INTRODUCTION TO ISO 50001

&

IMPLEMENTATION AT J.K.WHITE CEMENT WORKS, GOTAN

V.S.Rathore
Manager-Planning
J.K.White Cement Works
INTRODUCTION OF ISO 50001:2011

ISO 50001:2011 CLAUSES

PDCA CYCLE of EnMS

IMPLEMENTATION MODEL OF EnMS

EnMS JOURNEY – JK WHITE CEMENT

BENEFITS OF ISO 50001:2011
Evolution of Energy Management System
ISO 50001:2011

ISO 50001 ---- Released on 15th JUNE 2011
ISO 50001 ---- Prepared by Technical Committee TC 242
ISO 50001 ---- based on PDCA Cycle
ISO 50001 ---- Known as EnMS (Energy Management System)
ISO 50001 ---- foundational tool that any organization can use to manage energy.
ISO 50001 can be integrated with other management systems (e.g., ISO 9001 and ISO 14001)
ISO 50001 provides a framework of requirements enabling organizations to:

1. Develop a policy for more efficient use of energy
2. Establish targets and objectives to meet the policy
3. Use data to better understand and make decisions concerning energy use and consumption
4. Measure the results
5. Review the effectiveness of the policy
6. Continually improve energy management.
ISO 50001 CLAUSES

1. SCOPE
2. NORMATIVE REFERENCES
3. TERMS & DEFINITIONS
4. ENERGY MANAGEMENT SYSTEM REQUIREMENTS
   4.1 General Requirements
   4.2 Management Responsibility
   4.3 Energy Policy
   4.4 Energy Planning
   4.5 Implementation and Operation
   4.6 Checking
   4.7 Management Review
EnMS PDCA

**Act**

- MANAGEMENT REVIEW (4.7)

**Plan**

- Legal and Other Requirements (4.4.2)
- Energy Review (4.4.3)
- Energy Baseline (4.4.4)
- Energy Performance Indicators (4.4.5)
- Objectives, Targets and Action Plans (4.4.6)

**Check**

- Monitoring, Measurement and Analysis (4.6.1)
- Evaluation of Legal/Other Requirements (4.6.2)
- Internal Audits of the EnMS (4.6.3)
- Nonconformities, Correction, Corrective and Preventive Action (4.6.4)
- Records (4.6.5)

**Do**

- Competence, Training and Awareness (4.5.2)
- Documentation Requirements (4.5.4.1)
- Control of Documents (4.5.4.2)
- Operational Control (4.5.5)
- Communication (4.5.3)
- Design (4.5.6)
- Procurement of Energy Services, Products and equipment (4.5.7)
ISO 50001:2011
ENERGY MANAGEMENT SYSTEM MODEL

Continual improvement

Management review

Internal audit

Energy Policy

Planning

Implementation and operation

Checking

Corrective and Preventive action

Monitoring and measurement
ENERGY PLANNING

PLANNING INPUT

Past and present energy uses

Relevant Variables affecting significant energy Use & Performance

PLANNING OUTPUT

ENERGY REVIEW

A. Analyse Energy Use and Consumption

B. Identify Areas of Significant Energy Use and Consumption

C. Identify Opportunities for improving energy performance

1. Energy Baseline
2. EnPI's
3. Objectives
4. Targets & Action Plans
LEGAL REQUIREMENTS

IDENTIFY & ACCESS
Applicable Legal Requirements & Other Requirements w.r.t. EnMS

COMPLY
Ensure Energy Management Systems Comply with applicable Legal Requirements & Other Requirements w.r.t. EnMS

REVIEW
Applicable Legal Requirements & Other Requirements w.r.t. EnMS
IMPLEMENTATION PROCESS FOR ISO 50001

- Management Commitment
- Appointment of MR by Top Management
- Formation of Energy Management Team
- Defining scope and boundary of Audit
- Formulation of Energy Policy and Preparation of EnMS Manual
- Selection of Certifying agency
- Awareness Training of all Employees
- Internal Auditor’s Training
IMPLEMENTATION PROCESS FOR ISO 50001 (CONT'D.)

