MADe RCM (Reliability Centered Maintenance)

Improve the effectiveness of your RCM process across the asset life-cycle.

Key benefits
- Optimise Total Cost of Ownership for an asset
- Mitigate risk of divergence in the sustainment budget
- Use RCM to influence / support design
- Configuration Management

Key features
- Automated failure analysis / mapping
- Risk mitigation based on standardised workflow / automation
- Model / Analysis Quality indicators
- Consistent with industry standard

As an asset is designed or upgraded, an RCM analysis is performed to identify the optimal maintenance schedule based on its expected usage & anticipated reliability. Traditionally, the RCM process is resource intensive and lengthy (specifically the function / failure mapping for the system) so it is repeated only if significant cost or technical issues arise. Ideally, RCM analysis should be performed regularly across the asset life-cycle if the usage profile and operational reliability varies from the expected design assumptions.

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Why use MADe RCM?
MADe is a model based integrated toolset that enables RCM informed decisions about design and supportability to identify the most cost-effective maintenance approach tailored to the asset usage.

Accuracy of analysis:
MADe RCM uses data logging and configuration management of the process to generate dashboard indicators of both model and analysis quality.

Trade Studies / What-if’ Analysis:
Alternate maintenance tasks for a component’s critical failure modes can be assessed based on technical validity, availability and economic impact for the expected life of the asset.

What does MADe RCM provide?
A tool for conducting RCM analysis to generate technical feasibility assessment and cost comparison of alternate maintenance approaches that is:
- configurable to integrate with an organisation’s engineering processes
- consistent with industry standards (e.g. MSG3, MIL 3034, SAE-JA1012)
- efficient and cost effective at each stage of the asset life-cycle.

How does MADe improve the RCM process?
MADe it is a model-based simulation tool, with technical features that include automated dependency mapping and a standardized taxonomy of function / failure concepts to maximize consistency for the process.

This makes MADe RCM more efficient to use – significantly reducing the resources required and the costs associated with the RCM process.

So what?
Iterative RCM using MADe for the maintenance program for an asset can:
- optimize sustainment costs and availability across the expected life
- reduce the technical and economic risk of a maintenance plan / approach
- ensure that knowledge captured / generated is retained and leveraged

To arrange for a demonstration, please contact us at info@phmtechnology.com
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How does MADe improve the RCM process across the asset life-cycle?

### Overview / Item Selection
- Selects the most critical items to be maintained based on reliability and criticality data from RBD/FMECA.
- Develops alternate scenario for maintenance approaches and related costs.
- Generates RAM performance of an asset based on maintenance decisions for each item.

### Functions & Functional Failures
- Determine functions / functional failures for each maintainable item using a standardised taxonomy.
- Set acceptable limits for each function.

### Failure Causes
Assign a detection method for each failure cause generated by MADe Failure Diagram and decide which failure mode to consider in the analysis.

### Failure Effects
Automatically determine the consequences of each functional failure on the overall system response from MADe failure propagation and stepping.

### Failure Criticality
Edit Safety, Operational and Economic impact rankings for each functional failure to automatically generate Measure of Impact (MOI) indices.

### Failure Classification
Uses the RCM decision logic to determine whether a failure is Hidden, has a Safety, Operational or Economic impact.

### Proactive/Reaction Maintenance Action Assignment to each Functional Failure
- Set / edit Schedule Repair, Schedule Replace or On Condition maintenance action worksheets.
- Set / edit Failure-Finding, Redesign, Repair and Replace action worksheets.
- Define tasks/resources for each maintenance action.

### RCM Management
- Store/modify all RCM analysis performed.

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