Non-ferrous Metals Industry Energy Management System Certification

China Quality Certification Center
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China Quality Certification Center

China Quality Certification Center

A professional certification body under the General Administration of Quality Supervision, Inspection and Quarantine of the PRC. Member of the following international organizations: IECEE and IQNet. CQC provides the following services; System certification, Product certification and Training .

Main Qualifications

–State authorized administrator of the Energy Conservation Label
–Provides compulsory product certification as outlined by the Certification and Accreditation Administration(CNCA) of the PRC
–United Nations/CDM-DOE authorized to conduct GHG project review and verification.
–Certification organization for carbon credit trading for Chicago Climate Exchange

Energy Efficiency and Emission Reduction

–Professional technical service (Energy-saving product certification, government procurement, Energy-saving products incentive program)
–Policy and technology study (Energy efficiency standards, energy management system, energy performance contracting)
–International cooperation (United Nations Development Program, the U.S. Energy Foundation, the International Energy Efficiency Organization)

Importance of Energy Management System

To achieve maximum energy efficiency benefits, energy management mechanism is required to coordinate energy conservation technologies and economic operation methods efficiently.

Energy Efficiency Management

- Energy planning
- Energy-saving goal management
- Benchmark management
- Energy-saving opportunity identification
- Energy statistics and measurement

Energy Conservation Technologies

- Waste heat and pressure recovery
- Frequency technology
- Thermal storage technology
- Green lighting
- Alternative renewable resources

Energy Management System Standard

- GB/T23331-2009
"Energy Management System: Requirements"
Published on March 11, 2009
Effective from November 1, 2009

- CNCA published "Requirements on Pilot Programs of Energy Management System Certification" on April 20, 2010.

Requirements of Energy Management System Certification Pilot Projects

Main Requirements

Organized and conducted by CNCA
project period: 2 years

- Encourage the “Top1000 Enterprises Energy Efficiency Action” to actively participate in the pilot certification projects.

- Certification organizations should actively participate at the beginning of the energy management system in the pilot enterprises in order to lay the foundation for subsequent certification activities.

Requirements of Energy Management System Certification Pilot Projects

Certification Basis

Industry Certification and Implementation Rules of Energy Management System

Note: Compiled by certification organizations according to the "Compilation requirements of Industry Certification and Implementation Rules of Energy Management System" published by CNCA

Requirements of Energy Management System Certification Pilot Projects

Certificate

During the pilot period, EnMS certificate has an effective period of 2 years

- Include total energy consumption per unit of product this year and how it was calculated

- Review and audit should be no less than 4 times per year.

EnMS pilot certification of CQC

- May 2010, CQC became one of the first pilot certification organizations authorized by CNCA to conduct Energy Management System Certification in non-ferrous metals industry.

- July 2010, CQC developed the first Energy Management System Certificate in China.

Energy Consumption Features of Non-Ferrous Metals Industry

- China is the major production country of non-ferrous metals.
- Non-ferrous metals industry in China generates most emissions and consumes most resources and energy.
- The product and process energy consumption and total energy consumption of the non-ferrous metals industry in China are higher than the global average.
- Energy cost accounts for a large portion of total cost.
- New and old technologies work concurrently.

