American National Standard

A Management System for Energy

ANSI/MSE 2000-2008

MSE 2000:
A Management System for Energy

Approved American National Standard

ANSI

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American National Standard

A Management System for Energy

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Georgia Tech Energy and Environmental Management Center (GTEEMC)

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Standard Developer
Georgia Tech Energy and Environmental Management Center
Enterprise Innovation Institute
Georgia Institute of Technology
760 Spring Street, NW
Suite 330
Atlanta, GA 30332-0640
energy@innovate.gatech.edu
(404) 894-2196
www.mse2000.net

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Foreword (This foreword is not part of American National Standard ANSI/MSE 2000-2008.)

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ANSI approval of a standard verifies the principles of openness and due process have been followed in the approval procedure and a consensus of those directly and materially affected by the standards has been achieved. A Draft National Standard was circulated to the GTEEMC Consensus Board, consisting of a balanced group of materially affected reviewers, and to those requesting reviewer statuses during the ANSI Standards Action announcement period. Approval of this standard as an American National Standard requires acceptance by a minimum of 80 percent of Consensus Board reviewers casting a vote.

ANSI/MSE 2000-2008, *A Management System for Energy*, was developed and revised by the Georgia Tech Energy and Environmental Management Center (GTEEMC). No patent rights or requirements for specific equipment or services are included in the standard. The use of the term "energy" refers to all primary and secondary energy resources, including water and utility systems. ANSI/MSE 2000-2008 addresses supply, demand and reliability issues, storage and disposal including alternative energy sources and technology.

This third edition cancels and replaces the second edition (ANSI/MSE 2000-2005). The revised standard reflects a process approach for continual improvement and provides clarification and harmonization with other management system standards.

This standard contains five informative annexes, which are not considered part of the standard.

Submit formal requests for interpretations of ANSI/MSE 2000-2008 requirements to the GTEEMC Standards Coordinators, Holly Grell-Lawe or Deann Desai, Georgia Tech Energy and Environmental Management Center, Enterprise Innovation Institute, Georgia Institute of Technology, 760 Spring Street, NW, Suite 330, Atlanta, GA 30332-0640; E-mail: energy@innovate.gatech.edu; Phone: (404) 894-2196; Web: www.mse2000.net. The GTEEMC Interpretations Committee will review and determine disposition of each request.

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Introduction

Increasing energy costs and price volatility combined with growing constraints on energy supplies and distribution networks amplifies the risks associated with energy use. Additionally, the importance of energy efficiency and renewable energy resources as strategies for reducing environmental impacts warrants more sophisticated approaches to energy management. In many organizations, energy management is treated as a minor issue behind raw material and human resources, productivity, quality, safety, and environmental issues. The significance of energy is often dismissed because it is viewed as a specialized field outside the core business of most organizations. Organizations recognizing the importance of energy to the long-term viability of the business can use this standard to manage and control both energy consumption and cost.

Crisis management techniques typically generate only short-lived improvements. Long-term, continuing improvements in energy performance can be achieved when an organization makes energy management part of their organizational strategy. ANSI/MSE 2000:2008 describes the elements required for a lasting program of continual improvement in organizational energy management. Implementation of this management system standard is a reasonable and practical approach to improving energy management and controlling costs. Organizations implementing ANSI/MSE 2000-2008 recognize comprehensive energy management is key to achieving maximum benefit from process improvements, simple operational and maintenance changes, and advanced energy efficiency technology.

ANSI/MSE 2000 establishes the order and consistency necessary for organizations to proactively manage their energy resources. By applying this standard, the organization uses the Plan-Do-Check-Act continual improvement framework to manage energy resources, incorporating energy management into everyday business operations and strategies. This framework encompasses both the management and the technical elements of energy management. The effective management of energy requires both to be present and integrated. Figure 1 illustrates how this integration takes place within the management system for energy.

