DATA ITEM DESCRIPTION
Title: Reliability-Centered Maintenance (RCM) Analysis Decision Phase Report

Number: DI-PSSS-82116
AMSC Number: N9789
DTIC Applicable: No
Preparing Activity: MC
Approval Date: 20170327
Limitation: N/A
GIDEP Applicable: No
Project number: PSSS-2017-014
Applicable Forms: RCM Analysis Decision Worksheet (Figure 1).

Use/Relationship:
The RCM Analysis Decision Phase Report records the detailed information generated by the RCM Review Group supporting the Marine Corps Systems Command (MCSC) RCM analysis of a system or asset and documents the performance of the last three steps of the RCM process.

This Data Item Description (DID) provides guidance pertaining to the format, content, and intended purpose for the information generated from the work task described in the contract SOW. This DID is related to DI-PSSS-82115, RCM Analysis Information Phase Report and DI-PSSS-82114, RCM Analysis Report.

Requirements:

1. Reference documents. The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract.

2. Format. This report shall be in the format reflected in Figure 1 of this DID, and shall be delivered in the electronic format specified in the contract.

3. Content. This report shall include, as a minimum, the information specified in the sample worksheet in Figure 1 of this DID, and document, in complete details, each element addressing the last three steps of the RCM process in accordance with the SAE JA1011 standard and SAE JA1012 guide. (Copies of SAE JA1011 and SAE JA1012 are available online at www.sae.org.)

1. SYSTEM/ SUB-SYSTEM																				
RCM ANALYSIS DECISION WORKSHEET									2. Revision:				Date:							
									3. Facilitator:				Date:							
									4. Auditor:				Date:							
5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
F	FF	FM	H	S	E	O	1	2	3	H4	H5	S4	Proposed Task/ Recommendations	Training	Technical Manual	Design	Process	PMCS	Interval	Done by
1	A	1	Y	N	N	Y	N	N	N	-	-	-			X					

FIGURE 1. RCM analysis decision worksheet.

3.1 Block 1. System/ Sub-System. Duplicate the entry on the corresponding RCM Analysis Information Report, Block 1.

3.2 Block 2. Revision. Duplicate the entry on the corresponding RCM Analysis Information Report, Block 2.

3.3 Block 3. Facilitator. Duplicate the entry on the corresponding RCM Analysis Information Report, Block 3.

3.4 Block 4. Auditor. Reserved for the Government RCM Auditor.

3.5 Block 5. Function. Duplicate the numerical entry on the RCM Analysis Information Phase Report, Block 5.

3.6 Block 6. Functional Failure. Duplicate the letter on the RCM Analysis Information Phase Report, Block 6.

3.7 Block 7. Failure Mode. Duplicate the numerical entry on the RCM Analysis Information Phase Report, Block 7.

3.8 Block 8. Hidden Failure Consequences.

a. Enter "Y" (Yes) when the RCM review group determines the loss of function resulting from a failure mode, on its own, is evident to the operator(s) under normal circumstances, and proceed to Block 9.

b. Enter "N" (No) when the RCM review group determines the loss of function resulting from a failure mode, on its own, is not evident to the operator(s) under normal circumstances, and proceed to Block 12.

3.9 Block 9. Safety Failure Consequences.

a. Enter "N" (No) when the RCM review group determines the loss of function or secondary damage caused by a failure mode may not result in the death or injury of a human being, and proceed to Block 10.

b. Enter "Y" (Yes) when the RCM review group determines the loss of function or secondary damage caused by a failure mode may kill or injure a human being, and proceed to Block 12.

3.10 Block 10. Environnemental Failure Consequences.

a. Enter "N" (No) when the RCM review group determines the loss of function or secondary damage caused by a failure mode may not result in a breach of any industry or government environmental standard or regulation, and proceed to Block 11.

b. Enter "Y" (Yes) when the RCM review group determines the loss of function or secondary damage caused by a failure mode may result in a breach of any industry or government environmental standard or regulation, and proceed to Block 12.

3.11 Block 11. Operational Failure Consequences. Enter "Y" (Yes) when the RCM review group has determined a loss of function is evident to the operator(s) under normal circumstances and will not result in any safety or environmental consequences, and proceed to Block 12. Non-operational consequences do not apply to Marine Corps assets or systems.

3.12 Block 12. On-Condition Task.

a. Enter "Y" (Yes) when the RCM review group has determined "a periodic or continuous task capable of detecting a potential failure" and of reducing the risk of a multiple failure to a tolerable level is "applicable" and "effective" (SAE JA1011, 3.2, 3.4, 3.22). Proceed to Block 18 when an on-condition task is identified, and provide a Clear, Concise, Complete, Correct, and Unambiguous (C4U) description of the recommended task.

b. Enter "N" (No) when the RCM review group does not identify an applicable and effective on-condition task, and proceed to Block 13.

