Holistic Asset MANAGEMENT

HOW TO PERFORM A RELIABILITY CENTRED MAINTENANCE (RCM)?

Preserve system functions through the most appropriate maintenance tasks

PREPARE AND DEFINE STAGE

1. Assemble a cross-functional RCM team

The size of the team is adequate for an effective RCM analysis without wasting resources and/or making the team out of control (usually 4 to 5 people).

2. Select the equipment to be analysed

- What is the scope of the RCM analysis?
- What are the system boundaries and the relationships between all major components or subfunctions?
- Which equipment is most valuable for you to analyse with RCM first?

3. Define ground rules of team management and assumptions of the RCM analysis

4. Gather and review relevant documentation

e.g., system P&IDs, manuals, equipment history, work order summary etc.

ANALYSE STAGE

Answer SAE JA1011 7 Questions

5. Identify functions

What does the selected equipment do and what is the acceptable level of performance you want to achieve?

6. Identify functional failures

How can the selected equipment fail to fulfil one or more intended function(s) to a standard of performance?

7. Identify failure modes

what are the specific causes of the functional failures you have listed in step 6?

8. Identify failure effects

What happens when failures occur and what are the symptoms of failure?

9. Identify and categorise failure consequence

How and why does the failure matter?

10. Select Maintenance tasks

Is the loss of function cased by this failure mode on its own *Hidden* or *Evident* to the operator/crew under normal circumstances?

Will the failure have a direct and adverse effect on *Environment* and *Safety* or *Economy*?

Is a scheduled *on-condition task* technically feasible and worth doing?

Is a scheduled *restoration or discard task* technically feasible and worth doing?

Is a *failure-finding task* technically feasible and worth doing?

Proactive Tasks

- **Condition-based Maintenance**
- **Failure-Finding Inspections**
- **Preventive Maintenance**

Default Action

- **Run-to-Failure**
- **Redesign**

Based on SAE JA1012A Decision Diagram

ACT AND SUSTAIN STAGE

Package the most appropriate maintenance tasks (from step 10) into a workable maintenance plan.

Choose time intervals at which groups of tasks can be carried out most effectively and efficiently.

Continuously review the process to provide feedback and measurement of progress toward asset management goals.

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