MAINTENANCE TASK ANALYSIS (MTA)

Description:

MTA is the identification of the steps, spares and materials, tools, support equipment, personnel skill levels as well as any facility issues that must be considered for a given repair task. Also included in the MTA are elapsed times required for the performance of each task. MTAs cover both corrective and preventative maintenance tasks and, when complete, identify all physical resources required to support a system The Maintenance Task Analysis (MTA) when completed will detail the resources required to implement effective corrective and preventative maintenance tasks for a system and/ or equipment The MTA is a detailed analysis performed for each of the corrective and preventative

Maintenance tasks. These maintenance tasks were earlier identified in the LSA process. Consideration would be given to all the support resources that will be required to conduct each of the maintenance tasks.

Training Methodology:

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions, and motivate everybody find the right answers. The delegates will also be encouraged to raise their own questions and to

share in the development of the right answers using their own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course

Course Objectives:

A well prepared MTA would provide critical input to support and address the needs other ILS elements, such as training and technical publications development. The technical publication would utilize data such as the detailed task description, which also provide valuable input for the development of maintenance training courses and support material.

Who Should Attend?

The program should be of interest to:

- Maintenance Managers interested in raised the performance of their department to a higher level
- Maintenance Engineers, Reliability Engineers and Maintenance Technical Support staff wishing to enhance their knowledge and improve their knowledge of tools and techniques they can use to improve maintenance performance
- Maintenance Supervisors and Maintenance Planners and Schedulers wishing to enhance their knowledge and improve their knowledge of tools and techniques they can use to improve maintenance performance

Course Outline:

Day 1

INTRODUCTION

Effective maintenance Management

- Not Knowing What You Have
- over or Under Maintenance

- Improper Operation

- Improper Risk Management

- Sub-optimized Asset Management Systems

The Maintenance Task Analysis (MTA)

Introduction

Task analysis

Hierarchical Task Analysis

Identifying each step of the repair process

Understanding the Task Requirements

- Task analysis

- The data collected

- Establishing baseline data

Day 2

MTA Description and Investigation Resources

- Person or persons participating

- Time duration of each person's participation

- Tools or support equipment required

- Parts and materials needed for the step Analysis the task done

- Time for the task

- The skill level

- Additional training

- Any facility implications

Day 3

Corrective Maintenance Task Generation Supportability Analysis Staffing Optimization

MAT output

- Job role specifications;

- The competencies, skills, and knowledge required to perform these duties;

- A suitable organizational structure providing adequate supervision and support;

- Communication and user requirements;

- Training and continued performance requirements;

- Ergonomic designs and layout for equipment; and

- A change management plan

Day 4

- Reliability and Maintenance

- Introduction

- The purpose of maintenance

- Function of maintenance

- Type of Maintenance Strategy

- Maintenance Methods

- Failure-Based or Breakdown Maintenance

- Scheduled or Preventive Maintenance

- Predictive Maintenance

- Proactive Maintenance

- Summary of Predictive and Proactive Practices

- Condition-Based Maintenance (CBM)

- Reliability-Centered Maintenance (RCM)

- Total Productive Maintenance (TPM)

- Computerized Maintenance Management Systems (CMMS)

Day 5

- Techniques of Failure Analysis

- Equipment Failure

- Where to Start: Equipment Criticality Or Risk

- Reliability Centered Maintenance (RCM) Overview

- Failure Analysis - Closing The Loop

- Root Cause Failure Analysis (RCFA)

- Failure Hierarchies

- FMEA & FMECA

- Introduction

- Purpose and objectives of the analysis

- Failure modes and effects analysis

- General considerations

- Preliminary tasks

- Benefits of FMEA

- Summary of procedures for FMEA

Building a system for equipment condition indicating

- Equipment data

- Failure data

- Maintenance data

- Data format

Failure and maintenance notations

Failure descriptors

Failure causes

Method of detection

Case Studies, Group Discussions, Last Day Review, Assessments will be carried out

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