# **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
- 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.

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

How can you improve the efficiency of the RCM process to make it cost-effective during the

design process and for in-service assets?

As an asset is designed or upgraded, an RCM analysis is performed to identify the optimal

RCM process is resource intensive and lengthy (specifically the function / failure mapping

analysis should be performed regularly across the asset life-cycle if the usage profile and

operational reliability varies from the expected design assumptions.

maintenance schedule based on its expected usage & anticipated reliability. Traditionally, the

for the system) so it is repeated only if significant cost or technical issues arise. Ideally, RCM



#### Accuracy of analysis:

Maintenance Comparison Summary.

#### 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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\$54,950.00 \$54,950.00

Rate (USD/person/hr)

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# Personnel

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\$150.00

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0.8064516 Yes

0.8064516 No

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## How does MADe improve the RCM process across the asset life-cycle?

#### **Overview / Item Selection** System RAM performance Selects the most critical items to be maintained based on System: 📑 APC Platform reliability and criticality data from RBD/FMECA. Time Span: 100 hours Develops alternate scenario for maintenance approaches Racoline and related costs. Reliability: 0.0037524 Generates RAM performance of an asset based on Availability: 0.9471010 maintenance decisions for each item. Uses functions defined in the MADe model Functions & Functional Failures **Proactive/Reaction Maintenance Action Assignment** to each Functional Failure Determine functions / functional failures for each ▶ Set / edit Schedule Repair, Schedule Replace or On Condition maintainable item using a standardised taxonomy. maintenance action worksheets. Set acceptable limits for each function. Set / edit Failure-Finding, Redesign, Repair and Replace action worksheets. -----Define tasks/resources for each maintenance action. ► Al and Personne Description COL Removal Removal COL New Personnel Second Removal COL Removal Uses functions defined in the MADe model æ Failure Causes Task/resource definition Assign a detection method for each failure cause generated by Estimate operational impact and feasibility of redesign. MADE Failure Diagram and decide which failure mode to consider in the analysis. Estimate MTTR and total cost for each maintenance action. ► Cycle mechanic ) (%) 🧭 Comment Decision 1.71 Secondary fuel filt... Analyze 1.71 Secondary fuel filt... Maintenance Actions Classification Dmit 🗸 😲 Mechanical - rotational Torque Operational 1.71 Secondary fuel filt... 💼 Repair Repair 1.71 Secondary fuel filt... On-condition Maintenance On-condition M 1.71 Analyze Scheduled Repair (Safety) Scheduled Repair 1.71 Analyze Automatically determine failure causes **Failure Effects** Compare alternate maintenance approaches. Automatically determine the consequences of each functional Convert Mechanical - rotational failure on the overall system response from MADe failure propagation and stepping. V for Half Shaft FL **RCM Management** -Store/modify all RCM analysis performed. Automatically determine failure effects **Failure Criticality** Edit Safety, Operational and Economic impact rankings for each functional failure to automatically generate Measure of Impact RCM New RCM Analysis End Effect Iten RCM Analysis f... ASLAV-PC Copy (MOI) indices. RCM 2015 APC Platform 🗁 Open RCM 2016 APC Platform 💢 Delete **Failure Classification** Uses the RCM decision logic to determine whether a failure is Hidden, has a Safety, Operational or Economic impact.



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