Effect of EnMS Standard on Enterprise Energy Efficiency

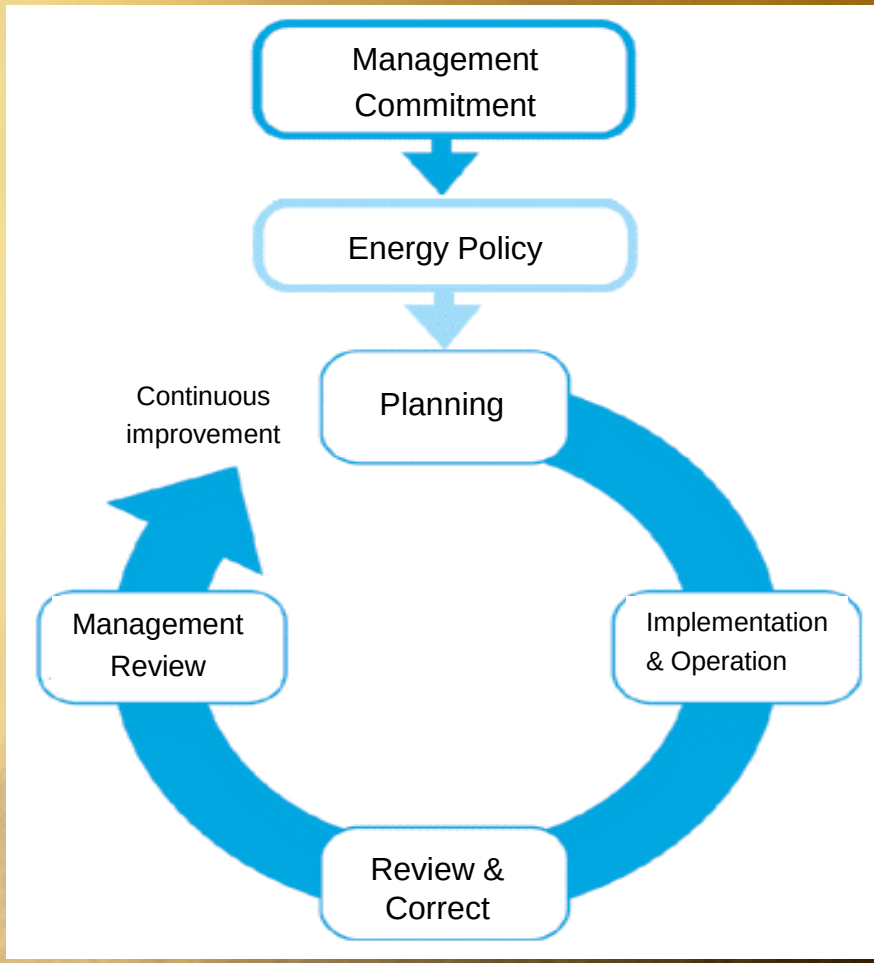
The Role of Energy Management System

Total Process Control:

- Identify energy factors
- Control and management
- Improve energy utilization rate

Use PDCA Cycle:

- Review energy management features
- Combine the features with current management methods



Effect of EnMS Standard on Enterprise Energy Efficiency

Facilitate Enterprise Energy Efficiency

- Help enterprises achieve total process energy control; improve management function

- Facilitate standardized management mechanism; clarify reasonable goals and targets

- Assist enterprises to implement energy-saving measures

- Promote continuous improvement and further innovation of enterprise energy efficiency

Establishment of EnMS Pilot Projects

Main Process

- Current Energy Management Survey
- Energy-consuming System Structure and Configuration Maintenance
- Energy Consumption Analysis
- Identification and Evaluation of Energy Use Factors
- System Planning and Document Compilation
- Energy Management Knowledge Training
- System Operation and Improvement

Establishment of EnMS Pilot Projects

Major Work Carried Out

- Analyze fluctuation and trend of energy consumption data gathered by statistics companies to understand the energy consumption effect of previous energy management measures adopted by the enterprise.
- Compile energy flow chart and energy network diagram to understand the total process in order to identify energy losses.

Establishment of EnMS Pilot Projects

Major Work Carried Out

- Conduct energy efficiency monitoring of major energy-consuming equipments; identify new direction for technical improvement and innovation.

- Help enterprises conduct energy benchmarking; assist them with the calculation method of energy consumption ceilings.

Achievements of EnMS

Sichuang Aostar Aluminum Co., Ltd

- Among the top 1000 energy-intensive enterprises listed in the “Top1000 Enterprises Energy Efficiency Action”.
- Within one year of EnMS’s operation, annual production of melted aluminum ignots amounted to 19,711 metric tons and saved 986 tons of standard coal equivalent.

Xiangguang Copper Co., Ltd

- Top provincial energy-intensive enterprise.
- Within one year of EnMS’s operation, annual production of high purity copper cathode amounted to 201,951 metric tons and saved 5,047,775 tons of standard coal equivalent.

Promoting a standardized management mechanism and establishing an energy management system are effective ways to facilitate energy and economic efficiency in both production and operation.

Thank You !