3.13 Block 13. Scheduled Restoration Task.

a. Enter "Y" (Yes) when the RCM review group has determined a scheduled task capable of restoring "the capability of an item at or before a specified interval, regardless of its condition at the time, to a level that provides an acceptable probability of survival to the end of another specified interval" is applicable and effective (SAE JA 1011, 3.35). Proceed to Block 18 when a scheduled restoration task is identified, and provide a C4U-compliant description of the recommended task.

b. Enter "N" (No) when the RCM review group does not identify an applicable and effective scheduled restoration task, and proceed to Block 14.

3.14 Block 14. Scheduled Discard Task.

a. Enter "Y" (Yes) when the RCM review group has determined a "scheduled task that entails replacing an item at or before a specified age limit regardless of its condition at the time" is applicable and effective (SAE JA1011, 3.34). Proceed to Block 18 when a scheduled restoration task is identified, and provide a C4U-compliant description of the recommended task.

b. Enter "N" (No) when the RCM review group does not identify an applicable and effective scheduled discard task.

(1) Proceed to Block 15 when the failure mode affects a protective function.

(2) Proceed to Block 17 when the loss of function may affect safety or the environment.

(3) Proceed to Block 18, when the failure mode has an adverse effect on operational capability.

3.15 Block 15. Scheduled Failure-Finding Task. Block 15 applies exclusively to hidden functions.

a. Enter "Y" (Yes) when the RCM review group has determined a scheduled task capable of determining "whether a specific hidden failure has occurred" is applicable and effective (SAE JA1011, 3.11). Proceed to Block 18 when a scheduled failure-finding task is identified, and provide a C4U-compliant description of the recommended task.

b. Enter "No" (N) when the RCM review group does not identify an applicable and effective scheduled failure-finding task, and proceed to Block 16.

3.16 Block 16. Multiple Failures. Block 16 applies exclusively to hidden functions.

a. Enter "Y" (Yes) when the RCM review group has determined the event resulting from the failure of "a protected function, while its protective device or protective system is in a failed state", may result in safety or environmental consequences (SAE JA1011, 3.20). Proceed to Block 18, and provide a C4U-compliant description of the recommended one-time change intended to reduce the probability of the multiple failure to a level tolerable to the owner or user.

b. Enter "No" (N) when the RCM review group has determined a multiple failure would not result in safety or environmental consequences. Proceed to Block 18, and capture the resulting recommendation from the review group.

3.17 Block 17. Combination of On-Condition and Scheduled Tasks. Block 17 applies exclusively to failure modes which may affect safety or the environment.

a. Enter "Y" (Yes) when the RCM review group has determined a combination of technically feasible on-condition and scheduled (discard or restoration) tasks may reduce the risk of the failure mode to a tolerable level. Proceed to Block 18 when a combination of applicable and effective tasks is identified, and provide a C4U-compliant description of the recommended tasks.

b. Enter "No" (N) when the RCM review group has determined a combination of tasks would not reduce the risk of failure to a tolerable level. Proceed to Block 18, and provide a C4U-compliant description of the recommended one-time change intended to reduce the risk of failure to a level tolerable to the owner or user.

3.18 Block 18. Proposed Task/ Recommendations. Enter a C4U-compliant description of the failure management strategy recommendation developed by the RCM review group upon performing the seven RCM steps. Block 18 will also include any recommendation to delete any current maintenance tasks identified as either ineffective or inapplicable by the RCM review group.

3.19 Block 19. Training. Enter (X) when the recommendation recorded in Block 18 is related to the training material or training curriculum provided to system users (operators or maintainers).

3.20 Block 20. Technical Manual. Enter (X) when the recommendation recorded in Block 18 is related to any current United States Marine Corps technical publication associated with the system or asset.

3.21 Block 21. Design. Enter (X) when the recommendation recorded in Block 18 is related to the physical design of the system or asset.

3.22 Block 22. Process. Enter (X) when the recommendation recorded in Block 18 is related to any process associated with the system or asset.

3.23 Block 23. Preventive Maintenance, Checks, and Services (PMCS). Enter (X) when the recommendation recorded in Block 18 consist of an on-condition task, a scheduled task, an inspection task, a lubrication task or a service task, and proceed to Block 24.

3.24 Block 24. Interval. Identify the interval at which the PMCS task recorded in Block 18 is to be completed, and proceed to Block 25.

3.25 Block 25. Done by. Identify by either job title (e.g. “crew”, “maintainer”, etc.) or Military Occupational Specialty (MOS) who is responsible to complete Preventive Maintenance Checks and Services (PMCS) tasks.

End of DI-PSSS-82116