DATA ITEM DESCRIPTION
Title: RELIABILITY-CENTERED MAINTENANCE (RCM) FAILURE MODES AND
EFFECTS ANALYSIS (FMEA) REPORT

Number: DI-PSSS-80980B	**Approval Date:** 20160815
AMSC Number: N9691	**Limitation:** N/A
DTIC Applicable: N/A	**GIDEP Applicable:** N/A
Preparing Activity: SH	**Project Number:** PSSS-2016-023
Applicable Forms: N/A	

Use/Relationship:
Reliability-Centered Maintenance (RCM) Failure Modes and Effects Analysis (FMEA) defines
the dominant failure modes and the effect each failure mode has on the item.

This Data Item Description (DID) contains the format, content, preparation instructions and
intended use information for the data product resulting from the work task described in 5.1.4 of
MIL-STD-3034A.

This DID is related to DI-PSSS-80979B, RCM Master Systems and Subsystems Index (MSSI);
DI-PSSS-80994B, RCM Functional Block Diagram (FBD); DI-PSSS-80981B, RCM Functional
Failure Analysis (FFA) Report; DI-PSSS-80983B, RCM Additional Functionally Significant
Item (AFSI) Selection Report; DI-PSSS-80982B, RCM Functionally Significant Items (FSI)
Index; DI-PSSS-80984B, RCM Decision Logic Tree Analysis (LTA) with Supporting Rationale
and Justification Report; DI-PSSS-80985B, RCM Servicing and Lubrication Analysis (SLA)
Report; DI-PSSS-80989B, RCM Inactive Equipment Maintenance (IEM) Requirement Analysis
Report; DI-PSSS-81829A, RCM Corrective Maintenance (CM) Development Report; DI-PSSS-
80986B, RCM Maintenance Requirements Index (MRI); DI-PSSS-80988B, RCM Task
Definition Report; DI-PSSS-80987B, RCM Procedure Validation Report; DI-PSSS-80990A,
RCM Documentation Control Sheet.

This DID supersedes DI-SESS-80980A.

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. The FMEA report shall be in a format similar to that of the sample form of Figure 1
of this DID.

3. Content. This FMEA report shall contain all of the information specified in the sample form
of Figure 1 of this DID and as specified in MIL-STD-3034A, paragraph 5.1.4.5.

3.1 Block 1. ESWBS Number. Enter the entry from the Functional Failure Analysis (FFA) and
Additional Functionally Significant Item (AFSI) form, block 1, as applicable.

3.2 Block 2. Nomenclature. Enter the entry from the FFA and AFSI form, block 2, if applicable.

3.3 Block 3. Ship Class. Enter the entry from the FFA and AFSI form, block 3, if applicable.

3.4 Block 4. Prepared By. Enter the analyst's name and the date.

3.5 Block 5. Reviewed By. Enter the first level reviewer's name and the date.

3.6 Block 6. Approved By. Reserved for Maintenance Coordinating Activity (MCA) approval signature and the date.

3.7 Block 7. Revision. Identify the revision level of the FMEA report and enter e.g., "ORIGINAL", "A", "B", "C" etc., sequentially as applicable and the date.

3.8 Block 8. Function(s). Enter the numbers and the functions listed in FFA Report form, block 10 and the AFSI Selection Report form, block 11, if applicable.

3.9 Block 9. Functional Failures. Enter entries from FFA form, block 12 and AFSI Selection form, block 12, if applicable.

3.10 Block 10. Dominant Failure Modes. Enter the dominant failure mode(s) for each functional failure. Each dominant failure mode shall be numbered sequentially to correspond to the appropriate functional failure and function; e.g., "1.1a", "1.1b", "1.2a". Failure modes shall be identified at the level at which the analysis is performed.   If there are no dominant failure modes, enter "NONE".

3.11 Block 11. Failure Effects (Local, Subsystem, End Effect). Enter the details of the failure effects of each failure mode on the FSI where the failure mode occurs; at local (point of failure), sub-system, and the end effect (ship/mission). If the failure mode has no effect on a particular level, enter "NONE" in the appropriate column. If the failure effects are such that it results in a safety hazard, reduction in mission capability, etc., identify the following:

      a.   Safety hazard to operators.
      b.   Safety hazard to personnel in vicinity.
      c.   Partial loss of capability to detect and track surface contacts with radar.
      d.   Total loss of mobility capability.
      e.   Threat to environment.
      f.   Violation of regulatory requirement.
      g.   If the details of the effects are such that only a redundant item is lost, indicate by using the phrase "LOSS OF REDUNDANCY".
      h.   Any others.

3.12 Block 12. Transfer. Enter "YES" if the failure mode indicates the next phase of analysis shall take place. Enter "NO" if the failure mode exhibits one of the following:
      a) Insignificant effects.

b) Only remotely likely to occur.

3.12.1 The FMEA report shall include rationale for the decision to transfer and shall be included in the Rationale and Justification block as specified in the sample form of Figure 1 of this DID.

3.12.2 For failure modes of redundant items, the likelihood of failure of redundant items shall be included in the Rationale and Justification block as specified in the sample form of Figure 1 of this DID.

3.13 <u>Block 13. Serial Number</u>. Enter a four-segment serial number as follows:

    a.   Segment 1 - Enter the developing organization abbreviation followed by a slant (/).

    b.   Segment 2 – For developers, enter the development authorization number by a slant (/); for other development activities, assign a development number followed by a slant (/).

    c.   Segment 3 - Enter the number 119, indicating the FMEA form, followed by a slant (/).

    d.   Segment 4 - Enter the Expanded Ship Work Breakdown Structure (ESWBS) number for the item from block 1.

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1. ESWBS NUMBER	2. NOMENCLATURE		3. SHIP CLASS	SH OF
4. PREPARED BY DATE:	5. REVIEWED BY DATE:	6. APPROVED BY DATE:	7. REVISION DATE:	
8. FUNCTION(S)	9. FUNCTIONAL FAILURES	10. DOMINANT FAILURE MODES	11. FAILURE EFFECTS: a. LOCAL b. SUBSYSTEM c. END EFFECT	12. TRANSFER Y / N
			13. SERIAL NUMBER	

FAILURE MODES AND EFFECTS ANALYSIS

SAMPLE FORM - FIGURE 1 - FAILURE MODES AND EFFECTS ANALYSIS (PAGE 1 OF 2)

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RATIONALE AND JUSTIFICATION

FAILURE MODES AND EFFECTS ANALYSIS

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OF

SAMPLE FORM - FIGURE 1 - FAILURE MODES AND EFFECTS ANALYSIS (PAGE 2 OF 2)

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