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Reliability Engineering Workbench

FMECA

Equipment Criticality

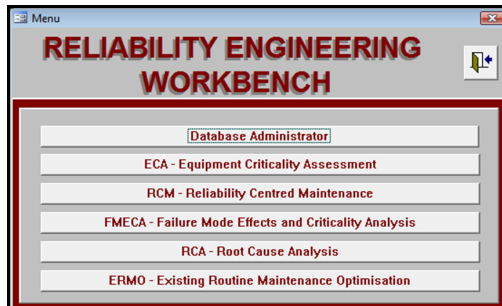
RCM

Root Cause Analysis

Optimise Maintenance Plan



The Reliability Engineering Workbench seamlessly integrates Risk and Reliability Management Processes in compliance with specific SAE, AS / NZS and Mil Standards.



Supported Standards

- SAE JA 1011/1012
- Mil Std 1629
- AS/NZS 4360 1999: Risk Management
- AS/NZ 3931:1998 Risk Analysis of Technological Systems – Application Guide
- SAE ARP 5580 FMEA
- Caters for data distribution via synchronisation, replication etc.

Contact Details

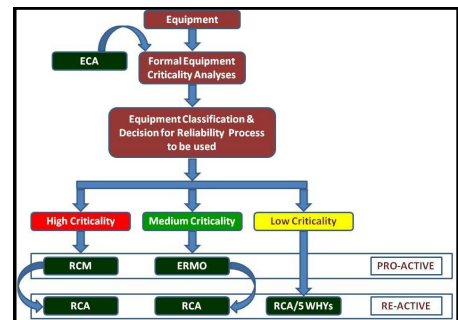
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Plant / Equipment Criticality Assessment (PCA)

- The following user defined criteria / parameters which can be affected by failures are considered when performing the ECA:
 - Safety Impact
 - Environmental Impact
 - Production Quality Impact
 - Production Output Impact
 - Customer Service Impact
 - Operating Cost Impact
 - Failure Probability
- The output of the ECA can be used to apply business rules to determine the specific reliability improvement process for different plant and equipment.

Benefiting Industries

- Plant & Factories
- Mining
- Manufacturing
- Petrochemical
- Defense Industry



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Consider Operating Context when Developing Maintenance Plan

Seamlessly Integrate RCM, FMECA & Root Cause Analysis

REW

Reliability

Risk-Based Reliability-Centered Maintenance [Risk-Based RCM]

RCM is generally used to establish the safe minimum levels of maintenance. It can also identify changes to operating procedures and strategies and establish capital maintenance regimes and plans.

Successful implementation of RCM will lead to an increase in cost effectiveness, machine uptime. It will also allow a greater understanding of the level of risk that the organization is presently managing.

The Reliability-Centered Maintenance process ensures that assets continue to do what their users require in their present operating context.

Functional Analysis of an Asset:

- Primary and Secondary Functions
- Functional Failures [Partial and Total]
- Failure Modes [Causes and Mechanisms]
- Failure Risk Classification

Risk and Task Analyses:

- Using the Functional Analyses output to categorise the failure mode and effect on safety, environmental and operational [financial] risk.

Integrated Failure Mode, Effects and Criticality Analysis [iFMECA]

Integrated Failure modes, Effects, and Criticality Analysis [FMECA] is a methodology to identify and analyze:

- All potential failure modes of the various parts of a system;
- The effects these failures may have on the system;
- How to avoid the failures, and / or mitigate the effects of the failures on the system;
- FMECA is a technique used to identify, prioritize, and eliminate potential failures from the system, design or process before they reach the customer.

FMECA is aimed at resolving potential problems in a system before they occur:

- The iFMECA process addresses all the problems concerning design, manufacture, process, safety, and environment failure.
- Seamless integration of data between the RCM and iFMECA modules.
- The basis of the iFMECA is the functional analysis in the Risk-Based RCM module.

Integrated Root Cause Analysis [iRCA]

- The iRCA process can utilise the data developed during the Risk-Based RCM or iFMECA processes for the same equipment; or
- It can be used totally independently of the Risk-Based RCM module in situations where the Risk Based RCM process is not used.
- Once an iRCA has been completed, the existing routine maintenance tasks can be viewed and reviewed as required. The functionality ensures that a continuous process of optimisation is easy and effective.

Existing Routine Maintenance Optimisation [ERMO]

- The ERMO process is used to evaluate if existing scheduled maintenance tasks are technically valid and financially justified.
- the Risk-Based RCM process, but uses the same criteria to validate whether a routine task is technically appropriate and cost effective.
- Existing task lists or schedule information from the client on CMMS tasks are uploaded into the ERMO module for verification and optimisation.



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