Industry  
Superior Energy Performance<sup>cm</sup> Industrial Facility Best Practice Scorecard  
Superior Energy Performance<sup>cm</sup> Certification Protocol  
ISO 50001 Energy management systems-Requirements with guidance for use

## 3. Terms and definitions

### 3.1

#### **achievement period**

interval between the end of the baseline year and the end of the period for which the SEP energy performance improvement is being claimed

### 3.2

#### **facility**

entire area occupied by an organization at a particular location.

A facility may be a subset of a location. If the participating facility is a subset at that location then the following conditions apply:

- a) The scope of EnMS may not exclude energy sources that are commonly managed by the management structure of the facility.
- b) The energy sources shall together account for 95% of the energy management system (EnMS) scope energy consumption.

Energy consumption must be measured at the physical boundaries of the facility.

### 3.3

#### **Superior Energy Performance facility performance indicator**

#### **SEnPI**

ratio of reporting-period energy consumption to baseline consumption, where one or both of these values is adjusted to represent consistent conditions

NOTE The SEnPI must be calculated using the sector-specific Measurement and Verification Protocol.