1. Implementation as per EnMS Manual
2. Internal Audit
3. Management Review
4. Stage -1 Audit of Certification
5. Stage- 2 Audit of Certification
6. EnMS Certificate
### Action Plan for implementing the ISO 50001-JK WHITE CEMENT WORKS

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We, at JK White Cement Works, Gotan are committed to demonstrate continual improvement in our Energy performance.

To achieve this, we commit ourselves for the following-

- Measure, Monitor, Control and analyse energy consumption and take appropriate action to reduce the energy consumption.

- Comply with the applicable legal and other requirements related to energy use, energy consumption & energy efficiency.

- Support the energy efficient products, services and design for energy performance improvement.

- Continual improvement in energy performance through setting and reviewing energy objectives and targets.

- The resources required for the implementation of this policy are made available on priority by Unit head.

- Ensure that policy is made available to all employees and interested parties.

- Ensure that Policy is regularly reviewed and updated as necessary.
SCOPE OF J.K.WHITEM CEMENT WORKS FOR ISO 50001

1. THE MANUFACTURE OF WHITE CEMENT AND DRY MIX MORTARS
2. THERMAL POWER GENERATION, CAPACITY 7.5 MW
EnMS JOURNEY – JK WHITE

- **EnMS PROCESS INITIALIZATION**
- **JAN-2013**
- **SELECTION AND TRAINING OF 2 LEAD AUDITORS**
- **DEC-2013 & April-2014**
- **JULY-OCT 2014**
- **INHOUSE EnMS MANUAL PREPARATION**
- **NOV - 2014**
- **AWAINESS TRAINING**
- **DEC- 2014**
- **ENERGY REVIEW BY EnMGT TEAM**
- **JAN-2015**
- **INTERNAL AUDITOR’S TRAINING**
- **JAN-2015**
- **INTERNAL AUDIT**
- **JAN-2015**
- **MANAGEMENT REVIEW**
- **FEB-2015**
- **STAGE-1 AUDIT**
- **FEB-2015**
- **STAGE-2 AUDIT**
- **MAR-2015**
- **ISSUANCE OF CERTIFICATE BY CERTIFICATION BODY**
EXTERNAL AUDIT - J.K. WHITE

• EXTERNAL AUDIT CONDUCTED BY CERTIFYING BODY - Lloyd's Register Quality Assurance Limited (LRQA)

• EXTERNAL AUDIT WAS CONDUCTED IN TWO STAGES -

  STAGE-1 AUDIT
  • DESIGN AND DOCUMENT VERIFICATION AS PER EnMS

  Adequacy checked & Gaps analyzed

  STAGE-2 AUDIT
  • IMPLEMENTATION AS PER EnMS

  Obs. & NCs made were liquidated with evidences
CHALLENGES FACED IN IMPLEMENTING ISO 50001

1. INHOUSE DOCUMENTATION (EnMS MANUAL)

2. MAINTAINING CONTINUOUS MOMENTUM OF DIFFERENT SECTIONS /FUNCTIONS AT ALL LEVELS

3. ADHERENCE TO TARGET DATE OF CERTIFICATION
CERTIFICATION DONE ON: 19 MARCH 2015

CERTIFICATION VALID TILL: 18 MARCH 2018

CERTIFYING BODY: LRQA, UK

AUDIT SCOPE:

1. Manufacturing of White Cement & Dry Mix Mortars.
2. Thermal Power Generation Capacity 7.5 MW
BENEFITS OF ISO 50001

1. Better use of existing energy consuming assets
2. Promotion of energy management best practices
3. Implementation of new energy efficient technologies
4. Help to organization in increasing efficiency, reducing costs and improving energy performance
5. Reduced environmental impact and GHG emissions
6. Change in employee culture with sensitization towards energy savings and increase of voluntary initiatives to reduce the energy consumption.
Reason for how we achieve the ISO 50001 CERTIFICATION

1. Commitment from top management
2. Sustained energy awareness
3. Participation from all levels
4. Consensus before action
5. Single goal for the whole team
Areas to avoid while implementing ISO 50001

Areas to avoid while implementing EnMS:

a) Making a system too complex

b) Focusing on doing without recording

c) Maintaining two systems – one for use, the other for external auditors to see

d) Restricting communication: e.g. only a core team is involved and really runs the system, while those outside the team are excluded
Thank you !!!