The Continual Improvement Process Model

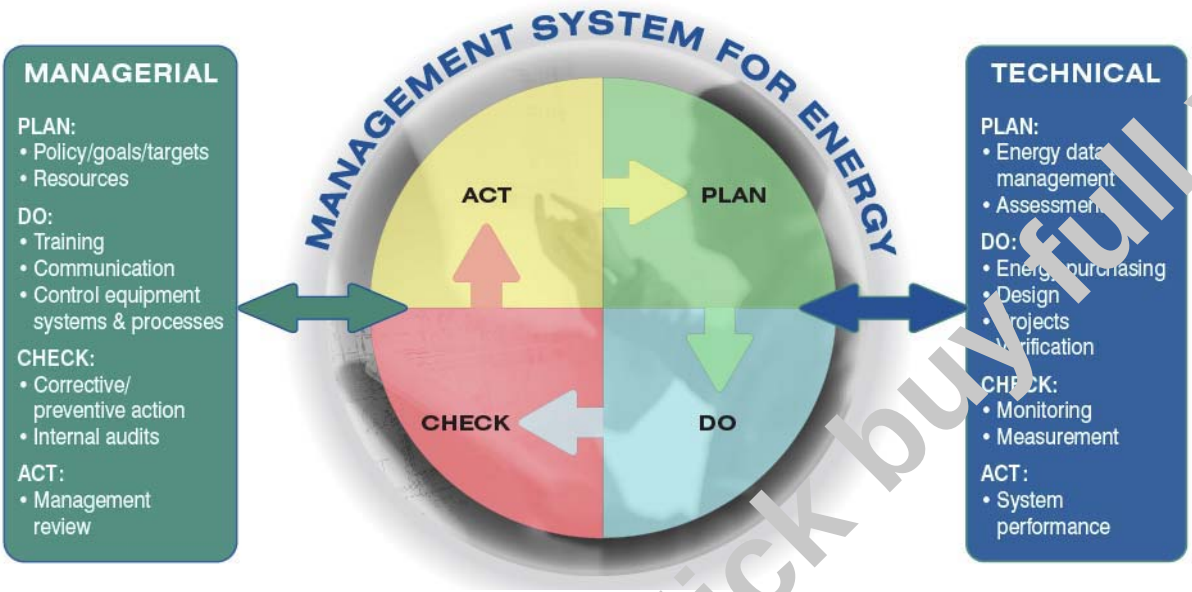

Figure 1: ANSI/MSE 2000 incorporates both management and technical aspects of the management system for energy.

ANSI/MSE 2000 defines a management system for utility resources entering the fenceline of the organization or used within its boundaries. The boundary or scope of the system can be a building, plant, facility, site or corporation. Utility resources include both primary and secondary energy resources such as electricity, fuels, water, steam, compressed air, chilled water, and others.

This management system, like those for quality, safety and environment, is a structure for identifying opportunities and problem-solving. It can be implemented by an organization in many different ways, depending on the organization's activities, needs and size. It can be tailored to fit the requirements of the organization, including complexity of the system, degree of documentation, and resources required. Because the standard relies heavily on a team approach to energy management, the structure of the organization included within the scope will significantly influence the management system team representation, composition and responsibilities. With a clearly defined team, assigned responsibilities, information transfer and communication flow, the management system for energy can function effectively no matter how the scope is defined.

Implementation of this structured, well-defined management system for energy offers an organization both direct and indirect benefits, including:

Direct:

- controllable energy costs,
- improved operational efficiency,
- decreased energy intensity,
- reduced environmental impact,
- continually improved energy performance,
- more effective energy projects,
- improved operations and maintenance.

Indirect:

- greater organizational involvement, communication, increased morale,
- increased organizational competency concerning energy issues,
- enhanced communication about energy management outside the organization,
- improved relationships with energy and equipment suppliers.
- increased safety and health,
- recognition as a good corporate citizen,
- improved risk management,
- compatibility with other management system standards.

Effective implementation of ANSI/MSE 2000 management system for energy often yields resource and cost savings and risk avoidance. Reduction in the use of nonrenewable fuels provides environmental benefits to the nation, improves security and leads to more sustainable sources of energy to the organization. Process and behavioral changes from targeted energy management projects frequently result in reduced raw materials usage, waste generation and disposal, and air emissions. An ANSI/MSE 2000 management system establishes a culture of continual improvement to sustain the gains made, placing the organization in a position to realize even greater energy efficiencies and potential savings.

American National Standard

A Management System for Energy

1 Scope

1.1 Purpose

This standard specifies requirements for a management system for energy (MSE) that enables an organization to take a systematic approach to the continual improvement of energy performance. Energy performance may include improved energy intensity, increased use of renewable energy and reduced expenditures for energy.

The standard does not state specific performance criteria with respect to energy but leaves the determination of reasonable performance improvement goals (objectives) to the discretion of the organization's energy management planning process.

A management system for energy covers the supply, demand, reliability, purchase, storage, use and disposal, as appropriate, of primary and secondary energy resources.

1.2 Application

This document is intended as a voluntary standard for a management system for energy (MSE). This standard is applicable to any organization that uses energy, and wants to:

a) assure itself of its conformance with its stated energy policy,
b) establish, implement, maintain, and improve a management system for energy, separately or within the framework of an existing management system,
c) demonstrate conformance of the management system for energy requirements to external stakeholders and other interested parties, and
d) seek certification of its management system for energy by an external organization, or
e) make a self determination and self-declaration of conformance with the standard.

All the requirements in this standard are intended to be incorporated into any management system for energy (MSE). The implementing organization must be defined to accomplish this objective.

The standard is valid for factors affecting energy use that can be monitored and/or measured and controlled or influenced by the organization.