Course Outline

EFFECTIVE IMPLEMENTATION OF TOTAL PRODUCTIVE MAINTENANCE TOWARDS ZERO LOSSES

Learn From the best

Introduction

Total Productive Maintenance (TPM) has been recognized as one of the significant operation strategy to regain the production losses due to equipment inefficiency. In the implementation of TPM in a manufacturing organization, both Human oriented and Process-oriented Strategy has been identified as critical success factors.

TPM utilizes a team approach to remove the losses from machine areas by the introduction of autonomous maintenance preventive maintenance program. Many organizations have implemented TPM to improve their equipment efficiency and to obtain the competitive advantage, since they have access to the same technology and equipment.

But if you can maximize equipment at a higher efficiency level, you can create a sustainable competitive advantage for your company. As a result, the focus of maintenance is shifting from fixing breakdowns to maximizing overall equipment effectiveness (OEE).

Learning Points

- Determine the Overall Equipment Effectiveness (OEE) of the machinery.
- Identify Causes and Types of Equipment Failures Measure Overall Equipment
- Effectiveness (OEE)
- Understand how to improve the effectiveness of their machinery
- Build an Effective focus Maintenance Team
- Establishes a thorough system of Preventive Maintenance (PM) for the equipment's entire useful life.
- Develop Maintenance standards Checklist and PM Procedures
- Be able to design and implement a TPM program
- Achieving zero losses through Small Group Activity.

Methodology

The program will be conducted using adult learning methodology where the appropriate activities will be deployed:

- Class room Lecture.
- Experience sharing.
- Brainstorming and Team discussion.
- Work on task given as a workshop exercise.
- Two way communication and ideas will make the class full of energy.
- Educational games.
- Individual and group activities.
- Team Presentations

Who Should Attend

Quality Assurance, Quality Control, Production, Process, Managers, Executives, Engineers, Supervisors, Technicians and anyone who would like to improve their knowledge in Maintenance

Course Outline

Module 1

Introduction to TPM

1.Objectives of Equipment Maintenance.
2.The origins of Lean Thinking
3.TPM Principles
4.TPM a Paradigm Shift
5.3 Key goals of TPM
▪Zero unscheduled breakdowns
▪Zero Quality Defects
▪Zero Accidents
6. The origins of TPM
7.Why Maintenance program fails

Module 2

Understanding basic concepts of TPM - The 8 Key Pillars.

1. Focussed Improvement (Kobetshu Kaizen)
2. Autonomous Maintenance (Jishu Hozen)
3. Planned Maintenance.
4. Initial Phase Management (Maintenance Prevention)
5. Quality Maintenance
6. Training and Education Development
7. Office TPM Administrative and Indirect departments
8. Safety and Health Environment Management

Module 3

5S and Waste

Focuses on putting everything where it belongs and keeping the workplace clean and reduce waste

1.Five Steps Of Workplace Organization
2. Sisih-Set
3. Susun-Sort
4. Sapu-Shine
5. Seragam-Standard
6. Sentiasa Amal-Sustain

7.The 7 Wastes of Lean Eliminating wasteful activities

Module 4

Understand 6 Major Plant Losses and how to address their root causes

1. Breakdowns
2. Setups and adjustment
3. Idling and minor stoppages
4. Speed
5. Quality defects and rework
6. Start-up (loss of yield)
7. Understand Sporadic Losses
8. Understand Chronic Losses

Module 5

Losses in production process Overall Equipment Effectiveness (OEE)

Concept of Overall Equipment Efficiency (OEE).
2. What is OEE?
3. Implication of OEE.
4. Measuring OEE?
5.The Simple OEE Formulas

- Availability
- Performance
- Quality
- Overall Equipment Effectiveness

6.A Real Example of Calculating Simple OEE
7.Interpreting your OEE rating
8.Benchmarking of OEE
9.Defining World Class OEE?
10. Addressing the 6 Major equipment Losses.

- Machine Breakdowns
- Machine Adjustments/Setups
- Machine Stops
- Machine Reduced Speeds
- Machine Start Up Bad Parts
- Machine Production Bad Parts
- Understanding Chronic losses and Sporadic losses

11. Mean Time Between Failures (MTBF): MTBF is a measure of equipment reliability to zero breakdowns
12. Mean Time To Repair (MTTR): MTTR is a measure ofrepair of equipment and the efficiency and resources time

Module 6

Deciding right Maintenance Strategies

How to Implement the 7 steps Preventive Maintenance Priority Model

1. Breakdown Maintenance
2. Corrective Maintenance

3.Understanding 7 step Planned Maintenance?

4.Define the responsibility of the maintenance group

5.Identify the different maintenance organization structures

6.Organize and staff the maintenance group for optimal performance

7.Implementing step by step Priority Model?

Step 1: Selection of priority model Using Pareto Analysis

Step 2: Restore deterioration & correct weaknesses

- Prevent recurrent major failures

Step 3: Build an information system

- Preparation of Maintenance Standard

Step-4 Extension of service life

- Execute corrective maintenance (Improve, Redesign, Use higher technologies)

Step-5 Improvement of inspection and maintenance efficiency

- Research of deterioration, Detection of internal deterioration, Activities to reduce breakdown maintenance

Step-6 Overall equipment diagnosis

- Revise maintenance standards and enhance maintenance skills and technologies

Step-7 Use of equipment to its limits

- Develop diagnostic techniques (Predictive maintenance)

Module 7

How to Implement the 7 steps Autonomous maintenance

1.What is Autonomous Maintenance?

2.Develop Operator Equipment Management training.

3.Develop task transfer list for the operators.

4.How to Implement Autonomous Maintenance

Step 1: Initial machine cleaning and inspection

Step 2: Counter measures cause of contamination and improve access

Step 3: Establish Tentative standards for lubrication and inspection

Step 4: Overall Inspection and monitoring

Step 5: Autonomous Inspection

Step 6: Standardize visual maintenance.

Step 7: Autonomous Management

- Continuous improvement

5.Benefits of Autonomous Maintenance.

6.Teams identify analyze potential equipment for improvements.

- Describe the activities in TPM-AM (Autonomous Maintenance)

Module 8

Develop TPM Culture and Improvements.

1.TPM requires culture change
2.Plan continuous improvement activities.
3.Measurement tools for performance of TPM
4.Frequent review of TPM in organization
5.Overall benefits of TPM in the organization.

About Elite Indigo

Elite Indigo Consulting provides corporate training to the semiconductor and manufacturing industries. With a humble beginning of one founding member with passion and desire to share his 20 years of experiences in Smart Manufacturing for global manufacturing facilities, now, we have a strong and competent team of 20 members, all aligned with company mission, vision and core values.

Our Mission

"Transform Data into Insights - Leap Forward"

Our Vision

Be a Global Trusted Advisor in the Areas of Skills Development, Consultancy & Software Solutions specialising in Semiconductor & Manufacturing industries.

Our Core Values